JVC

SERVICE MANUAL

CD RECEIVER

KD-AHD69J, KD-HDR60J

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)

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No.MA468<Rev.001>
2010/2

SPECIFICATION

AUDIO AMPLIFIER SECTION			
Power Output		20 W RMS × 4 Channels at 4 Ω and < 1% THD+N	
Signal-to-Noise Ratio		80 dBA (reference: 1 W into 4 Ω)	
Load Impedance		4 Ω (4 Ω to 8 Ω allowance)	
Equalizer Control Range	Frequencies	45 Hz, 120 Hz, 315 Hz, 800 Hz, 2.4 kHz, 6.3 kHz, 15 kHz	
	Level	±10 dB	
Frequency Response		40 Hz to 20 000 Hz	
Line-Out Level/Impedance	KD-AHD69	5.0 V/20kΩ load (full scale)	
	KD-HDR60	2.5 V/20 kΩ load (full scale)	
Subwoofer-Out Level/Impedance	KD-AHD69	5.0 V/20 kΩ load (full scale)	
	KD-HDR60	2.5 V/20 kΩ load (full scale)	
Output Impedance		1 kΩ	
Other Terminal		USB input terminal, AUX (auxiliary) input jack, Expansion port, Steering wheel remote input (only for KD-AHD69), Antenna input	
TUNER SECTION (HD Radio System Compatible)			
Frequency Range	FM	with channel interval set to 100 kHz or 200 kHz	87.5 MHz to 107.9 MHz
		with channel interval set to 50 kHz	87.5 MHz to 108.0 MHz
	AM	with channel interval set to 10 kHz	530 kHz to 1 710 kHz
		with channel interval set to 9 kHz	531 kHz to 1 602 kHz
FM Tuner	Usable Sensitivity	8.3 dBf (0.7 μV/75 Ω)	
	50 dB Quieting Sensitivity	14.3 dBf (1.4 μV/75 Ω)	
	Alternate Channel Selectivity (400 kHz)	65 dB	
	Frequency Response	20 Hz to 20 000 Hz (HD Radio broadcast)	
		40 Hz to 15 000 Hz (Conventional broadcast)	
	Stereo Separation	70 dB (HD Radio broadcast)	
		50 dB (Conventional broadcast)	
	Capture Ratio	3.5 dB	
AM Tuner	Sensitivity	13 μV	
	Selectivity	80 dB	
	Frequency Response	40 Hz to 15 000 Hz (HD Radio broadcast)	
	Stereo Separation	70 dB (HD Radio broadcast)	
CD PLAYER SECTION			
Type		Compact disc player	
Signal Detection System		Non-contact optical pickup (semiconductor laser)	
Number of Channels		2 channels (stereo)	
Frequency Response		5 Hz to 20 000 Hz	
Dynamic Range		96 dB	
Signal-to-Noise Ratio		98 dB	
Wow and Flutter		Less than measurable limit	
MP3 Decoding Format: (MPEG1/2 Audio Layer 3)		Max. Bit Rate: 320 kbps	
WMA (Windows Media® Audio) Decoding Format		Max. Bit Rate: 192 kbps	
USB SECTION			
USB Standards		USB 2.0 Full Speed	
Data Transfer Rate		Full Speed: Maximum 12 Mbps	
		Low Speed: Maximum 1.5 Mbps	
Compatible Device		Mass storage class	
Compatible File System		FAT 32/16/12	
Max. Current		DC 5 V 500 mA	
GENERAL			
Power Requirement	Operating Voltage	DC 14.4 V (11 V to 16 V allowance)	
Grounding System		Negative ground	
Allowable Operating Temperature		0°C to +40°C (32°F to 104°F)	
Dimensions (W × H × D): (approx.)	Installation Size	182 mm × 52 mm × 160 mm (7-3/16" × 2-1/16" × 6-5/16")	
	Panel Size	188 mm × 58 mm × 5 mm (7-7/16" × 2-5/16" × 1/4")	
Mass		1.3 kg (2.9 lbs) (excluding accessories)	

Designs & 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.

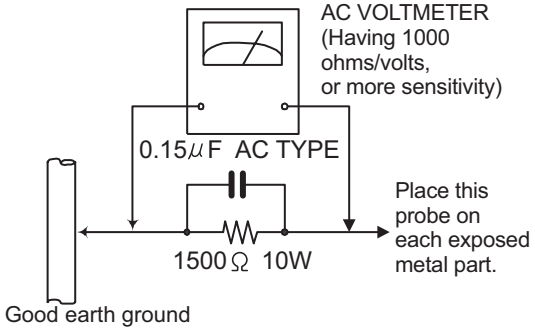
(2) Alterations of the design or circuitry of the product should not be made. Any design alterations of the product should not be made. Any design alterations or additions will void the manufacturers warranty and will further relieve the manufacture of responsibility for personal injury or property damage 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 Preventing static electricity

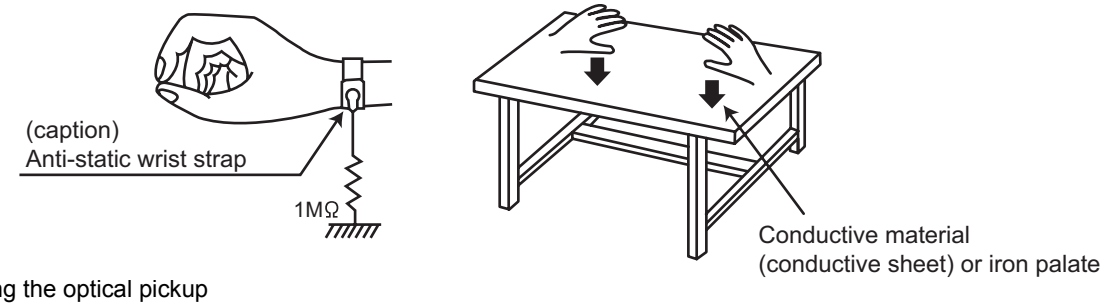
Electrostatic discharge (ESD), which occurs when static electricity stored in the body, fabric, etc. is discharged, can destroy the laser diode in the traverse unit (optical pickup). Take care to prevent this when performing repairs.

1.5.1 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.

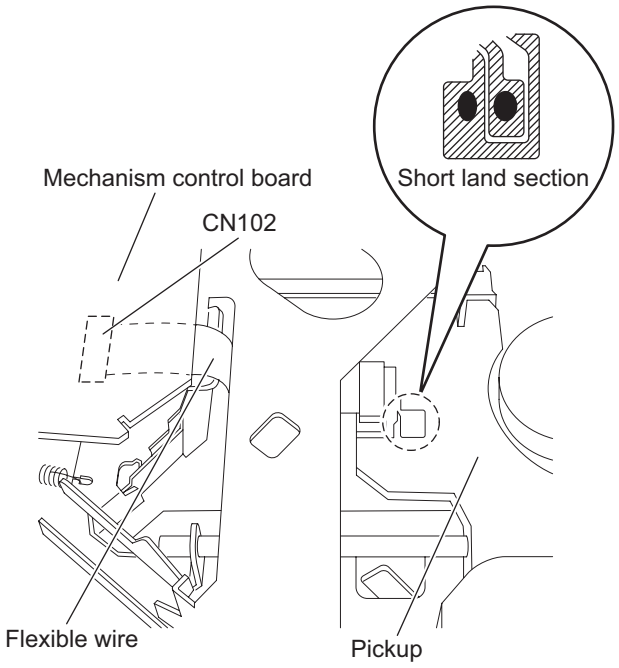
1.6 Handling the traverse unit (optical pickup)

(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.

1.7 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 connector 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.



1.8 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 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. 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 Bottom chassis (See Fig.1)

(1) Remove the two screws **A** and one screw **B** attaching the Heat sink.
(2) Remove the one screws **C** and one screw **D** attaching the Bottom chassis.

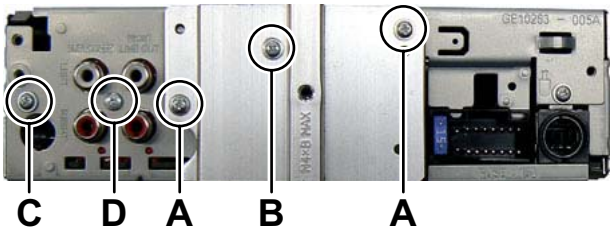


Fig.1

3.1.2 Removing the Front chassis (See Fig.2)

(1) Disengage hour hooks **a** engaged Front chassis.

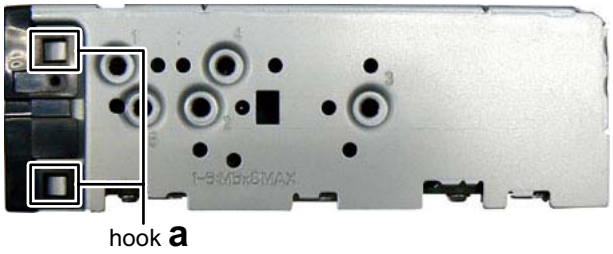


Fig.2

3.1.3 Removing the Main board (see Fig.3, 4, 5)

(1) Remove the one screw **E** attaching the Top chassis. (See Fig.3)

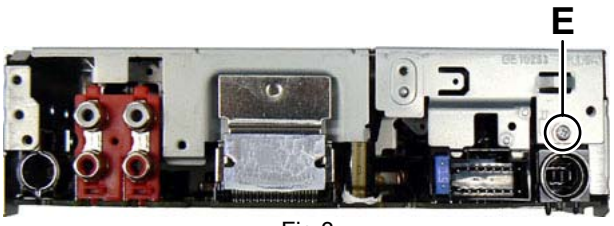


Fig.3

(2) Remove the two screws **F** and one screw **G** attaching the Side plate. (See Fig.4)

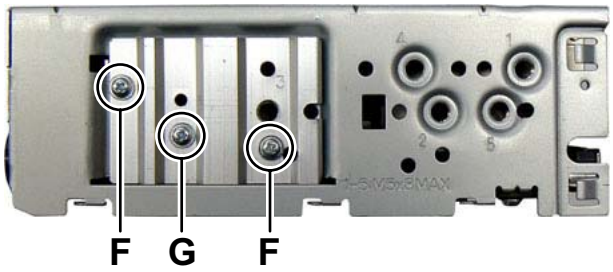


Fig.4

(3) Remove the three screws **H** attaching the Main board. (See Fig.5)
(4) Disconnect the B-B connector connected CD mechanism and Main board CN481 of the Main board. (See Fig.5)

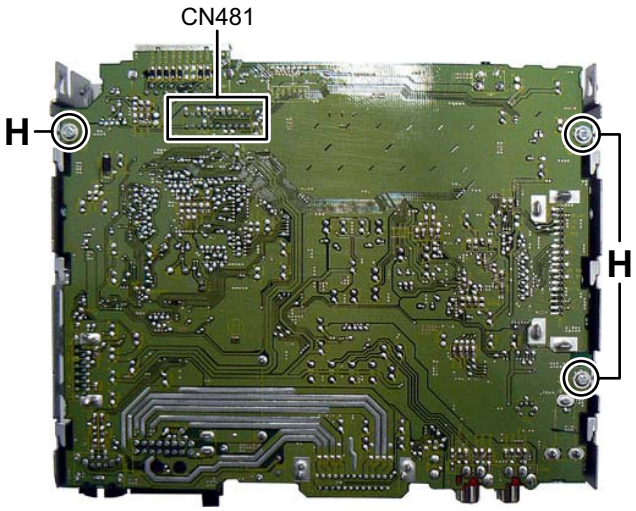


Fig.5

3.1.4 Removing the CD mechanism (See Fig.6)

(1) Remove the three screws **J** attaching the CD mechanism.

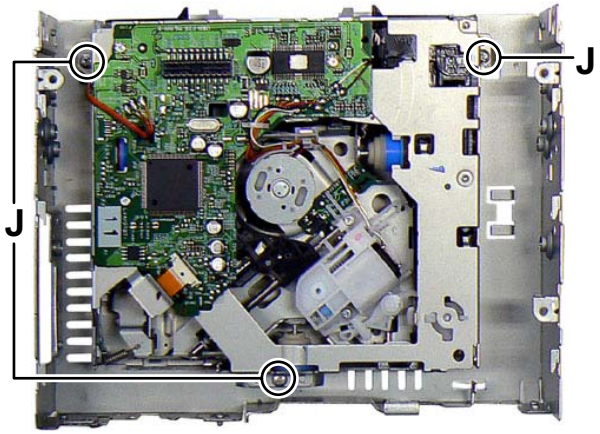


Fig.6

3.1.5 Removing the Switch board (See Fig.7)

(1) Remove the Volume knob.
(2) Remove the four screws **K** attaching the Rear cover.
(3) Disengage eleven hooks **b** engaged Rear cover.

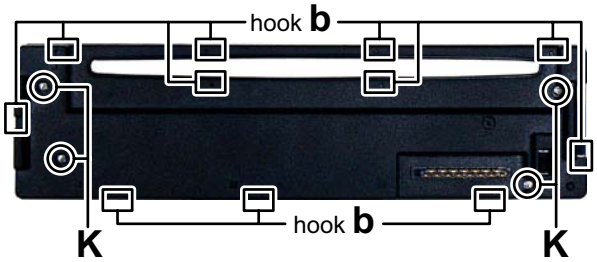


Fig.7

3.2 CD MECHANISM assembly section

• Remove the CD MECHANISM assembly from the main body.

3.2.1 Removing the MECHANISM CONTROL BOARD assembly (See Fig.1 and 2)

(1) From the bottom side of CD MECHANISM assembly, remove the solders from the soldered sections (**a**, **b** and **c**) on the MECHANISM CONTROL BOARD assembly. (See Fig.1.)

(2) Remove the three screws **A** attaching the MECHANISM CONTROL BOARD assembly. (See Fig.1.)

(3) Solder the short land sections on the pickup. (See Fig.2.)

Caution:

- Solder the short land sections on the pickup before disconnecting the flexible wire from the connector CN102 on the MECHANISM CONTROL BOARD assembly.
  If the card wire is disconnected without attaching solder, the pickup may be destroyed by static electricity. (See Fig.2.)
- When attaching the MECHANISM CONTROL BOARD assembly, remove the solders from the short land sections after connecting the flexible wire to the connector CN102 on the MECHANISM CONTROL BOARD assembly.

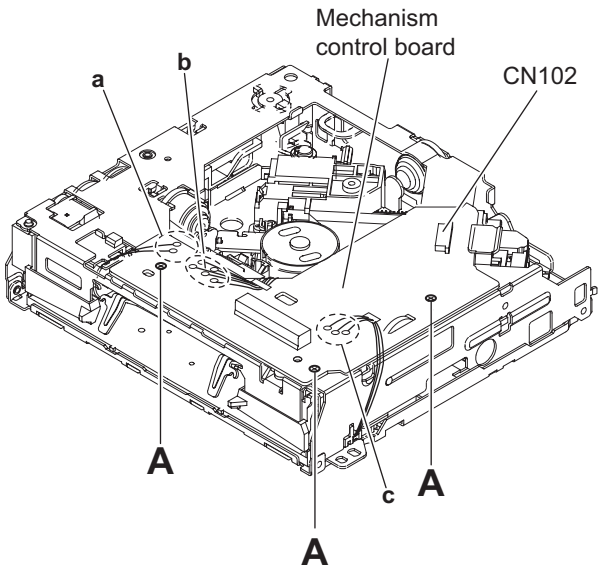


Fig.1

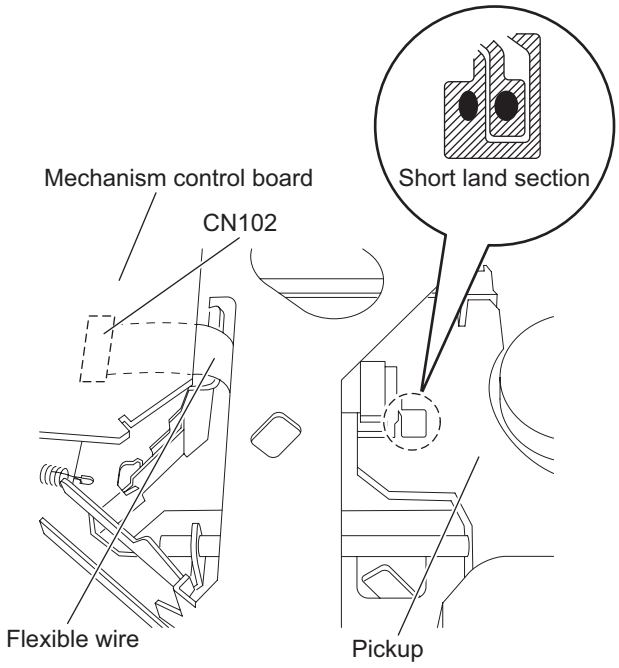


Fig.2

3.2.2 Removing the top cover (See Fig.3 to 5)

- Remove the MECHANISM CONTROL BOARD assembly.
  (1) From the front side of the CD MECHANISM assembly, change the hook position of the two roller springs. (See Fig.3.)
  (2) From the side of the CD MECHANISM assembly, remove the six screws **B** attaching the top cover. (See Fig.3 and 4.)
  (3) Take out the top cover in an upward direction. (See Fig.5.)

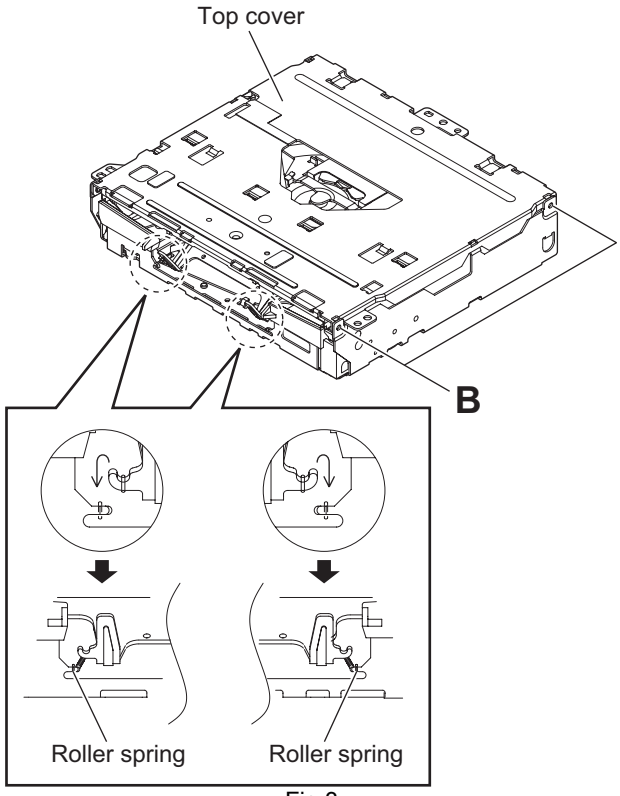


Fig.3

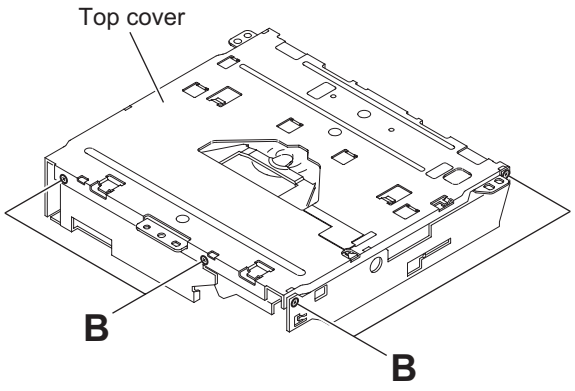


Fig.4

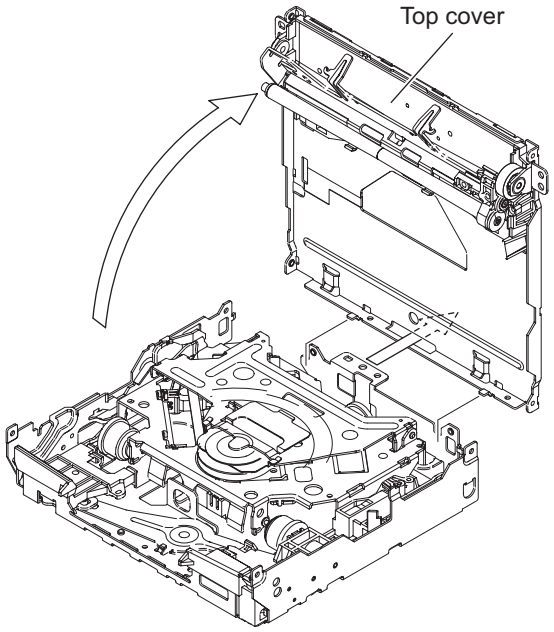


Fig.5

3.2.3 Removing the roller (See Fig.6)

- Remove the MECHANISM CONTROL BOARD assembly and top cover.
  (1) From the bottom side of the top cover, remove the screw **C** attaching the gear holder.
  (2) Remove the R.holder assembly from disc plate, and then take out the roller from R.holder assembly in the direction of the arrow.

  Reference:

  When attaching the R.ACT gear (2) and R.ACT gear (3), apply grease to the section **d** of R.holder assembly.

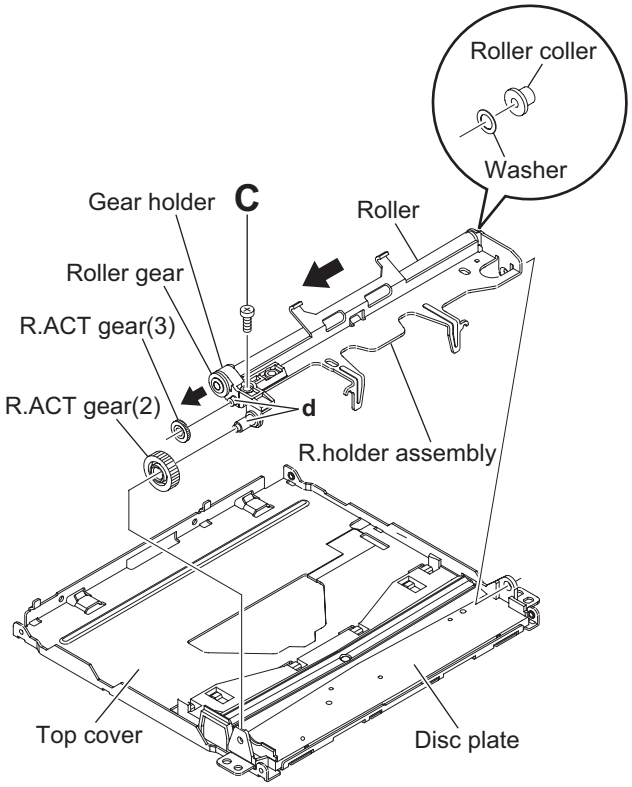


Fig.6

3.2.4 Removing the PHOTO BOARD assembly (See Fig.7 and 8)

- Remove the MECHANISM CONTROL BOARD assembly and top cover.
  (1) From the bottom side of the top cover, release the projection **e** from the notch of the disc plate. (See Fig.7.)
  (2) Take out the disc plate in the direction of the arrow. (See Fig.7.)
  (3) From the reverse side of the disc plate, remove the screw **D** attaching the PHOTO BOARD assembly. (See Fig.8.)

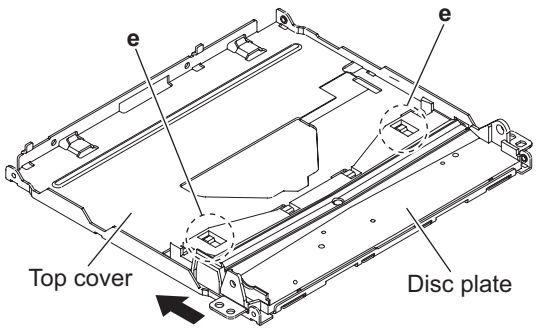


Fig.7

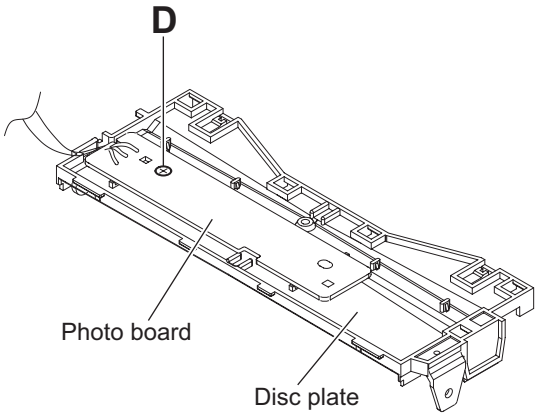


Fig.8

3.2.5 Removing the mechanism section (See Fig.9 and 10)

- Remove the MECHANISM CONTROL BOARD assembly and top cover.
  (1) From the top side of the CD MECHANISM assembly, remove the two screws **E** attaching the loading motor assembly. (See Fig.9.)
  (2) Remove the two roller springs on the top side of the mecha frame. (See Fig.9.)
  (3) Remove the four SUS springs on the top side of the mecha frame. (See Fig.9.)
  (4) Remove the link spring on the top side of the mecha frame. (See Fig.10.)
  (5) Release section **f** of the three dampers from the mecha frame. (See Fig.10.)

  Reference:
  When attaching the roller spring and SUS spring, keep direction before remove.

  (6) Move the slide cam (R) assembly in the direction of the arrow, and then take out the mechanism section in an upward direction. (See Fig.10.)

  Reference:
  When attaching the mechanism section, apply grease to the section **g**. (See Fig.10.)

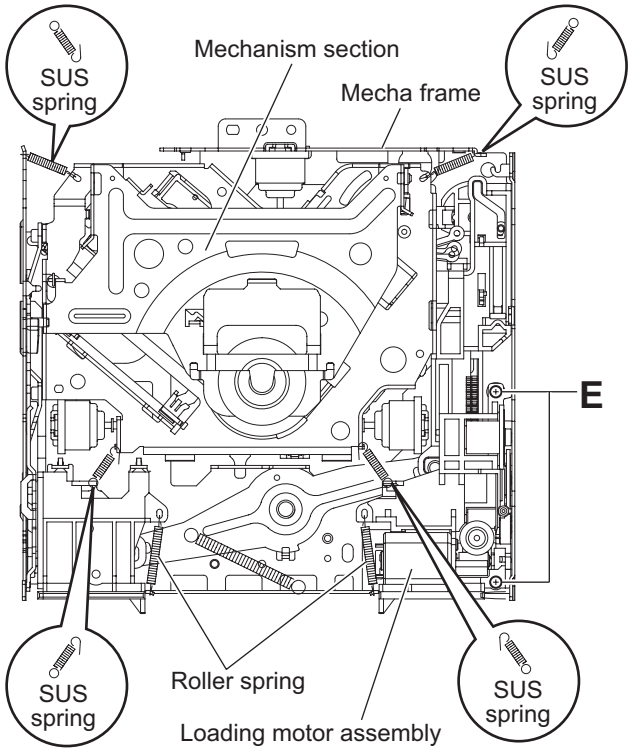


Fig.9

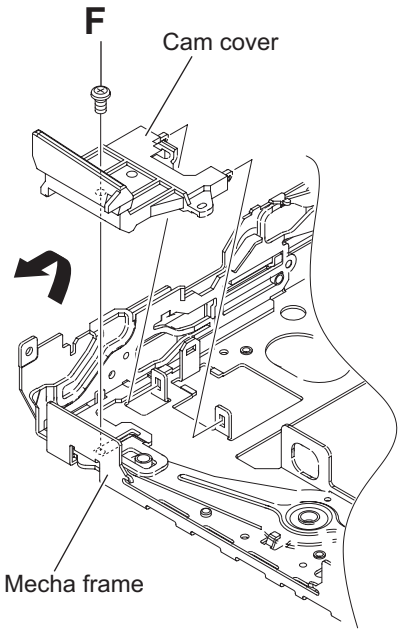


Fig.10

3.2.6 Removing the slide cam (L) (See Fig.11 to 13)

- Remove the MECHANISM CONTROL BOARD assembly, top cover and mechanism section.
  (1) From the top side of the mecha frame, remove the screw **F** attaching the cam cover. (See Fig.11.)
  (2) Take out the cam cover from mecha frame in an upward direction. (See Fig.11.)
  (3) Take out the slide cam (L) in the direction of the arrow. (See Fig.12.)

  Reference:

  When attaching the slide cam (L), apply grease to the section **h**. (See Fig.13.)

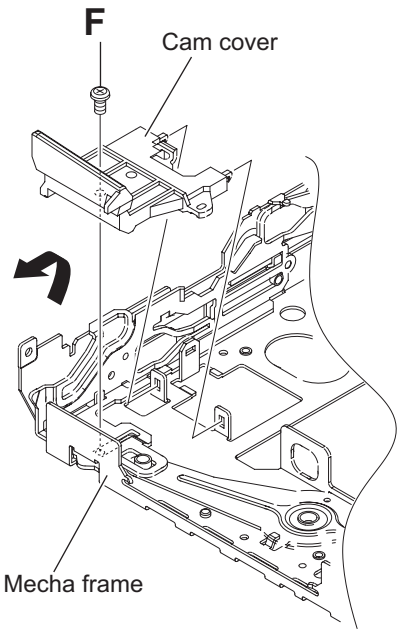


Fig.11

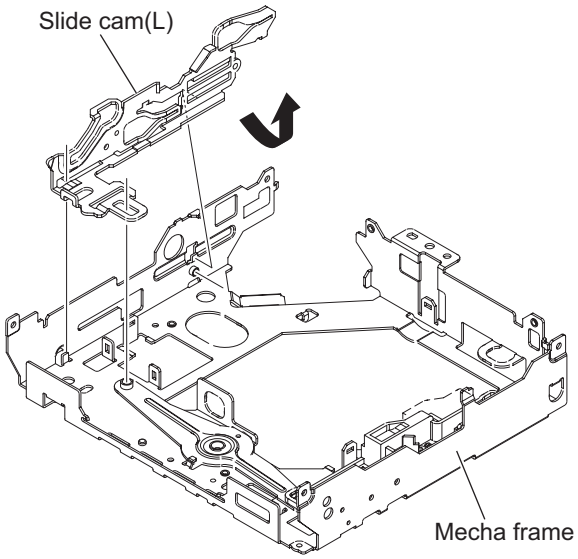


Fig.12

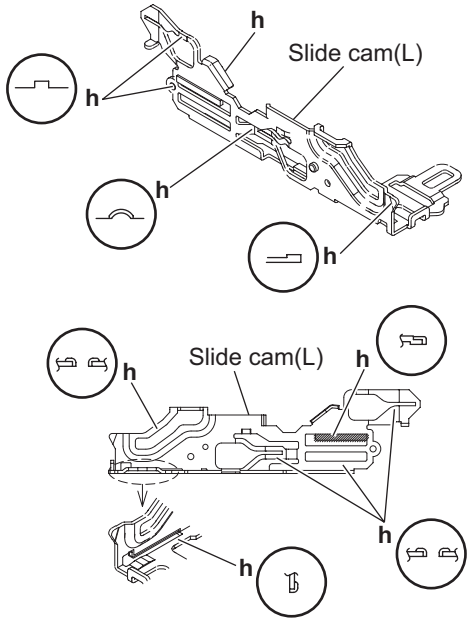


Fig.13

3.2.7 Removing the F.lock lever and slide cam (R) (See Fig.14 and 15)

- Remove the MECHANISM CONTROL BOARD assembly, top cover and mechanism section.
  (1) From the top side of the mecha frame, take out the slide cam (R) assembly in an upward direction. (See Fig.14.)
  (2) Rotate the F.lock lever in the direction of the arrow 1, and then take out the direction of the arrow 2. (See Fig.14.)

Reference:

When attaching the slide cam (R) assembly, the f.lock lever and the link arm apply grease to the section **h**. (See Fig.14 and 15.)

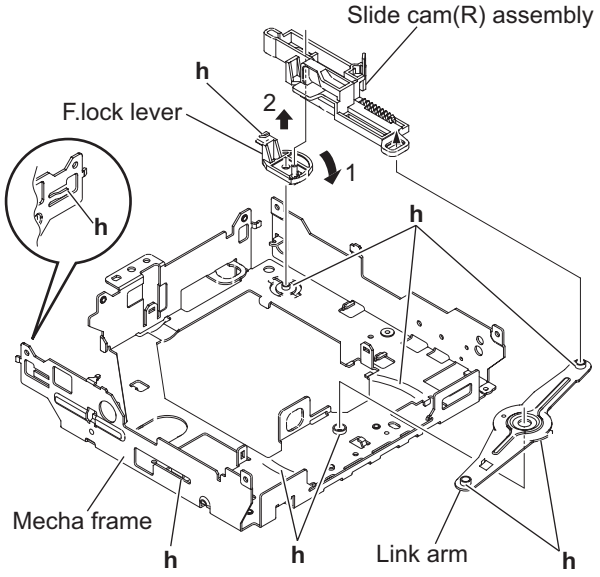


Fig.14

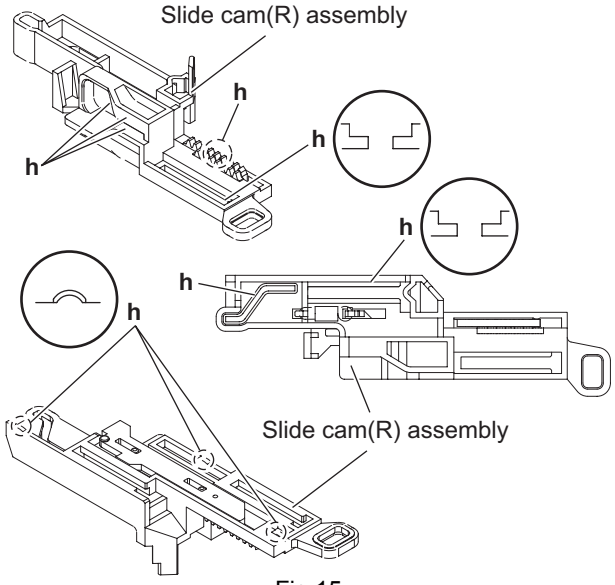


Fig.15

3.2.8 Removing the damper (See Fig.16)

- Remove the MECHANISM CONTROL BOARD assembly, top cover and mechanism section.
  From the mechanism section, pull out the three dampers in the direction of the arrow.

Reference:

Before inserting the shaft to the dampers, apply IPA to the pocket **j** of damper.

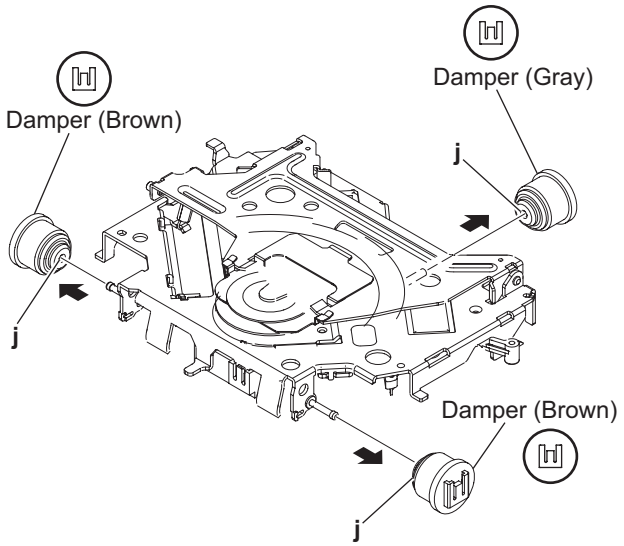


Fig.16

3.2.9 Removing the clamper assembly (See Fig.17)

- Remove the MECHANISM CONTROL BOARD assembly, top cover and mechanism section.
  (1) From the top side of the mechanism section, release the clamper spring.
  (2) Move the clamper assembly in the direction of the arrow, and then release the joints (**k** and **m**).
  (3) Take out the clamper assembly from the T.M chassis assembly.

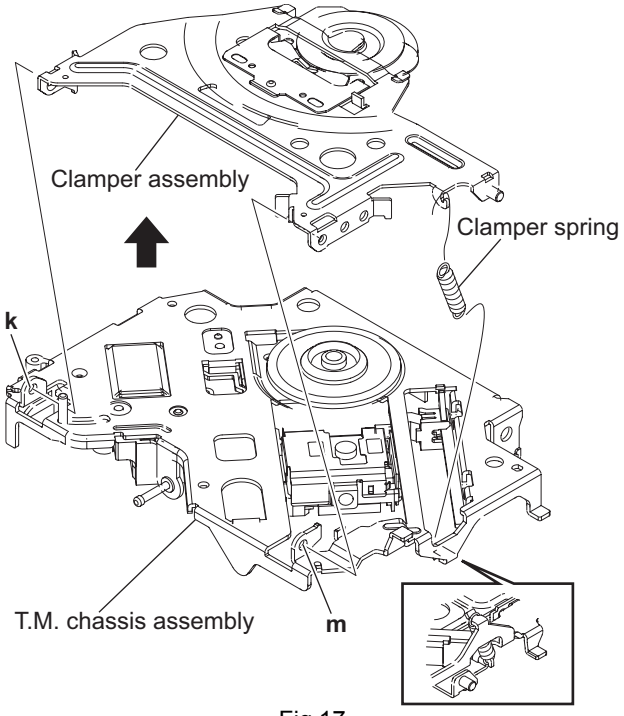


Fig.17

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

- Remove the MECHANISM CONTROL BOARD assembly, top cover, mechanism section and clamper assembly.
  (1) From the bottom side of the T.M chassis assembly, remove the two screws **G** attaching the feed motor assembly. (See Fig.18.)
  (2) Remove the two screws **H** attaching the feed motor to f.motor holder. (See Fig.19.)

  Reference:

  When attaching the f. wheel gear, trigger arm and feed motor, apply grease to the sections (**n**, **p** and **q**). (See Fig.18 and 19.)

3.2.11 Removing the SWITCH BOARD assembly (See Fig.18)

- Remove the MECHANISM CONTROL BOARD assembly, top cover, mechanism section, clamper assembly and feed motor assembly.
  From the bottom side of the T.M chassis assembly, take out the SWITCH BOARD assembly in an upward direction from T.M chassis assembly.

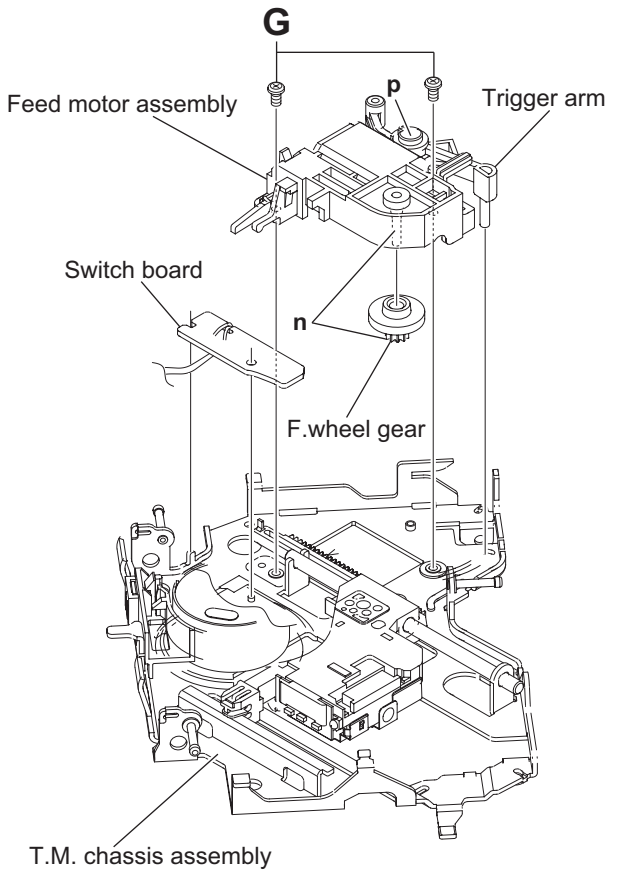


Fig.18

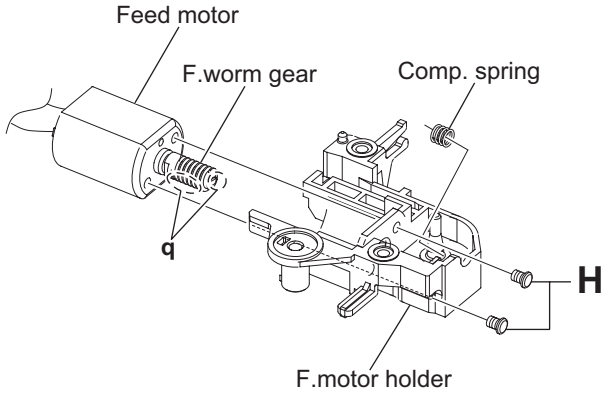


Fig.19

3.2.12 Removing the loading motor (See Fig.20)

- Remove the MECHANISM CONTROL BOARD assembly, top cover, mechanism section and clamper assembly.
  (1) From the right side of the L.M base assembly, remove the two screws **J** attaching the loading motor.
  (2) Take out the loading motor in the direction of the arrow from the L.M base assembly.

  Reference:

  When attaching the loading motor, apply grease to the section **r**.

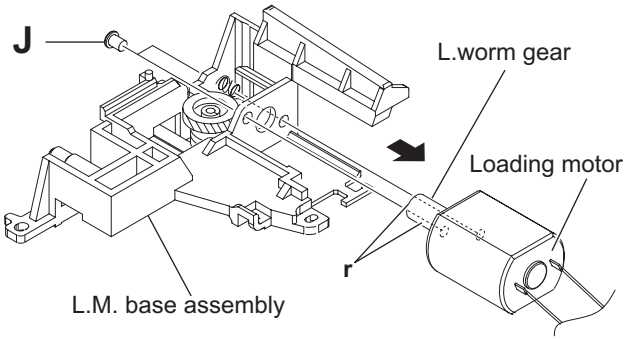


Fig.20

3.2.13 Removing the pickup assembly (See Fig.21 to 22)

- Remove the MECHANISM CONTROL BOARD assembly, top cover, mechanism section, clamper assembly and feed motor assembly.

Caution:

- Do not touch section **u** on the pickup assembly. (See Fig.21 and 22.)

(1) From the bottom side of the T.M chassis assembly, move the pickup assembly in the direction of the arrow from the T.M chassis assembly. (See Fig.21.)
(2) Pull out the main shaft. (See Fig.21.)
(3) Remove the screw **K** attaching the pickup to the rack plate. (See Fig.22.)

Reference:

When attaching the loading motor, apply grease to the sections **s** and **t**. (See Fig.21.)

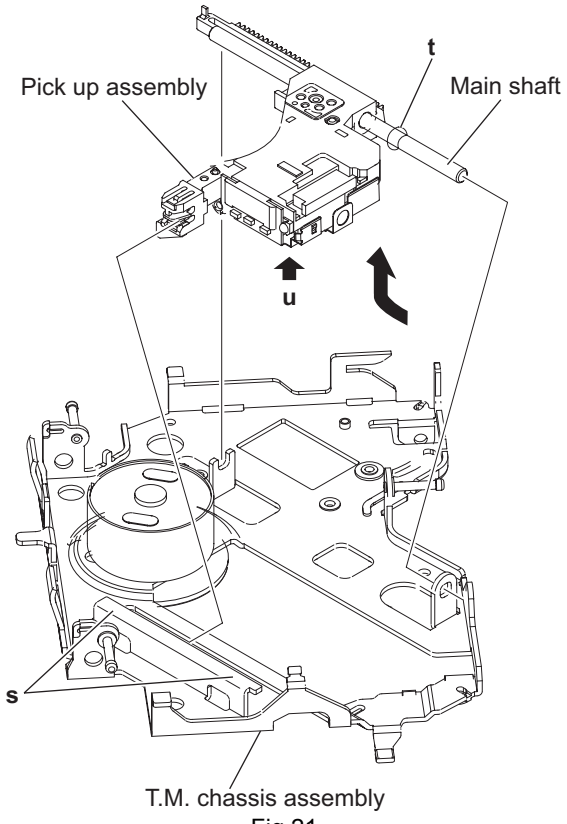


Fig.21

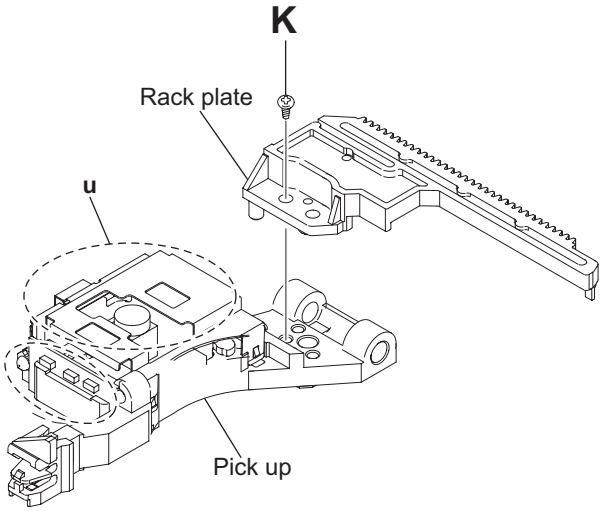


Fig.22

3.2.14 Removing the spindle motor (See Fig.23 and 24)

- Remove the MECHANISM CONTROL BOARD assembly, top cover, mechanism section, clamper assembly, feed motor assembly and pickup assembly.

(1) From the top side of the T.M chassis assembly, remove the CD T.table assembly from the spindle motor. (See Fig.23.)
(2) Remove the two screws **L** attaching the spindle motor. (See Fig.23.)
(3) Take out the spindle motor from the bottom side of the T.M chassis assembly. (See Fig.23.)

Reference:

When attaching the CD T.table assembly to the spindle motor shaft, apply loctite 460 to inside the CD T.table assembly. (See Fig.24.)

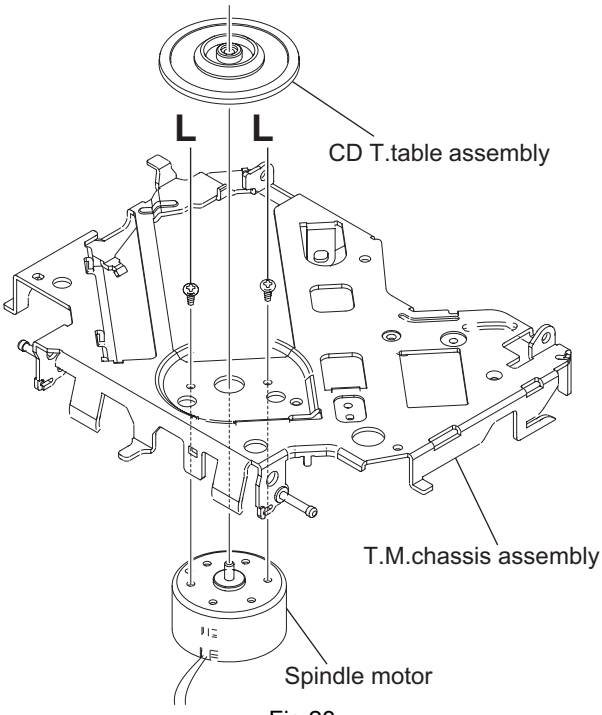


Fig.23

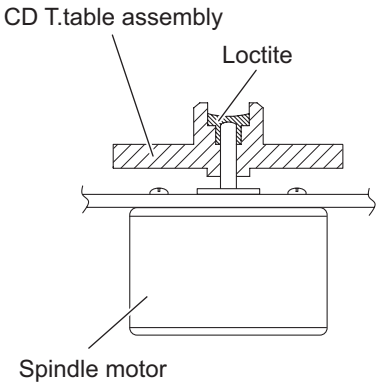


Fig.24

SECTION 4
ADJUSTMENT

4.1 Test instruments required for adjustment

(1) Digital oscilloscope (100MHz)
(2) Digital tester
(3) Test Disc JVC :CTS-1000
(4) Extension cable for check
EXTSH002-22P x 1

4.2 Standard measuring conditions

Power supply voltage DC14.4V(10.5 to 16V)
Load impedance 20K.(2 Speakers connection)
Output Level Line out 2.5V (Vol. MAX)

4.3 Standard volume position

Balance and Bass &Treble volume : Indication"0"
Loudness : OFF

4.4 Dummy load

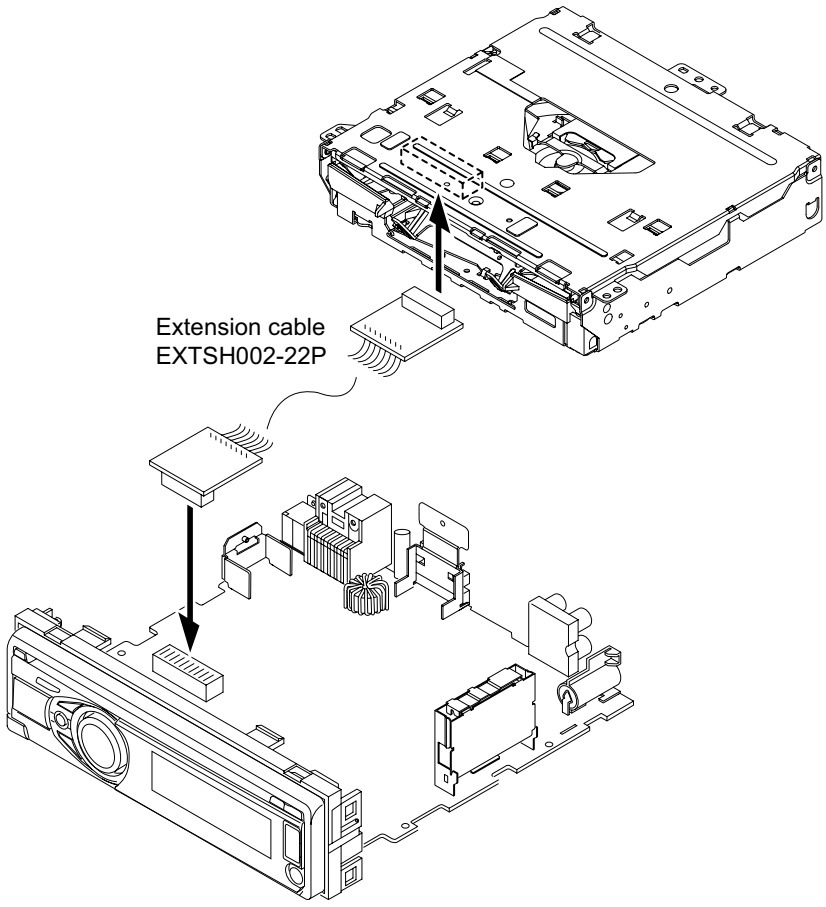
Exclusive dummy load should be used for AM,and FM.
For FM dummy load, there is a loss of 6dB between SSG outputand antenna input.
The loss of 6dB need not be considered sincedirect reading offigures are applied in this working standard.

4.5 How to connect the extension cable for adjusting

Caution:

Be sure to attach the heat sink and rear bracket onto the power amplifier IC and regulator IC respectively, before supply the power.

If voltage is applied without attaching these parts, the power amplifier IC and regulator IC will be destroyed by heat.



4.6 SERVICE MODE

4.6.1 Service mode setting

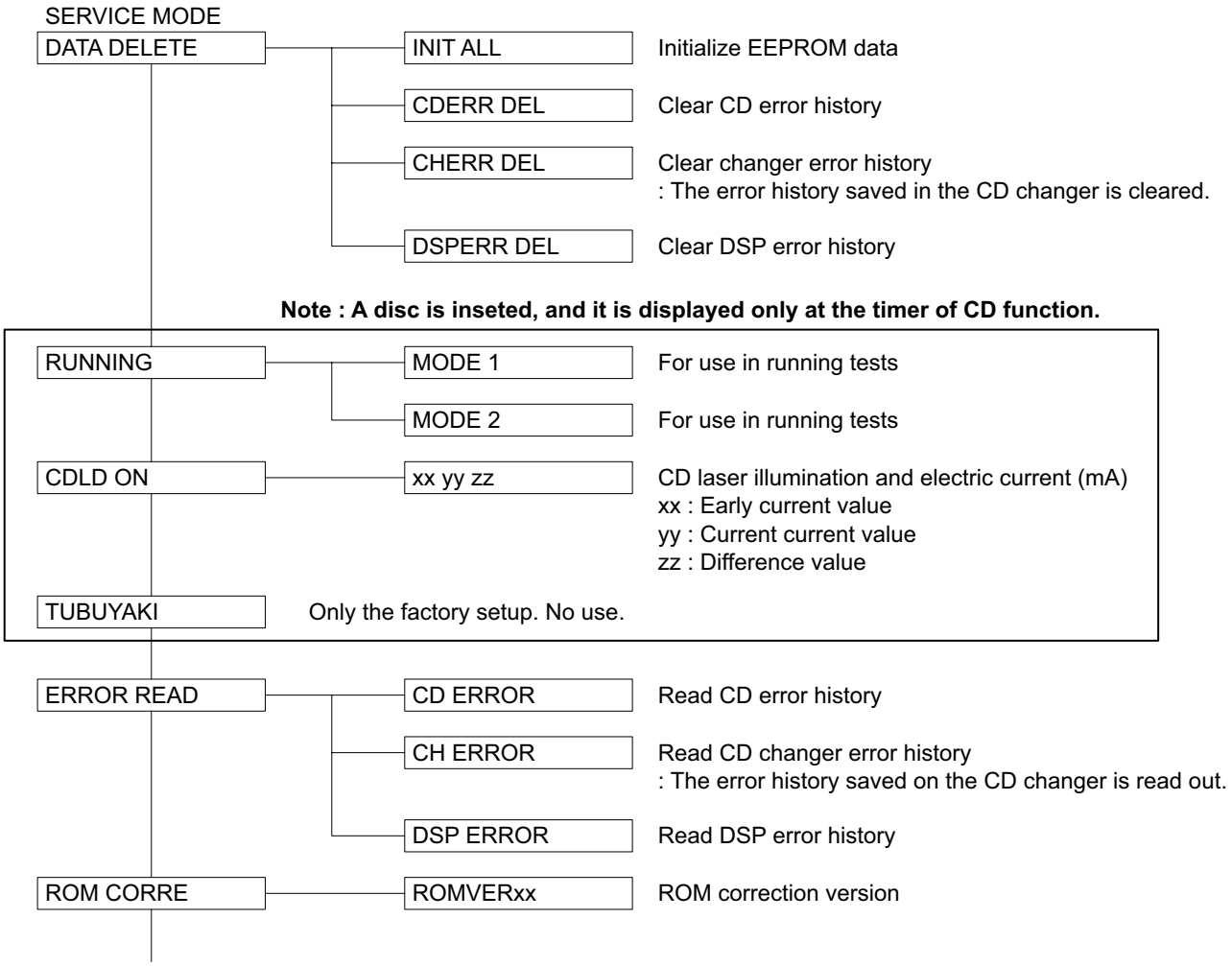
(1) Push POWER BUTTON (Power ON)

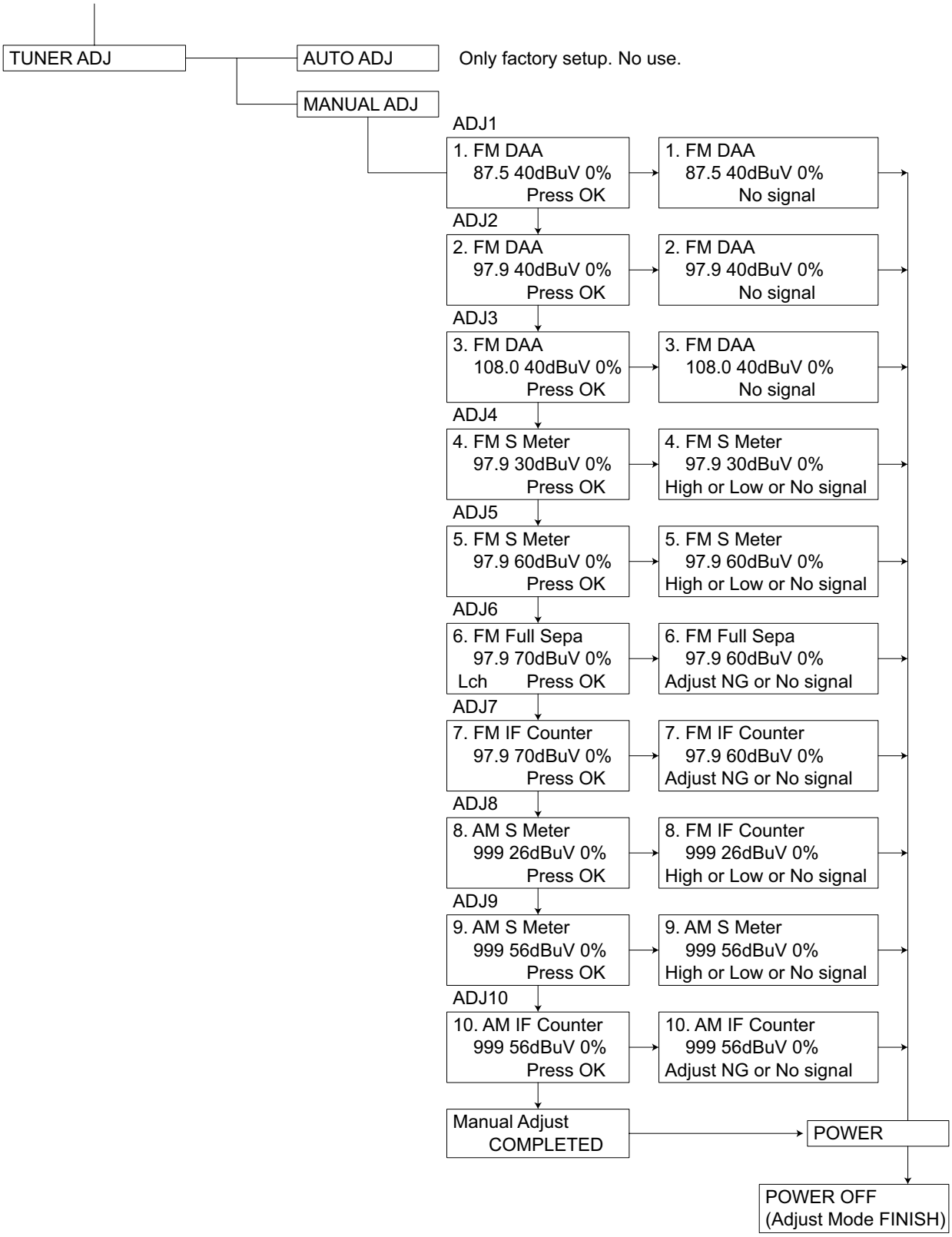
(2) Set to service mode

Keep this state more 3 seconds while continuing pressing the [MENU] button and [DISC DOWN] button scquentially.

*Exchanging of operate a menu of a service mode with the [FF] button and [REW] button.

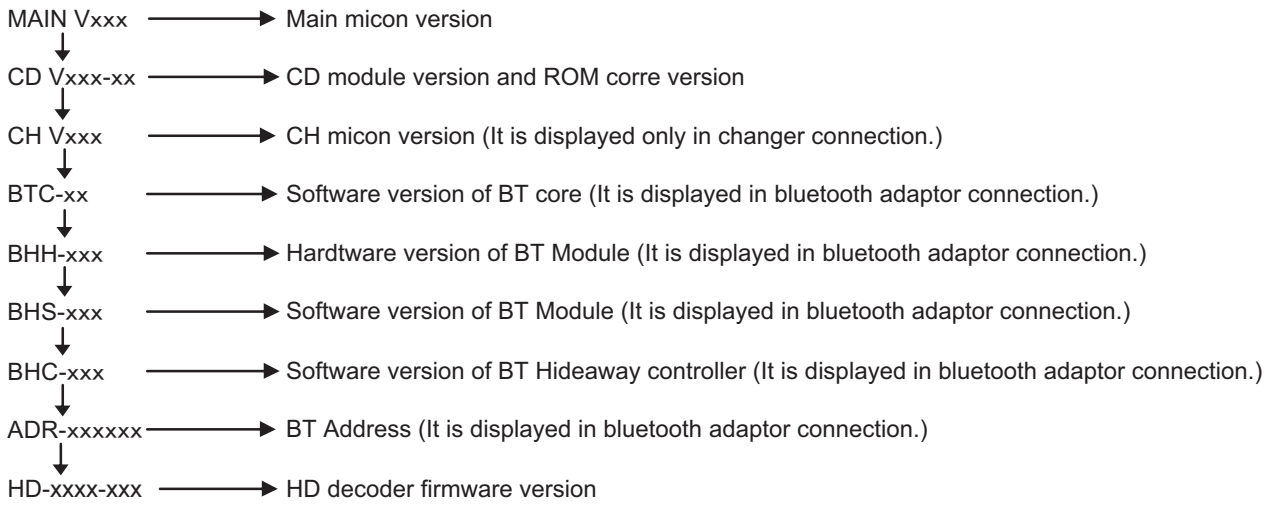
Operate choice of a menu with a [ENT] button.




TUNER ADJ
AUTO ADJ
Only factory setup. No use.
MANUAL ADJ
ADJ1
1. FM DAA
87.5 40dBuV 0%
Press OK
1. FM DAA
87.5 40dBuV 0%
No signal
ADJ2
2. FM DAA
97.9 40dBuV 0%
Press OK
2. FM DAA
97.9 40dBuV 0%
No signal
ADJ3
3. FM DAA
108.0 40dBuV 0%
Press OK
3. FM DAA
108.0 40dBuV 0%
No signal
ADJ4
4. FM S Meter
97.9 30dBuV 0%
Press OK
4. FM S Meter
97.9 30dBuV 0%
High or Low or No signal
ADJ5
5. FM S Meter
97.9 60dBuV 0%
Press OK
5. FM S Meter
97.9 60dBuV 0%
High or Low or No signal
ADJ6
6. FM Full Sepa
97.9 70dBuV 0%
Lch Press OK
6. FM Full Sepa
97.9 60dBuV 0%
Adjust NG or No signal
ADJ7
7. FM IF Counter
97.9 70dBuV 0%
Press OK
7. FM IF Counter
97.9 60dBuV 0%
Adjust NG or No signal
ADJ8
8. AM S Meter
999 26dBuV 0%
Press OK
8. FM IF Counter
999 26dBuV 0%
High or Low or No signal
ADJ9
9. AM S Meter
999 56dBuV 0%
Press OK
9. AM S Meter
999 56dBuV 0%
High or Low or No signal
ADJ10
10. AM IF Counter
999 56dBuV 0%
Press OK
10. AM IF Counter
999 56dBuV 0%
Adjust NG or No signal
Manual Adjust
COMPLETED
POWER
POWER OFF
(Adjust Mode FINISH)

4.7 Confirmation method of a micon version

(1) Push POWER BUTTON (Power ON).
(2) Set this set at tuner mode.
(3) Keep this state more than 3 seconds while continuing pressing the [ENT] button and [MENU] button sequentially.
(4) It is displayed as follows by a display window.



Change each indication with the [FF] button and [REW] button.

4.8 Error code tables

4.8.1 Mechanism error code

Error contents	Details	Error code	Detailed error code
Disc loading error			
(1) B1 time out		09	0011
(2) C1 time out		09	0012
(3) B2 time out		09	0015
Eject error			
(1) B1 time out		01	0023
(2) C2 time out		01	0026
(3) B2 time out		01	0027
Compulsion eject error			
(1) E1 compulsion eject error		01	0041
(2) E2 compulsion eject error		01	0042
(3) E3 compulsion eject error		01	0043
(4) E5 compulsion eject error		01	0045
(5) E7 compulsion eject error		01	0047
(6) E8 compulsion eject error		01	0048
(7) E9 compulsion eject error		01	0049

4.8.2 Disc error code

Error contents	Details	Error code	Detailed error code
TOC read error	TOC lead movement of a CD is not completed.	84	0059
First track access error	Even if TOC reading passes after the end with CD running mode for 30 seconds, the first track access is not finished.	80	0060
Last track access error	Even if TOC reading passes after the end with CD running mode for 30 seconds, the first track access is not finished.	80	0061
NO DISC judgment	Judgment without disc.	80	0090
It is NO DISC by start failure	Start is impossible.	80	0091
It is stopped by playback inability	Stop in running mode playback	80	0093
Logic format NG	Logic format analysis inability or non-correspondence logic format.	80	0094

4.8.3 CD changer mechanism error code

Error contents	Details	Error code	Detailed error code
Tray eject error			
(1) TRAYINSW time over (TRAYINSW:L,TRAYOUTSW:H)	Tray motor time over Tray motor does not operate.	03	0011
(2) TRAYOUTSW time over (TRAYINSW:H,TRAYOUTSW:H)	Tray stops.	03	0012
(3) TRAYINSW time over (TRAYINSW:L,TRAYOUTSW:L)	TRAYINSW NG etc.	03	0013
(4) MAGIN SW:L→H	Magazine is ejected while Tray is being ejected.	03	0014
Tray return error			
(1) TRAYOUTSW time over (TRAYINSW:H,TRAYOUTSW:L)	Tray motor time over Tray motor does not operate.	03	0016
(2) TRAYINSW time over (TRAYINSW:H,TRAYOUTSW:H)	Tray stops.	03	0017
(3) TRAYIN/OUTSW time over (TRAYINSW:L,TRAYOUTSW:L)	TRAYINSW NG etc.	03	0018
(4) MAGIN SW:L→H	Magazine is ejected while Tray is being ejected.	03	0019
Lifter up error			
(1) WAIT position time over	Position motor time over Position motor does not operate.	02	0021
(2) WAIT position time over	Position is not stable in fine adjustment mode.	02	0022
(3) WAIT position time over	Other condition	02	0023
Lifter down error			
(1) WAIT position time over	Position motor time over Position motor does not operate.	02	0026
(2) WAIT position time over	Position is not stable in fine adjustment mode.	02	0027
(3) WAIT position time over	Other condition	02	0028
Chucking error			
(1) Play position time over	Position motor time over Position motor does not operate.	02	0031
(2) Play position time over	Position is not stable in fine adjustment mode.	02	0032
(3) Play position time over	Other condition	02	0033
Unchucking error			
(1) WAIT position time over	Position motor time over Position motor does not operate.	02	0036
(2) WAIT position time over	Position is not stable in fine adjustment mode.	02	0037
(3) WAIT position time over	Other condition	02	0038
Eject error	Eject cannot be carried out.		
(1) Eject position time over	Position motor does not operate.	02	0041
(2) Eject position time over	Improper EJECT position.*	02	0042
(3) MAGINSW time over	Magazine is not ejected.	01	0043
Initialize error			
(1) Eject position time over	TRAYINSW and TRAYOUTSW are L.	03	0046
(2) Eject position time over	Position is not stable in absolute position.*	02	0047

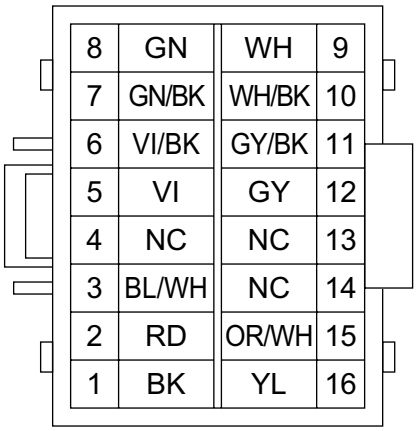
*"Position is not stable in WAIT position," "Position is not stable in PLAY position," and "Position is not stable in absolute position," and "Improper EJECT position" are all Position Motor TIME OVER.

4.8.4 CD changer disc error code

Error contents	Details	Error code	Detailed error code
Pickup movement error (1) Time over of pickup movement in an inner direction(10s) (2) Time over of pickup movement in an outer direction(10s)	Time over at PUBWD and PUFWD by monitoring RESET SW. Pickup cannot move in an inner direction. RESET SW is not on. Pickup cannot move in an inner direction. RESET SW is not off.	 04 04	 0051 0052
Focus search error Focus is not adjusted by 3-round focus search	When focus is not adjusted by 3-round(1set) focus search after disc change or focus shock, the result is NG	81	0053
Tracking balance adjustment error Time over(1s)	Tracking balance adjustment is not finished 1s after adjustment command(TBA) is executed.	82	0054
TOC area search error Time over(10s)	TOC area search is not finished after 10s.	80	0055
Focus balance adjustment error Time over(2s)	Focus balance adjustment is not finished 2s after adjustment command(FBA) is executed.	82	0056
Focus gain adjustment error Time over(0.6s)	Focus gain adjustment error is not finished 0.6s after adjustment command(FGA) is executed.	82	0057
Tracking gain adjustment error Time over(0.6s)	Tracking gain adjustment error is not finished 0.6s after adjustment command(TGA) is executed.	82	0058
TOC read error. Time over(30s)	TOC read operation is not finished after 30s.	84	0059
First track access error Time over(10s)	First track access is not finished 10s after TOC reading is finished.	80	0060
Last track access error Time over(10s)	Last track access is not finished 10s after first track in running mode.	80	0061
Q code read error Time over(0.6s)	Q code is not read for 0.6s during playback of TOC and program area.	80	0062

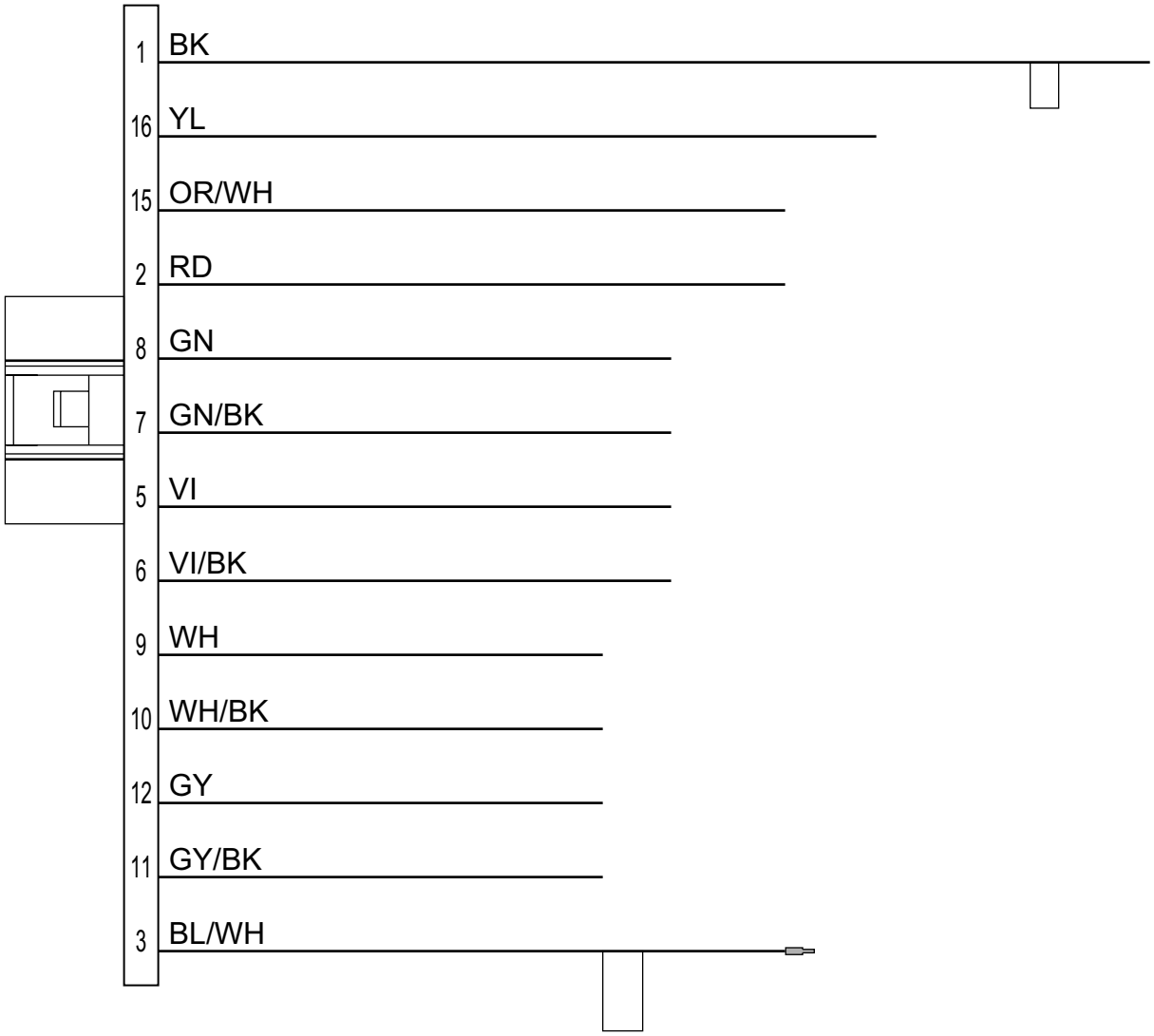
SECTION 5
TROUBLESHOOTING

16 PIN CORD DIAGRAM



8	GN	WH	9
7	GN/BK	WH/BK	10
6	VI/BK	GY/BK	11
5	VI	GY	12
4	NC	NC	13
3	BL/WH	NC	14
2	RD	OR/WH	15
1	BK	YL	16

BK	Black	GN	Green
RD	Red	GY	Gray
BL	Blue	OR	Orange
WH	White	YL	Yellow
VI	Violet		



JVC

Victor Company of Japan, Limited
Mobile Entertainment Division 10-1,1chome,Ohwatari-machi,Maebashi-city,371-8543,Japan

(No.MA468<Rev.001>)

Printed in Japan
VSE

PARTS LIST

KD-AHD69J, KD-HDR60J

MODEL	MARK
KD-AHD69J	A
KD-HDR60J	B

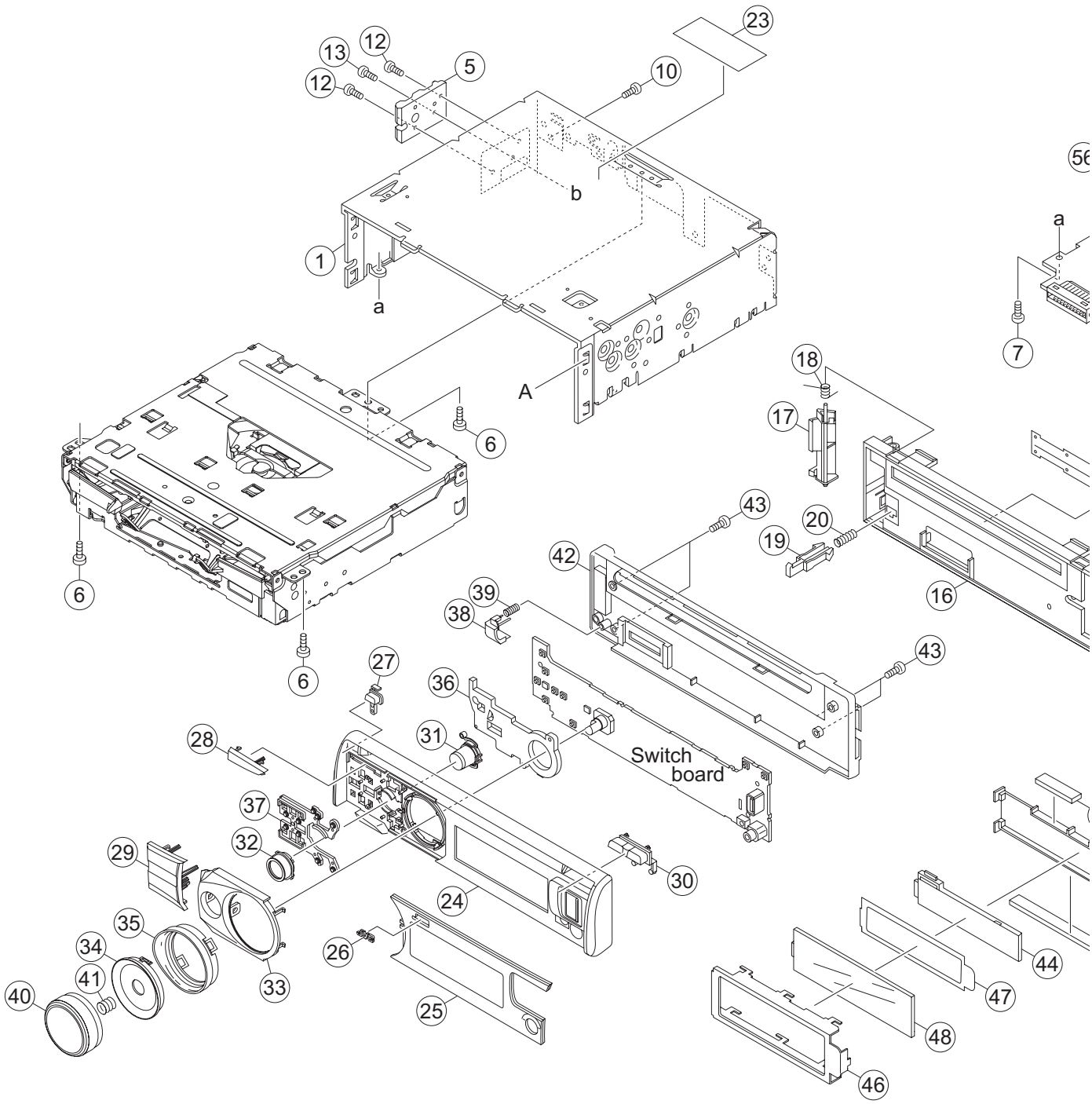
* All printed circuit boards and its assemblies are not available as service parts.

- Contents -

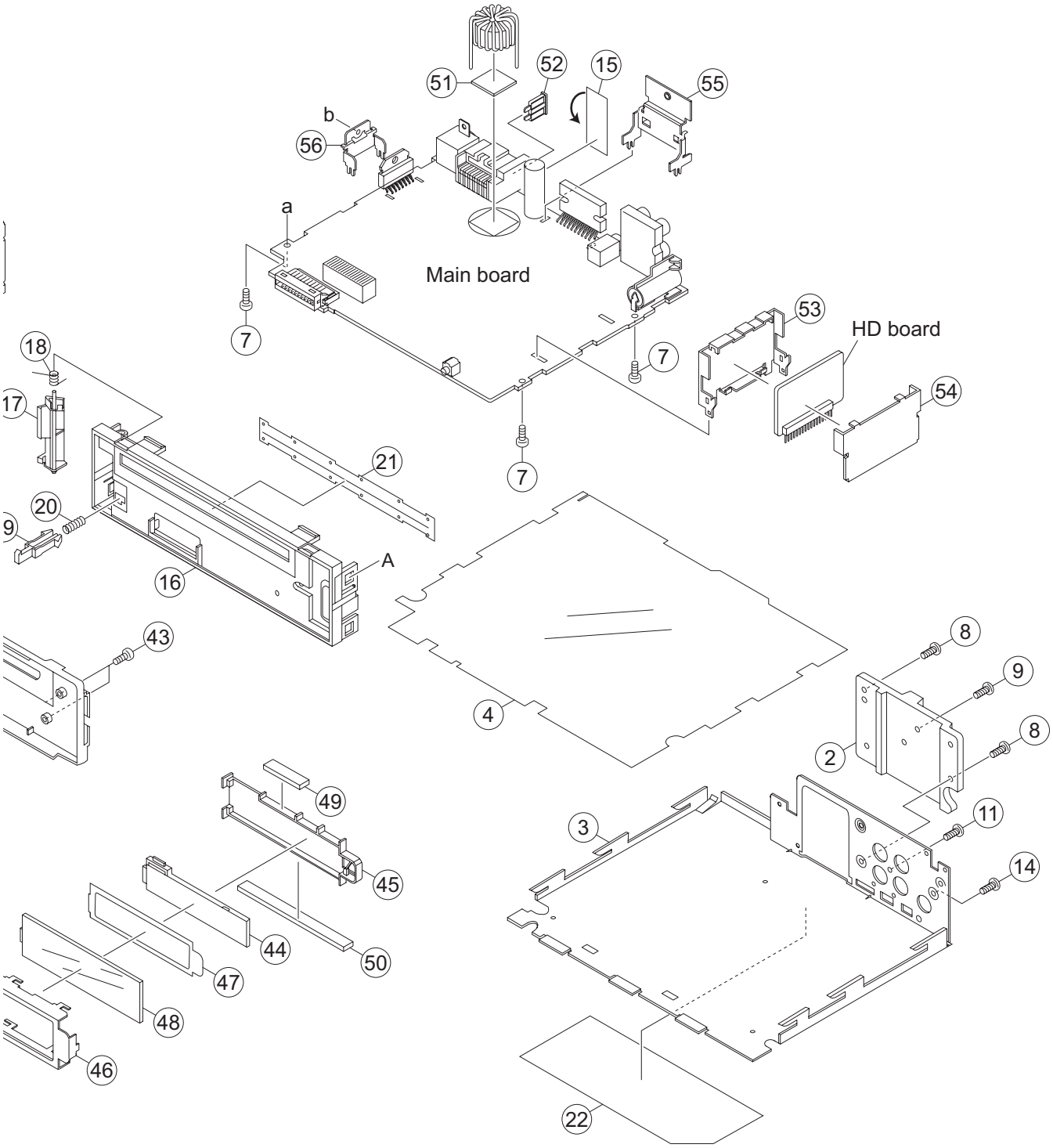
Exploded view of general assembly and parts list (Block No.M1) ---------- 3- 2
CD mechanism assembly and parts list (Block No.MB) ---------- 3- 5
Packing materials and accessories parts list (Block No.M3) ---------- 3-14

Exploded view of general assembly and parts list

Block No. M 1 M M



Block No. M 1 M M



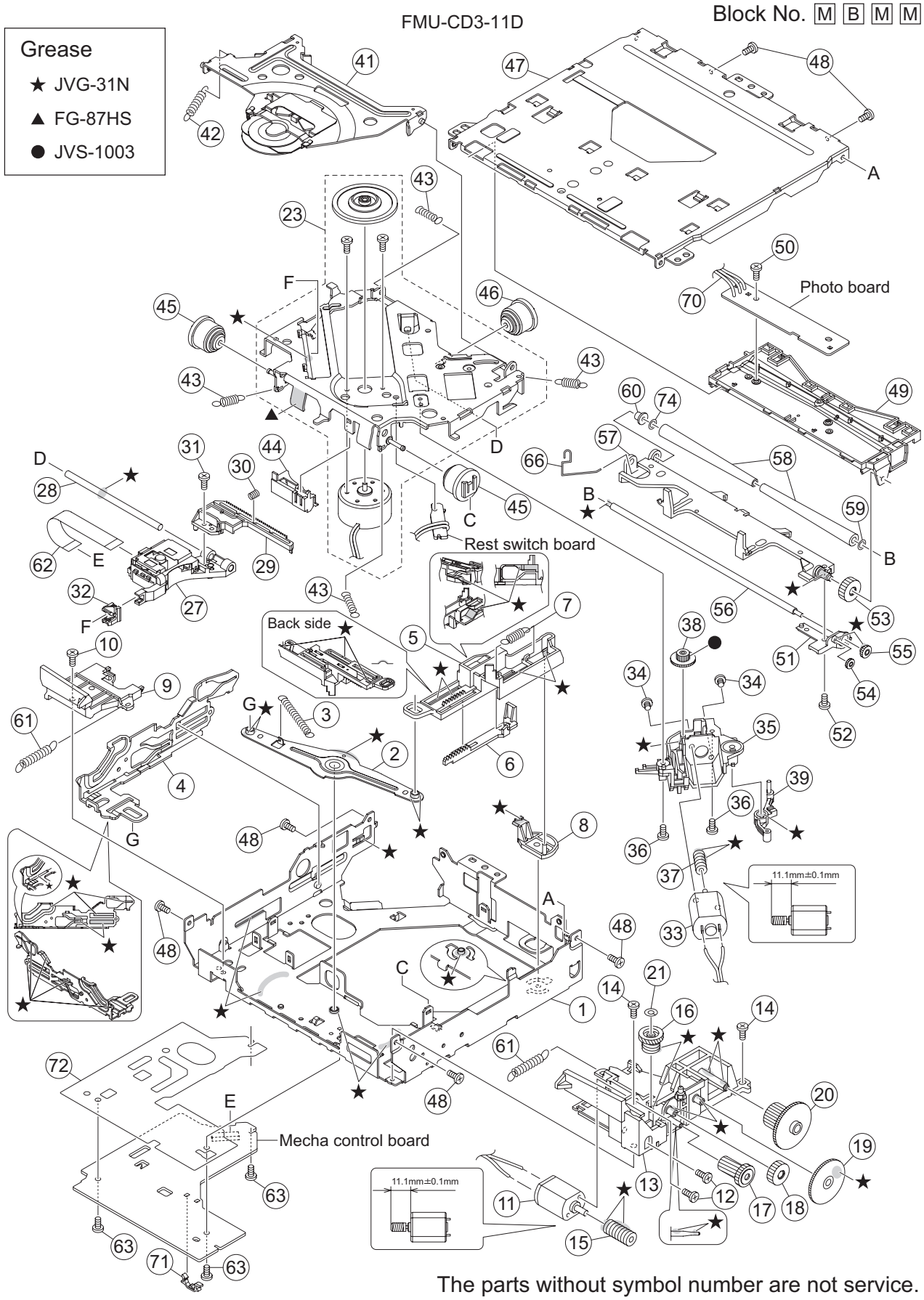
The parts without symbol number are not service.

General Assembly

Block No. [M][1][M][M]

⚠	Symbol No.	Part No.	Part Name	Description	Local
	1	GE10253-007A	TOP CHASSIS		
	2	GE33234-002A	HEAT SINK		
	3	GE20232-008A	BOTTOM COVER		A
	3	GE20232-009A	BOTTOM COVER		B
	4	GE32830-004A	INSULATOR		
	5	GE40395-002A	SIDE PANEL		
	6	QYSDST2604ZA	TAP SCREW	M2.6 x 4mm(x3)	
	7	GE40377-002A	SCREW	(x3)	
	8	GE40377-003A	SPECIAL SCREW	(x2)	
	9	GE40377-003A	SPECIAL SCREW		
	10	GE40377-002A	SCREW		
	11	QYSDSF2606ZA	TAP SCREW	M2.6 x 6mm	
	12	GE40377-001A	SCREW	(x2)	
	13	GE40377-001A	SCREW		
	14	GE40377-002A	SCREW		
	15	LV40847-048A	SPACER(H)		
	16	GE10242-016A	FRONT CHASSIS		
	17	GE33792-001A	LOCK LEVER		
	18	GE40368-002A	TORSION SPRING		
	19	GE32810-001A	RELEASE LEVER		
	20	GE30999-004A	COMP.SPRING		
	21	GE40432-001A	BLIND		
	22	LV38918-001A	NAME PLATE		A
	22	LV38917-001A	NAME PLATE		B
	23	GE40442-001A	FCC RULE LABEL		
	24	GE33886-002A	FRT PANEL ASSY		A
	24	GE33886-003A	FRT PANEL ASSY		B
	25	GE33885-024A	FINDER ASSY		A
	25	GE33885-025A	FINDER ASSY		B
	26	GE40463-001A	JVC BADGE		
	27	GE33800-002A	EJECT BUTTON		
	28	GE33801-002A	SOURCE BUTTON		
	29	GE33802-004A	NAVI BUTTON		
	30	GE33803-001A	DISP BUTTON		
	31	GE40495-001A	MENU BTN ASSY		
	32	GE33805-003A	BUTTON RIM		A
	32	GE33805-001A	BUTTON RIM		B
	33	GE33806-018A	PHONE BACK BTN		A
	33	GE33806-017A	PHONE BACK BTN		B
	34	GE33807-001A	RIM LENS		
	35	GE33808-003A	RIM COVER		A
	35	GE33808-001A	RIM COVER		B
	36	GE33809-002A	LIGHT GUIDE		
	37	GE33810-001A	RUBBER BASE		
	38	GE33881-002A	DETACH BUTTON		
	39	GE30999-009A	COMP.SPRING		
	40	GE33704-006A	VOLUME KNOB		A
	40	GE33704-001A	VOLUME KNOB		B
	41	GE40127-006A	KNOB SPRING		
	42	GE10273-003A	REAR COVER		
	43	VKZ4777-010	MINI SCREW	(x4)	
	44	GE33813-001A	LCD LENS		
	45	GE33814-001A	LENS CASE		
	46	GE33815-001A	LCD CASE		
	47	GE40482-001A	LIGHTING SHEET		
	48	QLD0631-001	LCD MODULE		
	49	QNZ1002-001	RUBBER CONNE		
	50	QNZ1003-001	RUBBER CONNE		
	51	LV40848-086A	SPACER(P)		
⚠	52	QMFZ064-150-J1	FUSE	15A	
	53	LV38578-001A	SHIELD CASE		
	54	LV38660-001A	PWB SHIELD		
	55	GE40354-001A	IC BRACKET		
	56	GE40308-001A	REG IC BRACKET		

CD mechanism assembly and parts list



The parts without symbol number are not service.

CD mechanism

Block No. [M][B][M][M]

⚠	Symbol No.	Part No.	Part Name	Description	Local
	1	LV11256-001A	MECHA FRAME		
	2	LV36800-002A	LINK ARM		
	3	LV44658-001A	LINK SPRING		
	4	LV22300-002A	SLIDE CAM (L)		
	5	LV22298-002A	SLIDE CAM(R)		
	6	LV36802-001A	LOAD RACK		
	7	LV44552-001A	RETURN SPRING		
	8	LV36803-002A	F LOCK LEVER		
	9	LV36804-002A	CAM COVER		
	10	VKZ4539-054	MINI SCREW		
	11	QAR0373-002	MOTOR		
	12	QYSPSPT2025MA	SCREW	M2 x 2.5mm(x2)	
	13	LV36903-003A	L M BASE ASSY		
	14	VKZ4539-054	MINI SCREW	(x2)	
	15	LV36806-001A	L WORM GEAR		
	16	LV36805-002A	M WHEEL GEAR		
	17	LV36807-001A	A WHEEL GEAR		
	18	LV36808-001A	R ACT GEAR(1)		
	19	LV36809-001A	LOAD ACT GEAR		
	20	LV36810-001A	LOADING GEAR		
	21	QYWDL1230250	SLIT WASHER	3mm/1.2mm x 0.25mm	
	23	CM-FLMCD1D	SPINDLE MOTOR ASSY		
	27	QAL0993-001	PICK UP		
	28	LV44555-001A	MAIN SHAFT		
	29	LV36799-001A	RACK PLATE		
	30	LV45227-001A	RACK SPRING		
	31	QYSPSGT1745ZA	TAP SCREW	M1.7 x 4.5mm	
	32	LV36813-001A	SUB GUIDE CAP		
	33	QAR0144-003	MOTOR	2.0V DC	
	34	QYSPSPT2025MA	SCREW	M2 x 2.5mm(x2)	
	35	LV22296-001A	F MOTOR HOLDER		
	36	VKZ4539-054	MINI SCREW	(x2)	
	37	LV36814-001A	F WORM GEAR		
	38	LV36815-002A	F WHEEL GEAR		
	39	LV36816-001A	TRIGGER ARM		
	41	LV37326-003A	CLAMPER ASSY		
	42	LV44557-002A	CLAMPER SPRING		
	43	LV44558-001A	SUS SPRING	(x4)	
	44	LV36820-001A	WIRE HOLDER		
	45	LV36904-001A	DAMPER	(x2)	
	46	LV37061-001A	DAMPER		
	47	LV11260-003A	TOP COVER		
	48	VKZ4539-054	MINI SCREW	(x4)	
	49	LV11264-003A	DISC PLATE		
	50	LV44586-001A	SPECIAL SCREW		
	51	LV36801-002A	GEAR HOLDER		
	52	VKZ4539-054	MINI SCREW		
	53	LV36821-001A	R ACT GEAR(2)		
	54	LV36822-001A	R ACT GEAR(3)		
	55	LV36823-001A	ROLLER GEAR		
	56	LV44559-003A	ROLLER SHAFT		
	57	LV22744-001A	R HOLDER ASSY 2		
	58	LV44560-001A	ROLLER	(x2)	
	59	LV44590-001A	WASHER		
	60	LV45268-001A	ROLLER COLLAR 2		
	61	LV44562-002A	ROLLER SPRING	(x2)	
	62	QAL0817-003	FPC		
	63	VKZ4539-054	MINI SCREW	(x3)	
	70	WJS0085-001A-E	E-FL/RB WIRE		
	71	LV34916-002A	WIRE CLAMP		
	72	LV38008-001A	PWB INSULATOR		
	73	LV45269-001A	R HOLDER ROD		
	74	LV45270-001A	WASHER 2		

Electrical parts list

Main board

Block No. [0][1]

⚠ Symbol No.	Part No.	Part Name	Description	Local
IC10	SAF7746HW/N100	IC		
IC221	NJM4580E-X	IC		A
IC221	NJM4565E-X	IC		B
IC261	NJM2792V-X	IC		A
IC272	BD3461FS-X	IC		
IC301	TB2926CHQ	IC		
IC401	MM1701CH-X	IC		
IC402	NJM2855DL1-33-X	IC		
IC411	NJM2855DL1-18-X	IC		
IC412	NJM2855DL1-33-X	IC		
IC413	NJM2878F4-15-X	IC		
IC501	TEF7000HN/V2	IC		
IC501 or	TEF7000HN/V2S	IC		
IC512	BA50BC0FP-X	IC		
IC541	TC94A92FG-301	IC		
IC701	JVM458A	IC(MCU)		
IC702	S-80824CNNB-G-W	IC		
IC703	R1EX24256ASAS-X	IC		
IC703 or	M24256-BWMN6-X	IC		
IC710	TC74VHCT126AFTX	IC		
IC801	TMP92CD28AF7C78	IC(MCU)		
IC871	MFI341S2162-X	IC		
IC872	R1EX24004ASAA-X	IC		
IC872 or	M24C04-RMN6-X	IC		
IC901	R2S25400DS-E	IC		
IC931	NJM2878F3-33-X	IC		
IC951	BD9300FV-X	IC		
Q311	RT1N141C-X	DIGI TRANSISTOR		
Q391	RT1P141C-X	DIGI TRANSISTOR		
Q393	RT1P141C-X	DIGI TRANSISTOR		
Q394	2SC1623A/5-6/-X	TRANSISTOR		
Q410	2SB1424/QR/-W	TRANSISTOR		
Q411	RT1N144C-X	DIGI TRANSISTOR		
Q703	RT1N441C-X	TRANSISTOR		
Q881	ISA1530AC1/QR/X	TRANSISTOR		
Q882	RT1N144C-X	DIGI TRANSISTOR		
Q901	RT2N03M-X	DIGI TRANSISTOR		
Q902	RT2P03M-X	DIGI TRANSISTOR		
Q903	2SA812A/5-6/-X	TRANSISTOR		
Q951	RSQ035P03-W	MOS FET		
Q952	RSQ035P03-W	MOS FET		
Q953	2SC1623A/5-6/-X	TRANSISTOR		
Q954	RT1P141C-X	DIGI TRANSISTOR		
Q955	2SC1623A/5-6/-X	TRANSISTOR		
Q956	2SA812A/5-6/-X	TRANSISTOR		
Q5411	IMX9-W	PAIR TRANSISTOR		
Q6411	2SD1781K/QR/-X	TRANSISTOR		
Q9001	2SC1623A/5-6/-X	TRANSISTOR		
D391	HSU119-X	SI DIODE		
D393	RKZ3.3B2KG-X	Z DIODE		
D394	RKZ10B2KG-X	Z DIODE		
D503	1SS390-X	SI DIODE		
D504	1SS390-X	SI DIODE		
D702	HSU119-X	SI DIODE		
D703	RKZ4.7B2KG-X	Z DIODE		A
D771	HSU119-X	SI DIODE		
D772	RKZ6.2B2KG-X	Z DIODE		
D901	1N5401-BPC04	SI DIODE		
D904	CRS03-W	SB DIODE		
D905	CRS03-W	SB DIODE		
D951	RB051L-40-X	SB DIODE		
D969	HSU119-X	SI DIODE		
D2411	MC2836-X	DIODE		
D7401	RKZ6.2B2KG-X	Z DIODE		
D7404	RKZ6.2B2KG-X	Z DIODE		
D7405	RKZ6.2B2KG-X	Z DIODE		
D7406	RKZ6.2B2KG-X	Z DIODE		
D7407	RKZ6.2B2KG-X	Z DIODE		
D7408	RKZ6.2B2KG-X	Z DIODE		
D7410	RKZ6.2B2KG-X	Z DIODE		
D7411	RKZ6.2B2KG-X	Z DIODE		
D7412	RKZ6.2B2KG-X	Z DIODE		
D7413	RKZ6.2B2KG-X	Z DIODE		
D7414	RKZ6.2B2KG-X	Z DIODE		
D7415	RKZ6.2B2KG-X	Z DIODE		
D7416	RKZ6.2B2KG-X	Z DIODE		
D7417	RKZ6.2B2KG-X	Z DIODE		
C18	QEKJ0JM-107Z	E CAPACITOR	100uF 6.3V M	
C21	NDC31HJ-471X	C CAPACITOR	470pF 50V J	
C22	QEKJ0JM-227Z	E CAPACITOR	220uF 6.3V M	
C24	NDC31HJ-391X	C CAPACITOR	390pF 50V J	
C31	QEKJ0JM-107Z	E CAPACITOR	100uF 6.3V M	
C34	NCB31HK-331X	C CAPACITOR	330pF 50V K	
C35	NCB31CK-105X	C CAPACITOR	1uF 16V K	
C36	NCB31CK-105X	C CAPACITOR	1uF 16V K	
C37	NCB31CK-105X	C CAPACITOR	1uF 16V K	
C38	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C39	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C41	NCB31EK-223X	C CAPACITOR	0.022uF 25V K	
C42	NDC31HJ-8R0X	C CAPACITOR	8pF 50V J	
C43	NDC31HJ-100X	C CAPACITOR	10pF 50V J	
C44	NCB31HK-102X	C CAPACITOR	1000pF 50V K	
C45	NCB31HK-102X	C CAPACITOR	1000pF 50V K	
C46	NCB31CK-105X	C CAPACITOR	1uF 16V K	
C48	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	
C50	NCB31CK-105X	C CAPACITOR	1uF 16V K	
C51	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M	
C52	NCB31CK-105X	C CAPACITOR	1uF 16V K	
C53	NCB31CK-105X	C CAPACITOR	1uF 16V K	
C54	NCB31CK-105X	C CAPACITOR	1uF 16V K	
C55	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C56	NDC31HJ-101X	C CAPACITOR	100pF 50V J	
C57	NDC31HJ-101X	C CAPACITOR	100pF 50V J	
C58	NCB31CK-105X	C CAPACITOR	1uF 16V K	
C60	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C62	NCB31EK-223X	C CAPACITOR	0.022uF 25V K	
C63	QEKJ0JM-337Z	E CAPACITOR	330uF 6.3V M	
C64	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C68	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C69	NCB31EK-223X	C CAPACITOR	0.022uF 25V K	
C72	NCB31EK-223X	C CAPACITOR	0.022uF 25V K	
C73	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C87	QEKJ0JM-107Z	E CAPACITOR	100uF 6.3V M	
C91	QEKJ0JM-107Z	E CAPACITOR	100uF 6.3V M	
C92	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C94	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C95	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C96	NCB31HK-332X	C CAPACITOR	3300pF 50V K	
C97	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C119	NDC31HJ-220X	C CAPACITOR	22pF 50V J	
C120	NDC31HJ-220X	C CAPACITOR	22pF 50V J	
C315	QEKJ1HM-225Z	E CAPACITOR	2.2uF 50V M	
C316	QEKJ1HM-475Z	E CAPACITOR	4.7uF 50V M	
C317	QEKJ1CM-476Z	E CAPACITOR	47uF 16V M	
C327	QEKJ1HM-225Z	E CAPACITOR	2.2uF 50V M	
C328	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M	
C392	QERF1CM-476Z	E CAPACITOR	47uF 16V M	
C395	QEKJ1CM-107Z	E CAPACITOR	100uF 16V M	
C401	QEKJ0JM-107Z	E CAPACITOR	100uF 6.3V M	
C403	QEKJ0JM-107Z	E CAPACITOR	100uF 6.3V M	
C404	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C405	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	
C407	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C408	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C411	QERF1CM-476Z	E CAPACITOR	47uF 16V M	
C412	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C413	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	
C414	QEKJ0JM-107Z	E CAPACITOR	100uF 6.3V M	
C416	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C417	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C420	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C421	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C422	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M	
C481	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	
C482	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	

⚠ Symbol No.	Part No.	Part Name	Description	Local
C483	QERF1CM-107Z	E CAPACITOR	100uF 16V M	
C501	NDC31HJ-150X	C CAPACITOR	15pF 50V J	
C502	NCB31HK-102X	C CAPACITOR	1000pF 50V K	
C505	NCB31HK-102X	C CAPACITOR	1000pF 50V K	
C506	NDC31HJ-220X	C CAPACITOR	22pF 50V J	
C507	NDC31HJ-4R0X	C CAPACITOR	4pF 50V J	
C508	NDC31HJ-270X	C CAPACITOR	27pF 50V J	
C509	NDC31HJ-120X	C CAPACITOR	12pF 50V J	
C512	NCB31HK-102X	C CAPACITOR	1000pF 50V K	
C513	NCB31HK-102X	C CAPACITOR	1000pF 50V K	
C514	NCB31HK-102X	C CAPACITOR	1000pF 50V K	
C515	NCB31HK-392X	C CAPACITOR	3900pF 50V K	
C517	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	
C518	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	
C521	NCB31HK-332X	C CAPACITOR	3300pF 50V K	
C522	NCB31HK-223X	C CAPACITOR	0.022uF 50V K	
C523	NCB31HK-102X	C CAPACITOR	1000pF 50V K	
C525	NCB31EK-223X	C CAPACITOR	0.022uF 25V K	
C526	NCB31CK-224X	C CAPACITOR	0.22uF 16V K	
C527	NCB31EK-223X	C CAPACITOR	0.022uF 25V K	
C528	NCB31EK-223X	C CAPACITOR	0.022uF 25V K	
C529	NCB31EK-223X	C CAPACITOR	0.022uF 25V K	
C530	NCB31EK-223X	C CAPACITOR	0.022uF 25V K	
C537	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	
C538	QEKJ1CM-107Z	E CAPACITOR	100uF 16V M	
C539	QEKJ0JM-107Z	E CAPACITOR	100uF 6.3V M	
C541	NCB31HK-104X	C CAPACITOR	0.1uF 50V K	
C542	NCB31HK-222X	C CAPACITOR	2200pF 50V K	
C543	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C544	NCB31HK-104X	C CAPACITOR	0.1uF 50V K	
C545	NCB31HK-104X	C CAPACITOR	0.1uF 50V K	
C546	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C547	NDC31HJ-270X	C CAPACITOR	27pF 50V J	
C548	NDC31HJ-220X	C CAPACITOR	22pF 50V J	
C549	NCB31HK-104X	C CAPACITOR	0.1uF 50V K	
C550	NCB31HK-104X	C CAPACITOR	0.1uF 50V K	
C551	NCB31HK-104X	C CAPACITOR	0.1uF 50V K	
C552	NCB31HK-104X	C CAPACITOR	0.1uF 50V K	
C553	NCB31HK-104X	C CAPACITOR	0.1uF 50V K	
C556	NCB31HK-104X	C CAPACITOR	0.1uF 50V K	
C557	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M	
C558	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M	
C560	NCB31EK-104X	C CAPACITOR	0.1uF 25V K	
C561	NDC31HJ-270X	C CAPACITOR	27pF 50V J	
C562	NDC31HJ-270X	C CAPACITOR	27pF 50V J	
C563	NDC31HJ-270X	C CAPACITOR	27pF 50V J	
C703	NDC31HJ-120X	C CAPACITOR	12pF 50V J	
C704	NDC31HJ-120X	C CAPACITOR	12pF 50V J	
C705	NDC31HJ-5R0X	C CAPACITOR	5pF 50V J	
C706	NDC31HJ-5R0X	C CAPACITOR	5pF 50V J	
C707	NCB31CK-105X	C CAPACITOR	1uF 16V K	
C708	QERF0JM-337Z	E CAPACITOR	330uF 6.3V M	
C709	QEKJ0JM-107Z	E CAPACITOR	100uF 6.3V M	
C710	NCB31HK-473X	C CAPACITOR	0.047uF 50V K	
C715	NCB31HK-471X	C CAPACITOR	470pF 50V K	
C716	NCB31HK-471X	C CAPACITOR	470pF 50V K	
C717	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	
C720	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	
C723	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	
C776	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C777	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	
C784	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	
C785	QERF0JM-337Z	E CAPACITOR	330uF 6.3V M	
C802	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	
C803	NDC31HJ-220X	C CAPACITOR	22pF 50V J	
C804	NDC31HJ-180X	C CAPACITOR	18pF 50V J	
C805	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	
C806	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	
C807	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M	
C808	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C809	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M	
C810	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	
C811	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	
C812	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	
C813	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	
C814	NDC31HJ-220X	C CAPACITOR	22pF 50V J	
C815	NDC31HJ-270X	C CAPACITOR	27pF 50V J	
C816	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	
C817	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C818	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	
C871	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C872	NCB31EK-473X	C CAPACITOR	0.047uF 25V K	
C881	QERF1CM-476Z	E CAPACITOR	47uF 16V M	
C901	QEZ0769-278	E CAPACITOR	2700uF	
C902	QEKJ1CM-226Z	E CAPACITOR	22uF 16V M	
C903	QERF1CM-226Z	E CAPACITOR	22uF 16V M	
C905	QEKJ1CM-107Z	E CAPACITOR	100uF 16V M	
C906	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C907	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	
C908	QERF1CM-106Z	E CAPACITOR	10uF 16V M	
C910	NCB31HK-104X	C CAPACITOR	0.1uF 50V K	
C911	NCB31HK-104X	C CAPACITOR	0.1uF 50V K	
C912	QERF1HM-225Z	E CAPACITOR	2.2uF 50V M	
C917	NCB31HK-104X	C CAPACITOR	0.1uF 50V K	
C931	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C941	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	
C951	QEKJ1EM-476Z	E CAPACITOR	47uF 25V M	
C952	NCB31HK-102X	C CAPACITOR	1000pF 50V K	
C953	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	
C954	NCB31HK-102X	C CAPACITOR	1000pF 50V K	
C955	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C956	QEKJ1CM-107Z	E CAPACITOR	100uF 16V M	
C957	NCB20JK-106X	C CAPACITOR	10uF 6.3V K	
C969	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C971	NCB31CK-103X	C CAPACITOR	0.01uF 16V K	
C973	NCB31HK-102X	C CAPACITOR	1000pF 50V K	
C2001	QFV91HJ-474Z	MF CAPACITOR	0.47uF 50V J	
C2002	NDC31HJ-101X	C CAPACITOR	100pF 50V J	
C2202	NDC31HJ-821X	C CAPACITOR	820pF 50V J	
C2203	QTE1H57-475Z	E CAPACITOR	4.7uF 50V	
C2204	NDC31HJ-121X	C CAPACITOR	120pF 50V J	
C2211	QEKJ0JM-107Z	E CAPACITOR	100uF 6.3V M	
C2221	QEKJ1CM-107Z	E CAPACITOR	100uF 16V M	
C2601	QEKJ1HM-475Z	E CAPACITOR	4.7uF 50V M	A
C2611	QEKJ1CM-476Z	E CAPACITOR	47uF 16V M	A
C2612	QERF1AM-227Z	E CAPACITOR	220uF 10V M	A
C2613	NCB31HK-152X	C CAPACITOR	1500pF 50V K	A
C2614	NCB31HK-152X	C CAPACITOR	1500pF 50V K	A
C2615	QERF1AM-227Z	E CAPACITOR	220uF 10V M	A
C2616	NCB31EK-104X	C CAPACITOR	0.1uF 25V K	A
C2617	QERF1AM-227Z	E CAPACITOR	220uF 10V M	A
C2701	QFV91HJ-474Z	MF CAPACITOR	0.47uF 50V J	
C2702	QEKJ1HM-105Z	E CAPACITOR	1uF 50V M	
C2711	QEKJ1CM-107Z	E CAPACITOR	100uF 16V M	
C2712	QEKJ1CM-107Z	E CAPACITOR	100uF 16V M	
C2713	NDC31HJ-471X	C CAPACITOR	470pF 50V J	
C3001	QFV91HJ-474Z	MF CAPACITOR	0.47uF 50V J	
C3002	NDC31HJ-101X	C CAPACITOR	100pF 50V J	
C3202	NDC31HJ-821X	C CAPACITOR	820pF 50V J	
C3203	QTE1H57-475Z	E CAPACITOR	4.7uF 50V	
C3204	NDC31HJ-121X	C CAPACITOR	120pF 50V J	
C3211	QEKJ0JM-107Z	E CAPACITOR	100uF 6.3V M	
C3501	NCB31CK-473X	C CAPACITOR	0.047uF 16V K	
C3601	QEKJ1HM-475Z	E CAPACITOR	4.7uF 50V M	A
C3701	QFV91HJ-474Z	MF CAPACITOR	0.47uF 50V J	
C4001	QFV91HJ-474Z	MF CAPACITOR	0.47uF 50V J	
C4002	NDC31HJ-101X	C CAPACITOR	100pF 50V J	
C4401	NDC31HJ-101X	C CAPACITOR	100pF 50V J	
C4702	QEKJ1HM-475Z	E CAPACITOR	4.7uF 50V M	
C5001	QFV91HJ-474Z	MF CAPACITOR	0.47uF 50V J	
C5002	NDC31HJ-101X	C CAPACITOR	100pF 50V J	
C5401	NDC31HJ-101X	C CAPACITOR	100pF 50V J	
C5601	QEKJ1HM-475Z	E CAPACITOR	4.7uF 50V M	A
C5702	QEKJ1HM-475Z	E CAPACITOR	4.7uF 50V M	
C6401	NCB31CK-473X	C CAPACITOR	0.047uF 16V K	
C6701	QEKJ1HM-475Z	E CAPACITOR	4.7uF 50V M	
C6702	QEKJ1HM-475Z	E CAPACITOR	4.7uF 50V M	
C7101	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	
C7401	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C7402	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C7403	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C7404	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M	
C9001	QERF1CM-106Z	E CAPACITOR	10uF 16V M	
R10	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R11	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	

⚠ Symbol No.	Part No.	Part Name	Description	Local
R12	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R14	NRSA63J-682X	MG RESISTOR	6.8kΩ 1/16W J	
R15	NRSA63J-682X	MG RESISTOR	6.8kΩ 1/16W J	
R16	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R17	NRSA63J-220X	MG RESISTOR	22Ω 1/16W J	
R18	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R19	NRSA63J-123X	MG RESISTOR	12kΩ 1/16W J	
R20	NRSA63J-100X	MG RESISTOR	10Ω 1/16W J	
R21	NRSA63J-123X	MG RESISTOR	12kΩ 1/16W J	
R22	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R23	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R24	NRSA63J-682X	MG RESISTOR	6.8kΩ 1/16W J	
R25	NRSA63J-682X	MG RESISTOR	6.8kΩ 1/16W J	
R27	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R28	NRSA63J-100X	MG RESISTOR	10Ω 1/16W J	
R29	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R30	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R31	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R32	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R33	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R34	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R35	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R36	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R37	NRSA63J-100X	MG RESISTOR	10Ω 1/16W J	
R38	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R41	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
R42	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
R54	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R55	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
R56	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
R57	NRSA63J-122X	MG RESISTOR	1.2kΩ 1/16W J	
R58	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
R311	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
R313	NRSA63J-273X	MG RESISTOR	27kΩ 1/16W J	
R391	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R392	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R393	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R394	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R411	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	
R412	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R481	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R501	NRSA63J-474X	MG RESISTOR	470kΩ 1/16W J	
R502	NRSA63J-331X	MG RESISTOR	330Ω 1/16W J	
R503	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R504	NRSA63J-474X	MG RESISTOR	470kΩ 1/16W J	
R506	NRSA63J-560X	MG RESISTOR	56Ω 1/16W J	
R507	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	
R508	NRSA63J-392X	MG RESISTOR	3.9kΩ 1/16W J	
R541	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	
R545	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R546	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R547	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R549	NRSA63J-105X	MG RESISTOR	1MΩ 1/16W J	
R552	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R553	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R555	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R556	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R557	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R559	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R560	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J	
R566	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R567	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R568	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R701	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R702	NRSA63J-106X	MG RESISTOR	10MΩ 1/16W J	
R703	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	
R711	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	
R712	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	
R715	NRSA63J-682X	MG RESISTOR	6.8kΩ 1/16W J	
R718	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	
R720	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R721	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R728	NRSA63J-273X	MG RESISTOR	27kΩ 1/16W J	
R729	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R730	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R731	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R732	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J	
R733	NRSA63J-123X	MG RESISTOR	12kΩ 1/16W J	
R735	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	
R736	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	
R740	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R741	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R742	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R743	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R744	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R745	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R746	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R747	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R751	NRSA63J-273X	MG RESISTOR	27kΩ 1/16W J	
R752	NRSA63J-273X	MG RESISTOR	27kΩ 1/16W J	
R753	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R754	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R756	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R757	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R758	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R759	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R761	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R762	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R763	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R766	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R767	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R770	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R772	NRSA63J-184X	MG RESISTOR	180kΩ 1/16W J	
R773	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R777	NRSA63J-271X	MG RESISTOR	270Ω 1/16W J	A
R779	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R781	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R782	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R783	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R784	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R785	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R786	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R787	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R788	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R789	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R790	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R791	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	
R792	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	
R802	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	
R803	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R804	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	
R805	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	
R806	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	
R807	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R811	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R812	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R814	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R816	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	
R819	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	
R820	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R821	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R822	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R823	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R824	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	
R825	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R826	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R828	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	
R830	NRSA63J-153X	MG RESISTOR	15kΩ 1/16W J	
R831	NRSA63J-153X	MG RESISTOR	15kΩ 1/16W J	
R832	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R834	NRSA63J-270X	MG RESISTOR	27Ω 1/16W J	
R835	NRSA63J-270X	MG RESISTOR	27Ω 1/16W J	
R836	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R837	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	
R838	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R839	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R840	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R841	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R842	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R843	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R849	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	
R850	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	
R851	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	
R857	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	
R858	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	
R859	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	

⚠ Symbol No.	Part No.	Part Name	Description	Local
R860	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	
R861	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R862	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	
R863	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	
R871	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	
R872	NRSA63J-333X	MG RESISTOR	33kΩ 1/16W J	
R873	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R874	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R875	NRSA63J-0R0X	MG RESISTOR	0Ω 1/10W J	
R876	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R877	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R879	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J	
R880	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J	
R883	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	
R884	NRSA63J-152X	MG RESISTOR	1.5kΩ 1/16W J	
R901	NRSA63J-912X	MG RESISTOR	9.1kΩ 1/16W J	
R902	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R903	NRSA63J-682X	MG RESISTOR	6.8kΩ 1/16W J	
R904	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R908	NRSA63J-183X	MG RESISTOR	18kΩ 1/16W J	
R909	NRSA63J-563X	MG RESISTOR	56kΩ 1/16W J	
R910	QRE142J-102X	C RESISTOR	1kΩ 1/4W J	
R911	NRS181J-332X	MG RESISTOR	3.3kΩ 1/8W J	
R940	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
R941	NRSA63F-303X	MG RESISTOR	30kΩ 1/16W F	
R943	NRSA63F-103X	MG RESISTOR	10kΩ 1/16W F	
R944	NRSA63J-682X	MG RESISTOR	6.8kΩ 1/16W J	
R951	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
R952	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
R954	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R958	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J	
R959	NRSA63J-154X	MG RESISTOR	150kΩ 1/16W J	
R960	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R962	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J	
R965	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
R966	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	
R967	NRSA63J-333X	MG RESISTOR	33kΩ 1/16W J	
R968	NRSA63J-334X	MG RESISTOR	330kΩ 1/16W J	
R2202	NRSA63J-203X	MG RESISTOR	20kΩ 1/16W J	
R2203	NRSA63J-123X	MG RESISTOR	12kΩ 1/16W J	
R2204	NRSA63J-333X	MG RESISTOR	33kΩ 1/16W J	
R2211	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R2212	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R2501	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R2502	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J	
R2604	NRSA63J-333X	MG RESISTOR	33kΩ 1/16W J	A
R2605	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	A
R2608	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	A
R2609	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	A
R2712	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
R2715	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R2716	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R3202	NRSA63J-203X	MG RESISTOR	20kΩ 1/16W J	
R3203	NRSA63J-123X	MG RESISTOR	12kΩ 1/16W J	
R3204	NRSA63J-333X	MG RESISTOR	33kΩ 1/16W J	
R3211	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R3212	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R3407	NRSA63J-0R0X	MG RESISTOR	0Ω 1/10W J	B
R3501	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R3502	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J	
R3604	NRSA63J-333X	MG RESISTOR	33kΩ 1/16W J	A
R3605	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	A
R4001	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R4401	NRSA63J-821X	MG RESISTOR	820Ω 1/16W J	
R4402	NRSA63J-181X	MG RESISTOR	180Ω 1/16W J	
R4407	NRSA63J-0R0X	MG RESISTOR	0Ω 1/10W J	B
R4411	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
R5001	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R5401	NRSA63J-821X	MG RESISTOR	820Ω 1/16W J	
R5402	NRSA63J-181X	MG RESISTOR	180Ω 1/16W J	
R5411	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
R5601	NRSA63J-0R0X	MG RESISTOR	0Ω 1/10W J	B
R5603	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J	A
R6401	NRSA63J-821X	MG RESISTOR	820Ω 1/16W J	
R6402	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R6403	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R6411	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
R6604	NRSA63J-333X	MG RESISTOR	33kΩ 1/16W J	A
R6605	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	A
R7101	NRSA63J-333X	MG RESISTOR	33kΩ 1/16W J	
R7102	NRSA63J-183X	MG RESISTOR	18kΩ 1/16W J	
R7104	NRSA63J-0R0X	MG RESISTOR	0Ω 1/10W J	
R7105	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J	
R7106	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J	
R7107	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R7110	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R7111	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J	
R7112	NRSA63J-392X	MG RESISTOR	3.9kΩ 1/16W J	
R7113	NRSA63J-0R0X	MG RESISTOR	0Ω 1/10W J	
R7116	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J	
R7117	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J	
R7118	NRSA63J-682X	MG RESISTOR	6.8kΩ 1/16W J	
R7119	NRSA63J-0R0X	MG RESISTOR	0Ω 1/10W J	
R9001	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J	
R9002	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
RA1	NRZ0114-101W	NET RESISTOR	100Ω	
RA2	NRZ0114-101W	NET RESISTOR	100Ω	
RA801	NRZ0114-101W	NET RESISTOR	100Ω	
L10	NQR0129-003X	FERRITE BEADS		
L11	NQL093K-2R2X	P COIL	2.2uH K	
L14	NQL79GM-1R0X	COIL	1uH M	
L481	NQL79GM-1R0X	COIL	1uH M	
L501	NQL79GM-4R7X	COIL	4.7uH M	
L503	NQL093K-R47X	P COIL	0.47uH K	
L504	NQL114K-221X	P COIL	220uH K	
L505	NQL093K-1R8X	P COIL	1.8uH K	
L506	NQL093K-R22X	P COIL	0.22uH K	
L507	NQL114K-331X	P COIL	330uH K	
L508	NQL114K-331X	P COIL	330uH K	
L509	NQL79GM-1R0X	COIL	1uH M	
L901	QQR1809-001	CHOKE COIL		
L951	NQLC8CM-470X	COIL	47uH M	
L952	NQLZ007-4R7X	COIL	4.7uH	
T501	QQR1872-001	RF COIL		
T501	or QQR1813-001	RF COIL		
CN241	QNN0490-001	PIN JACK		A
CN241	QNN0815-001	PIN JACK		B
CN351	QNZ0095-001	CONNECTOR		
CN481	QGB2027MD-22	CONNECTOR	B-B (1-22)	
CN701	QGZ1101J1-20	CONNECTOR	(1-20)	
CN702	QNS0283-001	3.5 JACK		A
CN901	QNZ0607-001	CAR CONNECTOR		
F891	NAD0031-006X	P THERMISTOR	Ω	
J501	QNB0190-001	ANT TERMINAL		
S701	QSW0648-001Z	TACT SWITCH		
VA501	NAF0024-001X	ESD SUPPRESSOR	V	
X1	NAX1034-001X	CRYSTAL		
X541	NAX1035-001X	CRYSTAL		
X701	QAX0932-001Z	CRYSTAL		
X702	QAX0401-001	CRYSTAL	32.768KHz	
X801	QAX0401-001	CRYSTAL	32.768KHz	
X802	NAX1033-001X	CRYSTAL		

Switch board

Block No. [0][2]

⚠ Symbol No.	Part No.	Part Name	Description	Local
IC601	PCA9624PW-X	IC		
IC661	PTC6526LQ-L	IC		
IC681	KSM-2003TN2M	IR DETECT UNIT		
Q627	2SC1623A/5-6/-X	TRANSISTOR		
D623	NSSM065T-X	LED		
D624	NSSM065T-X	LED		
D625	NSSM065T-X	LED		
D627	RKZ5.6B2KG-X	Z DIODE		
D631	LHQ974/LM/-X	LED		
D632	LHQ974/LM/-X	LED		

⚠ Symbol No.	Part No.	Part Name	Description	Local
D661	HSU119-X	SI DIODE		
D662	HSU119-X	SI DIODE		
D691	RKZ5.1B2KG-X	Z DIODE		
D692	RKZ5.1B2KG-X	Z DIODE		
C620	NCB31CK-105X	C CAPACITOR	1uF 16V K	
C624	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C628	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C661	NCB31CK-105X	C CAPACITOR	1uF 16V K	
C662	NDC31HJ-151X	C CAPACITOR	150pF 50V J	
C663	NCB31CK-223X	C CAPACITOR	0.022uF 16V K	
C682	NCB31EK-104X	C CAPACITOR	0.1uF 25V K	
C687	NCB31HK-472X	C CAPACITOR	4700pF 50V K	
C688	NCB31HK-472X	C CAPACITOR	4700pF 50V K	
C691	NCJ11EK-106X-R	C CAPACITOR	10uF 25V	
C692	NCJ11EK-106X-R	C CAPACITOR	10uF 25V	
R601	NRSA63J-821X	MG RESISTOR	820Ω 1/16W J	
R602	NRSA63J-821X	MG RESISTOR	820Ω 1/16W J	
R603	NRSA63J-122X	MG RESISTOR	1.2kΩ 1/16W J	
R604	NRSA63J-182X	MG RESISTOR	1.8kΩ 1/16W J	
R605	NRSA63J-272X	MG RESISTOR	2.7kΩ 1/16W J	
R607	NRSA63J-821X	MG RESISTOR	820Ω 1/16W J	
R608	NRSA63J-821X	MG RESISTOR	820Ω 1/16W J	
R609	NRSA63J-122X	MG RESISTOR	1.2kΩ 1/16W J	
R610	NRSA63J-182X	MG RESISTOR	1.8kΩ 1/16W J	
R611	NRSA63J-272X	MG RESISTOR	2.7kΩ 1/16W J	
R612	NRSA63J-392X	MG RESISTOR	3.9kΩ 1/16W J	
R613	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R621	NRSA63J-0R0X	MG RESISTOR	0Ω 1/10W J	
R623	NRS181J-331X	MG RESISTOR	330Ω 1/8W J	
R624	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R625	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R627	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R628	NRS181J-4R7X	MG RESISTOR	4.7Ω 1/8W J	
R631	NRS181J-471X	MG RESISTOR	470Ω 1/8W J	
R647	NRS181J-471X	MG RESISTOR	470Ω 1/8W J	
R648	NRS181J-471X	MG RESISTOR	470Ω 1/8W J	
R649	NRS181J-821X	MG RESISTOR	820Ω 1/8W J	
R656	NRS181J-471X	MG RESISTOR	470Ω 1/8W J	
R657	NRS181J-471X	MG RESISTOR	470Ω 1/8W J	
R658	NRS181J-751X	MG RESISTOR	750Ω 1/8W J	
R660	NRSA63J-394X	MG RESISTOR	390kΩ 1/16W J	
R661	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R662	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R663	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R664	NRSA63J-224X	MG RESISTOR	220kΩ 1/16W J	
R665	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R666	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R667	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R674	NQR0007-002X	FERRITE BEADS		
R675	NQR0007-002X	FERRITE BEADS		
R676	NQR0007-002X	FERRITE BEADS		
R681	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J	
R682	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R693	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
L691	NQR0536-001X	CHOKE COIL		
CJ601	QGZ1101K1-20	CONNECTOR	(1-20)	
CN603	QNZ1006-001	USB CONNECTOR		
J601	QNS0280-001	3.5 JACK		
JS686	QSW1231-002	ROTARY ENCODER		
S601	NSW0326-001X	TACT SWITCH		
S602	NSW0326-001X	TACT SWITCH		
S603	NSW0326-001X	TACT SWITCH		
S604	NSW0326-001X	TACT SWITCH		
S605	NSW0326-001X	TACT SWITCH		
S606	NSW0326-001X	TACT SWITCH		
S607	NSW0326-001X	TACT SWITCH		
S608	NSW0326-001X	TACT SWITCH		
S609	NSW0326-001X	TACT SWITCH		
S610	NSW0326-001X	TACT SWITCH		
S611	NSW0326-001X	TACT SWITCH		

HD board

⚠ Symbol No.	Part No.	Part Name	Description	Local
⚠ IC101	SAF3560HV/V1100	IC		
IC151	JVM459C	PROGRAMED IC		
IC191	M12L1281687TG2T	IC(DIGITAL)		
Q101	RT1N141C-X	DIGI TRANSISTOR		
C101	NCB31CK-105X	C CAPACITOR	1uF 16V K	
C102	NDC31HJ-471X	C CAPACITOR	470pF 50V J	
C103	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C104	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C105	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C106	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C107	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C108	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C109	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C110	NDC31HJ-5R0X	C CAPACITOR	5pF 50V J	
C111	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C112	NDC31HJ-5R0X	C CAPACITOR	5pF 50V J	
C113	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C114	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C115	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C116	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C117	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C118	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C119	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C120	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C121	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C122	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C123	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C124	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C125	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C126	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C127	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C128	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C129	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C130	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C131	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C132	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C133	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C134	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C141	NDC31HJ-270X	C CAPACITOR	27pF 50V J	
C142	NDC31HJ-270X	C CAPACITOR	27pF 50V J	
C143	NDC31HJ-270X	C CAPACITOR	27pF 50V J	
C144	NDC31HJ-270X	C CAPACITOR	27pF 50V J	
C145	NDC31HJ-270X	C CAPACITOR	27pF 50V J	
C146	NDC31HJ-270X	C CAPACITOR	27pF 50V J	
C147	NDC31HJ-270X	C CAPACITOR	27pF 50V J	
C148	NDC31HJ-270X	C CAPACITOR	27pF 50V J	
C151	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C191	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C192	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C193	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C194	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C195	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C196	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C197	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
R102	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R104	NRSA63J-470X	MG RESISTOR	47Ω 1/16W J	
R105	NRSA63J-470X	MG RESISTOR	47Ω 1/16W J	
R106	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R107	NRSA63J-470X	MG RESISTOR	47Ω 1/16W J	
R110	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R111	NRSA63J-470X	MG RESISTOR	47Ω 1/16W J	
R113	NRSA63J-470X	MG RESISTOR	47Ω 1/16W J	
R151	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R152	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R160	NRSA63J-0R0X	MG RESISTOR	0Ω 1/10W J	
R161	NRSA63J-0R0X	MG RESISTOR	0Ω 1/10W J	
R162	NRSA63J-0R0X	MG RESISTOR	0Ω 1/10W J	
R163	NRSA63J-0R0X	MG RESISTOR	0Ω 1/10W J	
R164	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R165	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
RA101	NRZ0114-470W	NET RESISTOR	47Ω	
RA102	NRZ0114-470W	NET RESISTOR	47Ω	
RA103	NRZ0114-470W	NET RESISTOR	47Ω	

⚠ Symbol No.	Part No.	Part Name	Description	Local
RA104	NRZ0114-470W	NET RESISTOR	47Ω	
RA105	NRZ0114-470W	NET RESISTOR	47Ω	
RA106	NRZ0114-470W	NET RESISTOR	47Ω	
RA107	NRZ0114-470W	NET RESISTOR	47Ω	
RA108	NRZ0114-470W	NET RESISTOR	47Ω	
RA109	NRZ0114-470W	NET RESISTOR	47Ω	
RA110	NRZ0114-470W	NET RESISTOR	47Ω	
RA111	NRZ0114-470W	NET RESISTOR	47Ω	
L101	NQR0129-003X	FERRITE BEADS		
CN101	QGG2004K2-18	CONNECTOR	(1-18)	
X101	NAX0964-001X	CRYSTAL		

Mecha control board

Block No. [0][4]

⚠ Symbol No.	Part No.	Part Name	Description	Local
IC301	MN6627971JA	IC		
IC302	BR24L16F-W-X	IC(DIGITAL)		
IC501	LA6565-X	IC		
Q101	2SD601A/R/-X	TRANSISTOR		
Q201	2SD601A/R/-X	TRANSISTOR		
Q211	PS1191RB22/BC/X	PHOTO TRANSISTOR		
Q212	PS1191RB22/BC/X	PHOTO TRANSISTOR		
Q301	ISA1530AC1/RS/X	TRANSISTOR		
Q302	RT1N441C-X	TRANSISTOR		
Q501	2SB1424/R/-W	TRANSISTOR		
D101	AN1105W21/AB/-X	IR LED		
D201	AN1105W21/AB/-X	IR LED		
D301	RB521S-30-X	SB DIODE		
D501	1SR154-400-X	SI DIODE		
C101	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C102	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C103	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C301	NEAF0JM-476X	E CAPACITOR	47uF 6.3V M	
C302	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C303	NEAF0JM-476X	E CAPACITOR	47uF 6.3V M	
C304	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C305	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C306	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C307	NCB31CK-334X	C CAPACITOR	0.33uF 16V K	
C308	NCB31HK-102X	C CAPACITOR	1000pF 50V K	
C309	NCB31EK-823X	C CAPACITOR	0.082uF 25V K	
C310	NCB31HK-102X	C CAPACITOR	1000pF 50V K	
C311	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C312	NCB31HK-153X	C CAPACITOR	0.015uF 50V K	
C313	NCJ21CK-475X-R	C CAPACITOR	4.7uF 16V K	
C314	NCB31HK-332X	C CAPACITOR	3300pF 50V K	
C315	NEAF0JM-476X	E CAPACITOR	47uF 6.3V M	
C316	NEAF0JM-476X	E CAPACITOR	47uF 6.3V M	
C317	NCB31HK-223X	C CAPACITOR	0.022uF 50V K	
C319	NCB31CK-334X	C CAPACITOR	0.33uF 16V K	
C321	NCB31HK-272X	C CAPACITOR	2700pF 50V K	
C322	NCB31AK-154X	C CAPACITOR	0.15uF 10V K	
C323	NEAF0JM-476X	E CAPACITOR	47uF 6.3V M	
C324	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C327	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C328	NCB31HK-681X	C CAPACITOR	680pF 50V K	
C329	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C330	NCJ20JK-106X-R	C CAPACITOR	10uF 6.3V K	
C331	NCJ20JK-106X-R	C CAPACITOR	10uF 6.3V K	
C332	NCJ20JK-106X-R	C CAPACITOR	10uF 6.3V K	
C334	NCJ20JK-106X-R	C CAPACITOR	10uF 6.3V K	
C335	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C336	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C337	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C338	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C341	NDC31HJ-270X	C CAPACITOR	27pF 50V J	
C342	NDC31HJ-270X	C CAPACITOR	27pF 50V J	

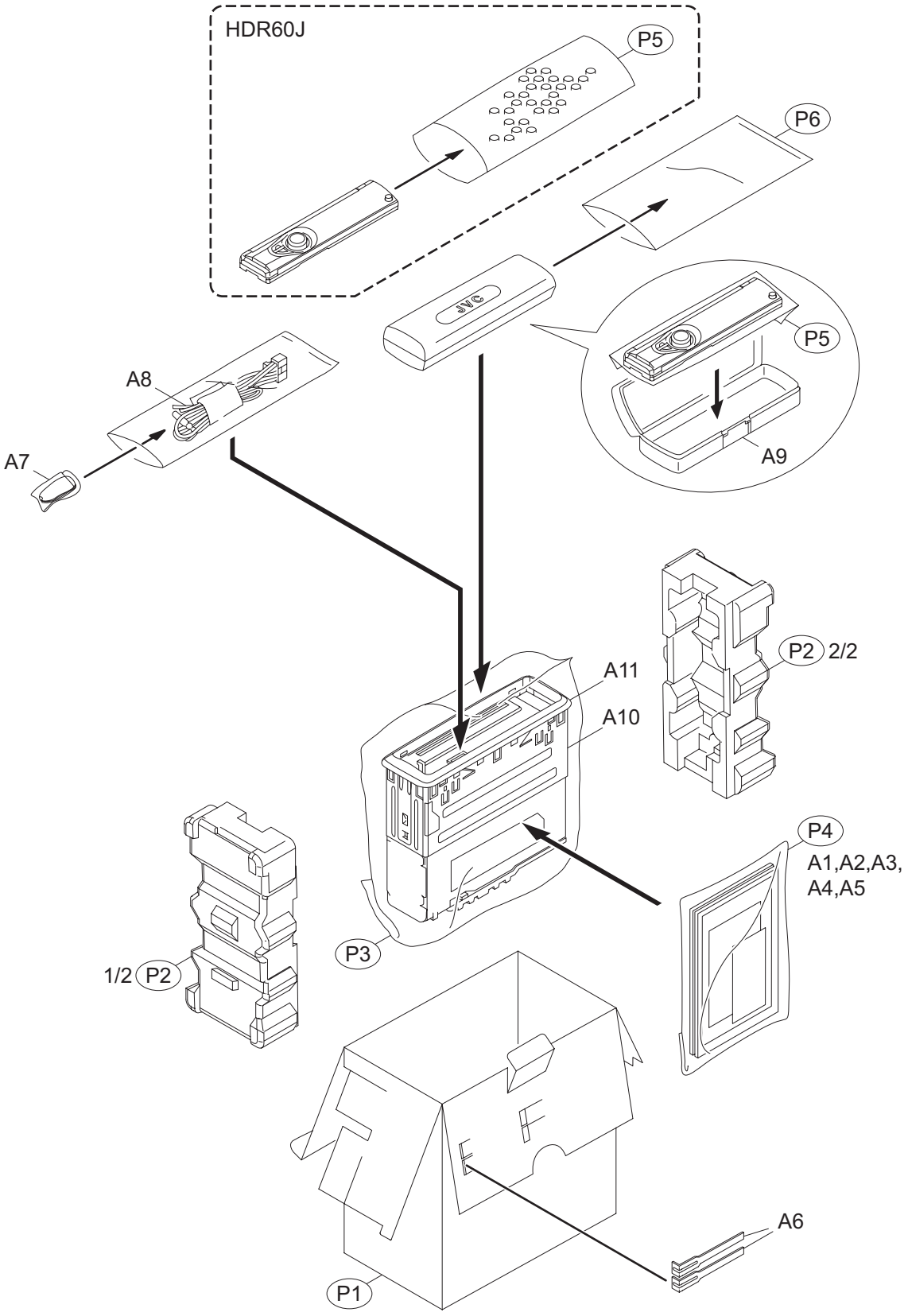
⚠ Symbol No.	Part No.	Part Name	Description	Local
C501	NEHN1AM-107X	E CAPACITOR	100uF 10V M	
C502	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C503	NDC31HJ-680X	C CAPACITOR	68pF 50V J	
C511	NCB31HK-122X	C CAPACITOR	1200pF 50V K	
C512	NCB31HK-182X	C CAPACITOR	1800pF 50V K	
C513	NCB31HK-222X	C CAPACITOR	2200pF 50V K	
C514	NCB31HK-682X	C CAPACITOR	6800pF 50V K	
C531	NEAF0JM-107X	E CAPACITOR	100uF 6.3V M	
C532	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
R101	NRSA63J-391X	MG RESISTOR	390Ω 1/16W J	
R102	NRSA63J-822X	MG RESISTOR	8.2kΩ 1/16W J	
R103	NRSA63J-184X	MG RESISTOR	180kΩ 1/16W J	
R104	NRSA63J-184X	MG RESISTOR	180kΩ 1/16W J	
R105	NRSA63J-153X	MG RESISTOR	15kΩ 1/16W J	
R201	NRSA63J-391X	MG RESISTOR	390Ω 1/16W J	
R202	NRSA63J-822X	MG RESISTOR	8.2kΩ 1/16W J	
R203	NRSA63J-184X	MG RESISTOR	180kΩ 1/16W J	
R204	NRSA63J-184X	MG RESISTOR	180kΩ 1/16W J	
R205	NRSA63J-153X	MG RESISTOR	15kΩ 1/16W J	
R301	NRSA63J-100X	MG RESISTOR	10Ω 1/16W J	
R302	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R304	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R306	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R307	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R309	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R311	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R312	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R313	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R314	NRSA63J-272X	MG RESISTOR	2.7kΩ 1/16W J	
R315	NRSA63J-821X	MG RESISTOR	820Ω 1/16W J	
R316	NRSA63J-823X	MG RESISTOR	82kΩ 1/16W J	
R317	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R319	NRSA63J-0R0X	MG RESISTOR	0Ω 1/10W J	
R320	NRSA63J-0R0X	MG RESISTOR	0Ω 1/10W J	
R321	NRSA63J-0R0X	MG RESISTOR	0Ω 1/10W J	
R322	NRSA63J-822X	MG RESISTOR	8.2kΩ 1/16W J	
R323	NRSA63J-822X	MG RESISTOR	8.2kΩ 1/16W J	
R324	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R325	NRSA02F-100X	MG RESISTOR	10Ω 1/10W F	
R326	NRSA02F-100X	MG RESISTOR	10Ω 1/10W F	
R327	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R328	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R329	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R330	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R331	NRSA63J-151X	MG RESISTOR	150Ω 1/16W J	
R332	NRSA63J-105X	MG RESISTOR	1MΩ 1/16W J	
R333	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	
R336	NRSA63J-0R0X	MG RESISTOR	0Ω 1/10W J	
R337	NRSA63J-0R0X	MG RESISTOR	0Ω 1/10W J	
R338	NRSA63J-0R0X	MG RESISTOR	0Ω 1/10W J	
R341	NRSA63J-563X	MG RESISTOR	56kΩ 1/16W J	
R342	NRSA63J-333X	MG RESISTOR	33kΩ 1/16W J	
R343	NRSA63D-472X	MG RESISTOR	4.7kΩ 1/16W D	
R345	NRSA63D-472X	MG RESISTOR	4.7kΩ 1/16W D	
R347	NRSA63J-0R0X	MG RESISTOR	0Ω 1/10W J	
R348	NRSA63J-0R0X	MG RESISTOR	0Ω 1/10W J	
R349	NRSA63J-0R0X	MG RESISTOR	0Ω 1/10W J	
R353	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R354	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R355	NRSA63J-0R0X	MG RESISTOR	0Ω 1/10W J	
R356	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R357	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R358	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R359	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R361	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R371	NRSA63J-0R0X	MG RESISTOR	0Ω 1/10W J	
R501	NRS125J-100X	MG RESISTOR	10Ω 1/2W J	
R503	NRSA63J-822X	MG RESISTOR	8.2kΩ 1/16W J	
R504	NRSA63J-512X	MG RESISTOR	5.1kΩ 1/16W J	
R505	NRSA63J-333X	MG RESISTOR	33kΩ 1/16W J	
R506	NRSA63J-683X	MG RESISTOR	68kΩ 1/16W J	
R507	NRSA63J-683X	MG RESISTOR	68kΩ 1/16W J	
R508	NRSA63J-273X	MG RESISTOR	27kΩ 1/16W J	
R509	NRSA63J-153X	MG RESISTOR	15kΩ 1/16W J	
R510	NRSA63J-682X	MG RESISTOR	6.8kΩ 1/16W J	
R511	NRSA63J-153X	MG RESISTOR	15kΩ 1/16W J	
R512	NRSA63J-153X	MG RESISTOR	15kΩ 1/16W J	

⚠ Symbol No.	Part No.	Part Name	Description	Local
R513	NRSA63J-153X	MG RESISTOR	15kΩ 1/16W J	
R514	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R515	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R516	NRSA63J-562X	MG RESISTOR	5.6kΩ 1/16W J	
R517	NRSA63J-562X	MG RESISTOR	5.6kΩ 1/16W J	
R518	NRSA63J-562X	MG RESISTOR	5.6kΩ 1/16W J	
R519	NRSA63J-822X	MG RESISTOR	8.2kΩ 1/16W J	
R520	NRSA63J-822X	MG RESISTOR	8.2kΩ 1/16W J	
R521	NRSA63J-822X	MG RESISTOR	8.2kΩ 1/16W J	
R522	NRSA63J-822X	MG RESISTOR	8.2kΩ 1/16W J	
R523	NRSA63J-822X	MG RESISTOR	8.2kΩ 1/16W J	
R524	NRSA63J-822X	MG RESISTOR	8.2kΩ 1/16W J	
R525	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
CN101	QGB2027LA-22X	CONNECTOR	B-B (1-22)	
CN102	QGF0522F3-15W	CONNECTOR	FFC/FPC (1-15)	
SW1	NSW0291-001X	DETECT SWITCH		
X301	NAX0375-001X	CRYSTAL	16.9344MHz	

Packing materials and accessories parts list

Block No. M 3 M M

No additional / supplemental order of WARRANTY CARDs are available.



The parts without symbol number are not service.

Packing and Accessories

Block No. [M][3][M][M]

⚠	Symbol No.	Part No.	Part Name	Description	Local
	A 1	LVT2095-001A	INST BOOK	ENG SPA FRE	
	A 2	LVT2096-001A	INSTALL MANUAL	ENG SPA FRE	
	A 3	----------	WARRANTY CARD	BT-52008-1	
	A 4	----------	WARRANTY CARD	BT-51029-3	A
	A 4	----------	WARRANTY CARD	BT-51018-6	B
	A 5	BT-51044-1	REGISTRATION CARD		
	A 6	GE40481-001A	HOOK	(x2)	
	A 7	RM-RK50C1	REMOCON UNIT		
	A 8	QAM1143-001	CAR CABLE		
	A 9	GE32320-001A	HARD CASE ASSY		A
	A 10	GE20267-001A	MOUNTING SLEEVE		
	A 11	GE20235-014A	TRIM PLATE		
	P 1	LV38921-003A	CARTON		A
	P 1	LV38919-003A	CARTON		B
	P 2	GE10271-001A	CUSHION		
	P 3	QPC03004315PB	POLY BAG	30cm x 43cm	
	P 4	FSPG4002-001	POLY BAG		
	P 5	QPC01002515	POLY BAG	10cm x 25cm	A
	P 5	GE40276-003A	AIR BUBBLE		B
	P 6	QPA01003003	POLY BAG	10cm x 30cm	A

JVC

SCHEMATIC DIAGRAMS

CD RECEIVER

KD-AHD69J KD-HDR60J

■ PRECAUTIONS ON SCHEMATIC DIAGRAMS

- Due to the improvement in performance, some part numbers shown in the circuit diagrams may not agree with those indicated in the Parts List.
- The parts numbers, values and rated voltage etc. in the Schematic Diagrams are for reference only.
- Since the circuit diagrams are standard ones, the circuits and circuit constants may be subject to change for improvement without any notice.

■ PRECAUTIONS ON PARTS LIST

- The parts identified by the ⚠ symbol are critical for safety. Whenever replacing these parts, be sure to use specified ones to secure the safety.
- The parts not indicated in this Parts List and those which are filled with lines --- in the Parts No. columns will not be supplied.
- P.W. BOARD Ass'y will not be supplied, but those which are filled with the Parts No. in the Parts No. columns will be supplied.
- When ordering chips, screws etc., place bulk orders (unit of tens) whenever possible to improve shipping efficiency.
- There are cases where the actual implemented parts in the sets and the service parts are different. When ordering parts, make sure to refer to the Parts List.

■ PRECAUTIONS ON SERVICE

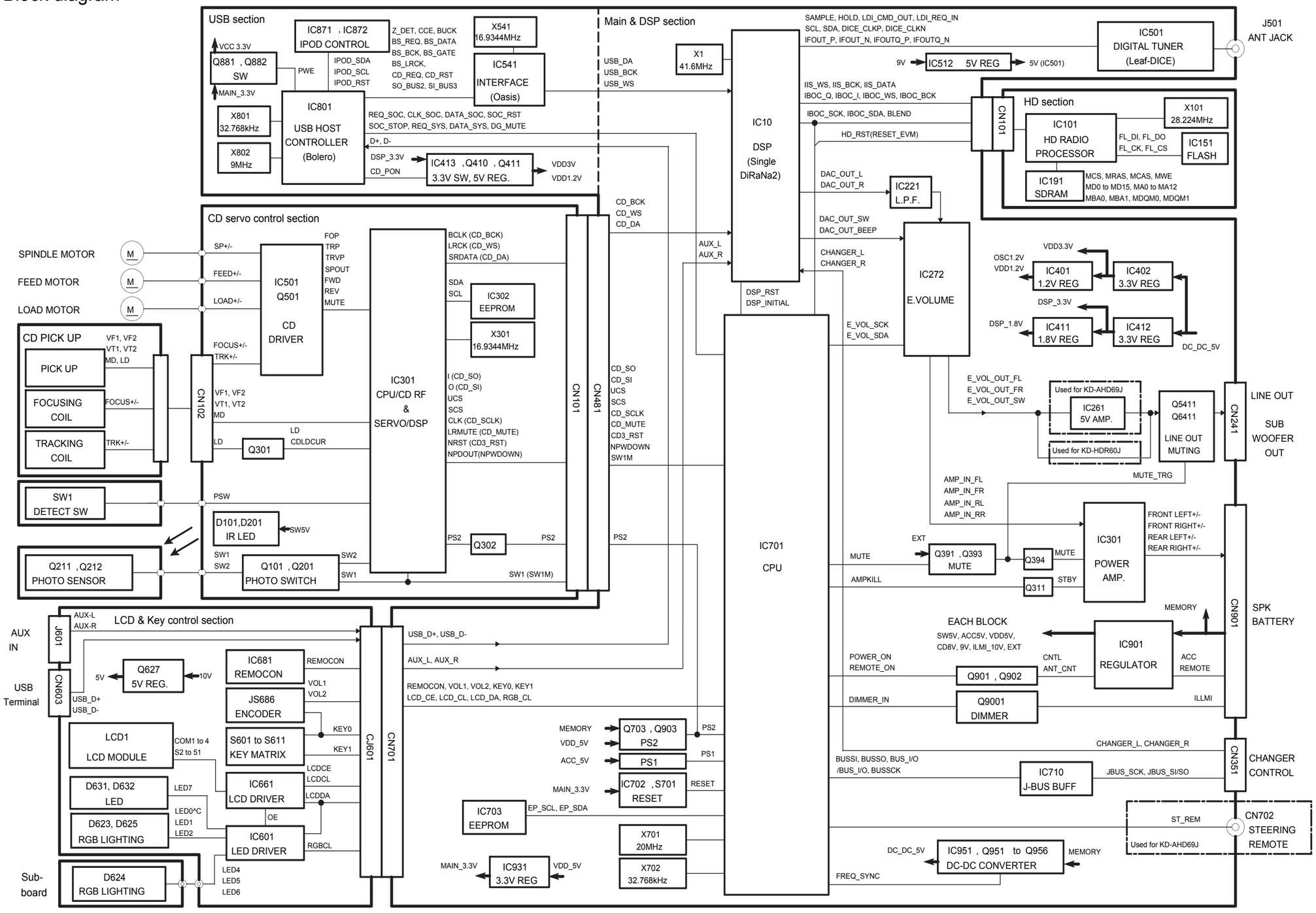
Certain parts of the power circuits and the GNDs differ according to the models. Care must be taken for the following points as the differences are indicated separately in the LIVE GND (⏚) and the ISOLATED (NEUTRAL) GND (⊥).

1. Do not touch the LIVE GND, or do not touch the LIVE GND and the ISOLATED (NEUTRAL) GND at the same time. It may cause an electric shock.
   Before pulling out the chassis or other parts, make sure to pull out the power cord from the wall outlet first.
2. Do not short circuit between the LIVE GND and ISOLATED (NEUTRAL) GND, or never measure the LIVE GND and ISOLATED (NEUTRAL) GND at the same time using measuring instruments (oscilloscope, etc.). It may blow fuses or damage other parts.

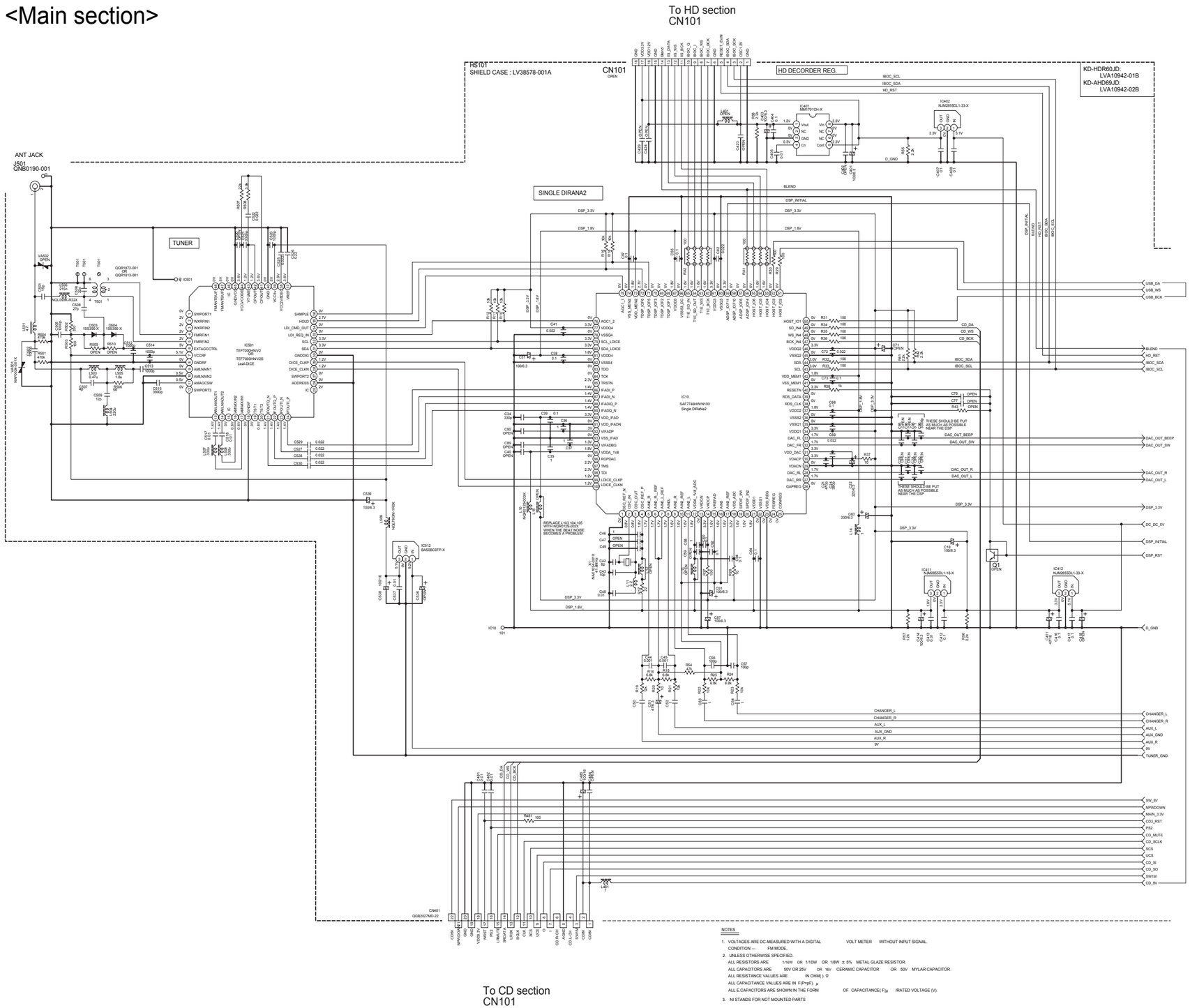
■ DEVIATION TOLERANCE RANGE

DEVIATION TOLERANCE RANGE									
F	G	J	K	M	N	R	H	Z	P
± 1%	± 2%	± 5%	±10%	±20%	±30%	+30% -10%	+50% -10%	+80% -20%	+100% -0%

Block diagram



<Main section>



<DSP section>

To Main section

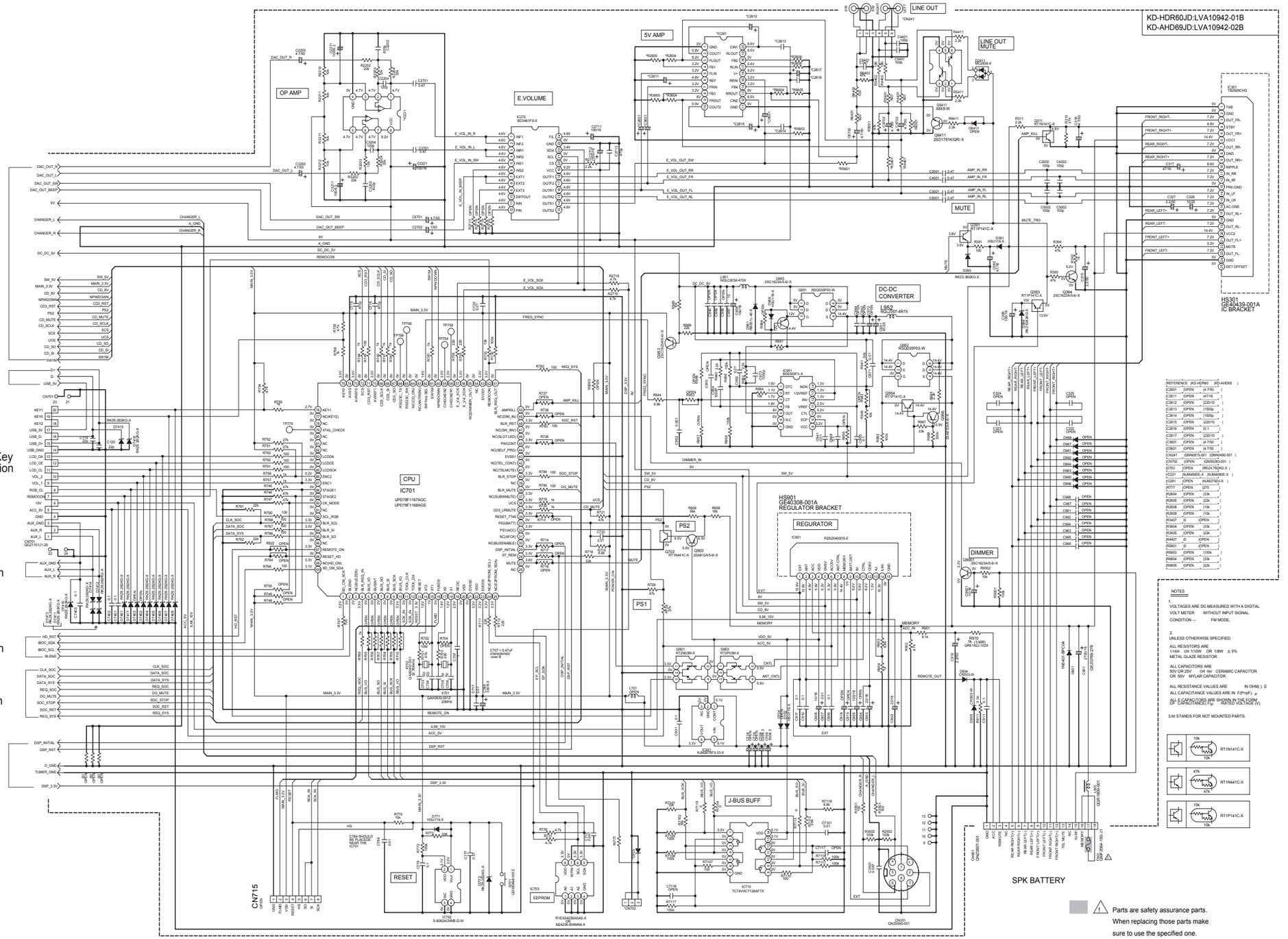
To USB section

To LCD & Key control section CJ601

To Main section

To USB section

To Main section



<USB section>

KD-HDR60JD:LVA10942-01B
KD-AHD69JD:LVA10942-02B

To Main section

To DSP section

To DSP section

IC801
TMP92CD28AF7C78
Bolero

IC541
TC94A92FG-301
TC94B07FG-301
Oasis

IC872
R1EX24004ASAA-X
OR
M24C04-RMN6-X

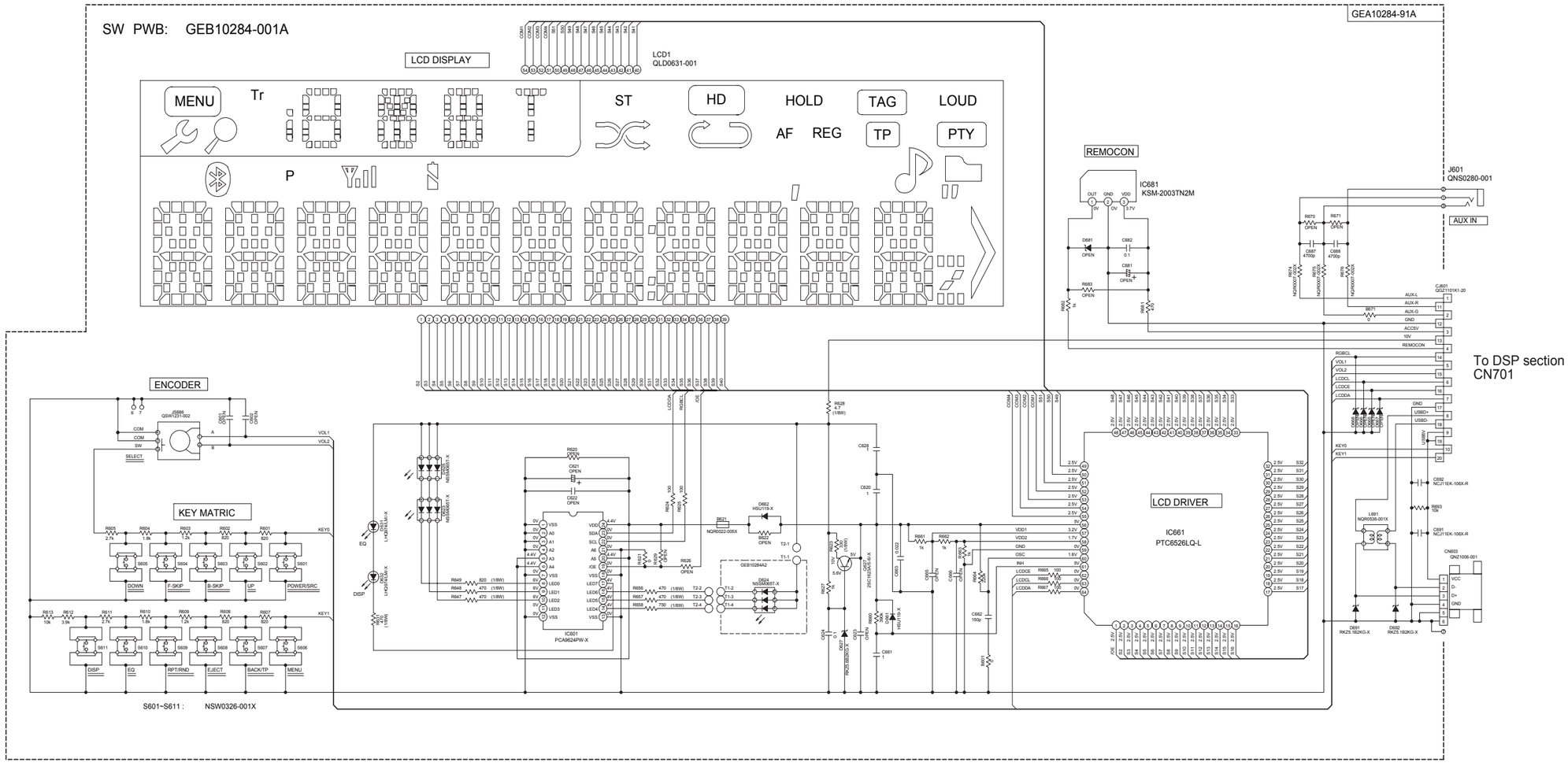
IC871
MF34152162-X

IC801	R881	R883	R884	Q881	Q882
Mask	OPEN	22k	1.5k	ISA1530AC1/QR/X	RT1N144C-X
Flash	0	OPEN	OPEN	OPEN	OPEN

NOTES

1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER WITHOUT INPUT SIGNAL.
   CONDITION --- FM MODE.
2. UNLESS OTHERWISE SPECIFIED.
   ALL RESISTORS ARE 1/16W OR 1/10W OR 1/8W ± 5% METAL GLAZE RESISTOR.
   ALL CAPACITORS ARE 50V OR 25V OR 16V CERAMIC CAPACITOR OR 50V MYLAR CAPACITOR.
   ALL RESISTANCE VALUES ARE IN OHM( ). Ω
   ALL CAPACITANCE VALUES ARE IN F(P=pF). μ
   ALL E.CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE(F)μ /RATED VOLTAGE (V).
3. NI STANDS FOR NOT MOUNTED PARTS

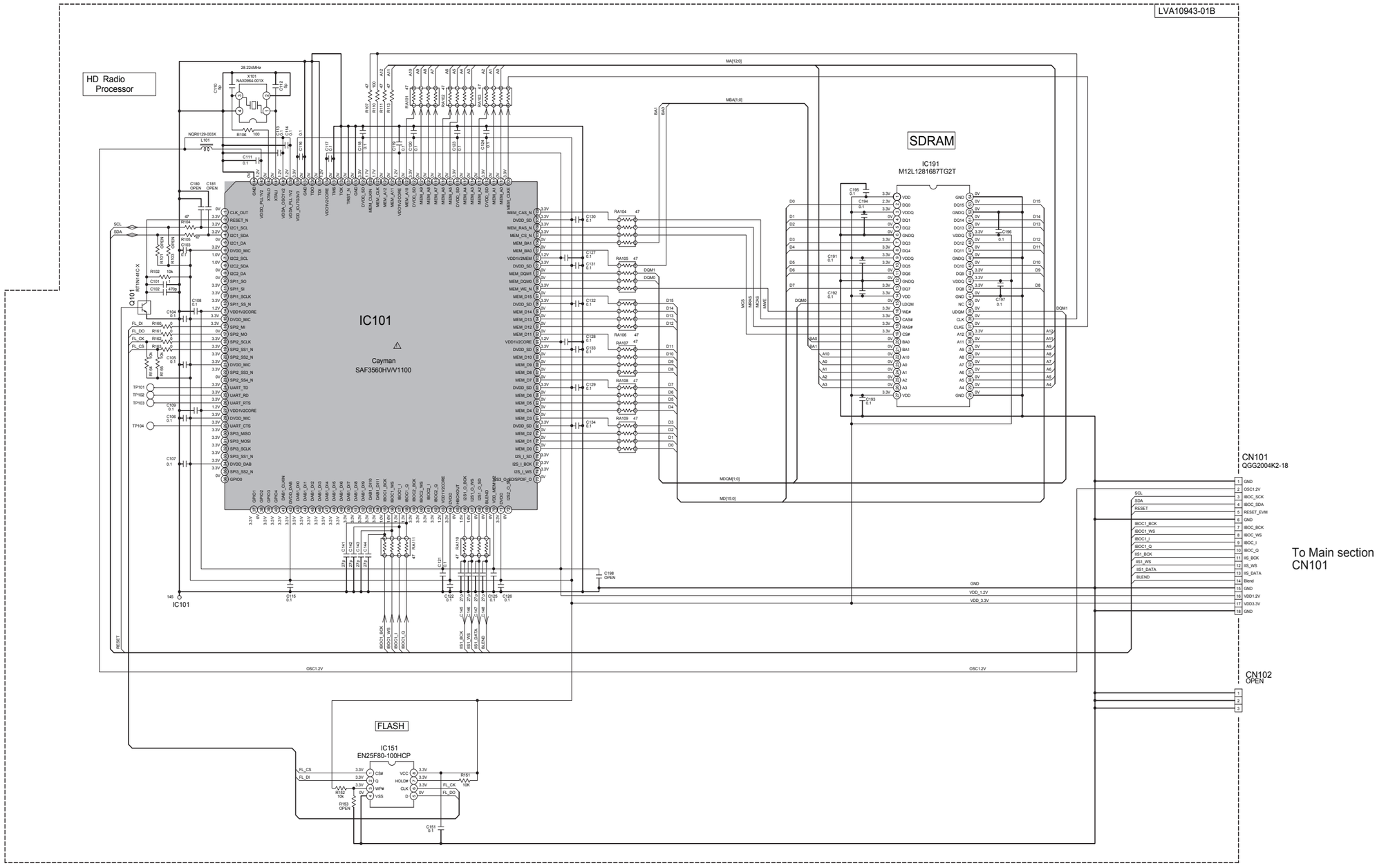
<LCD & Key control section>



NOTES

1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER WITHOUT INPUT SIGNAL.
   CONDITION --- FM MODE.
2. UNLESS OTHERWISE SPECIFIED.
   ALL RESISTORS ARE 1/16W OR 1/10W OR 1/8W ± 5% METAL GLAZE RESISTOR.
   ALL CAPACITORS ARE 50V OR 25V OR 16V CERAMIC CAPACITOR OR 50V MYLAR CAPACITOR.
   ALL RESISTANCE VALUES ARE IN OHM( ), Ω
   ALL CAPACITANCE VALUES ARE IN F(P=pF), μ
   ALL E.CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE(F)μ /RATED VOLTAGE (V).
3. NI STANDS FOR NOT MOUNTED PARTS

<HD section>

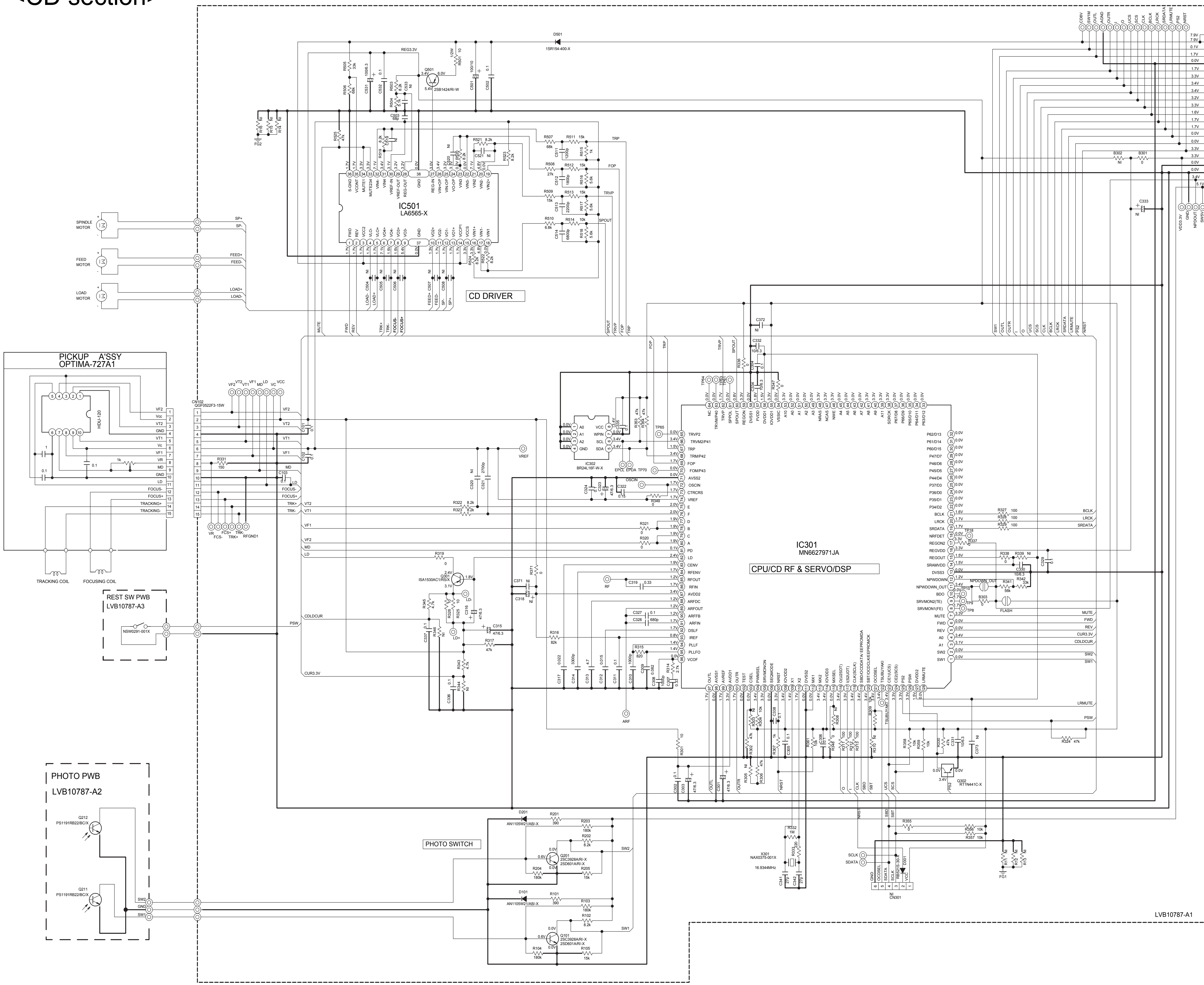


Parts are safety assurance parts.
When replacing those parts make sure to use the specified one.

NOTES

1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER WITHOUT INPUT SIGNAL.
   CONDITION --- FM MODE.
2. UNLESS OTHERWISE SPECIFIED
   ALL RESISTORS ARE 1/16W OR 1/10W OR 1/8W ±5% METAL GLAZE RESISTOR.
   ALL CAPACITORS ARE 50V OR 25V OR 16V CERAMIC CAPACITOR OR 50V MYLAR CAPACITOR.
   ALL RESISTANCE VALUES ARE IN OHM( ). Ω
   ALL CAPACITANCE VALUES ARE IN F(P=pF). μ
   ALL E.CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE(F) μ /RATED VOLTAGE (V).
3. NI STANDS FOR NOT MOUNTED PARTS.

<CD section>

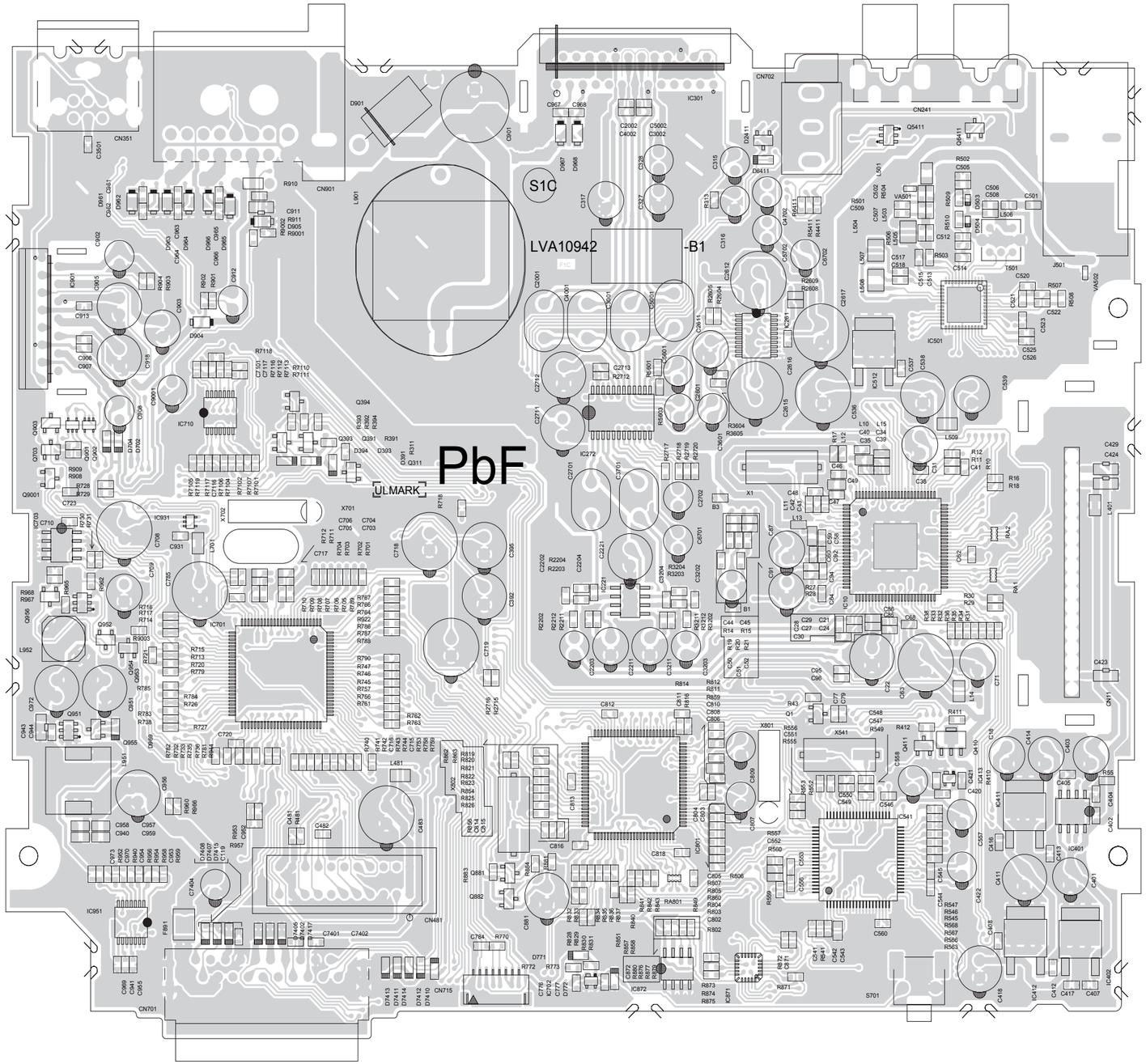


No.MA468

created date:2010-02-05

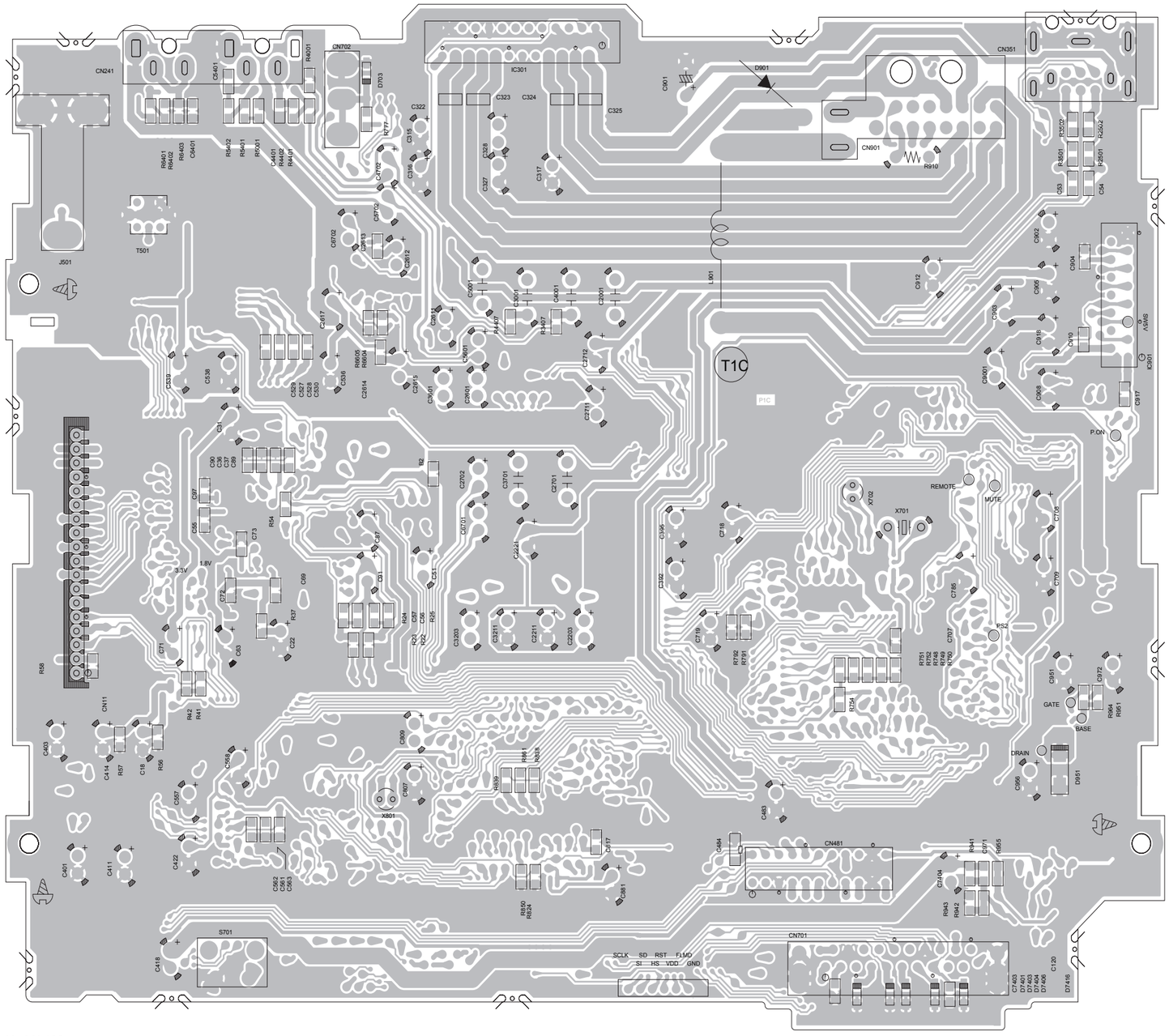
<Main board>

(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))



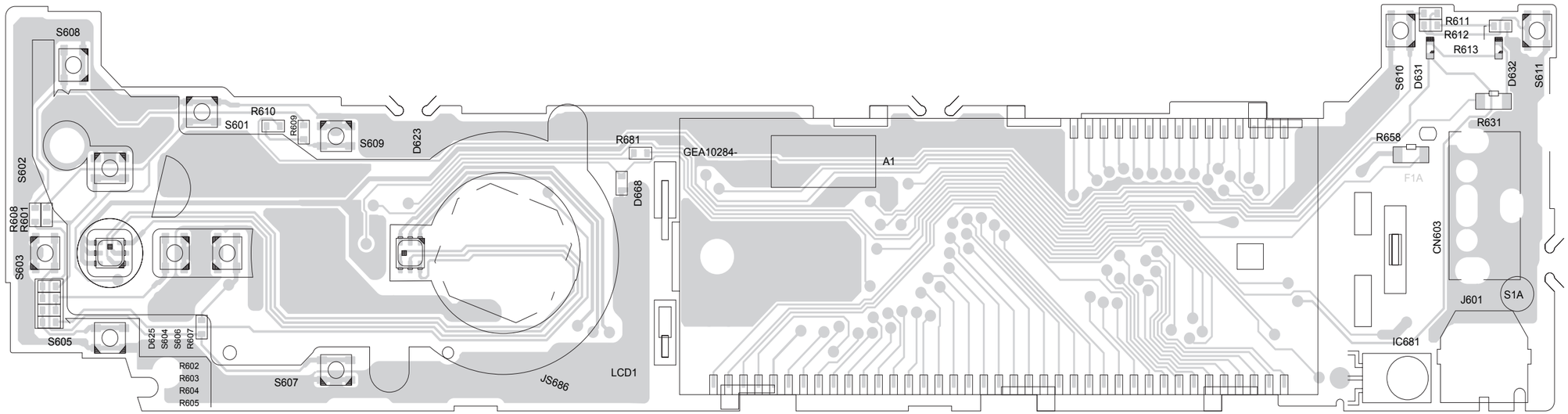
<Main board>

(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))



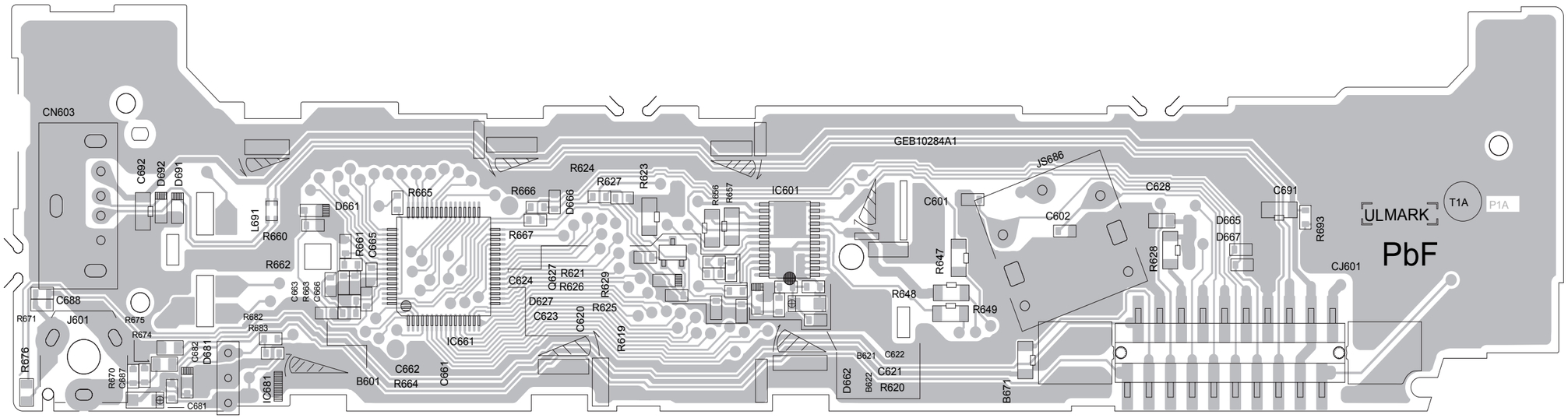
<Switch board>

(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))



<Switch board>

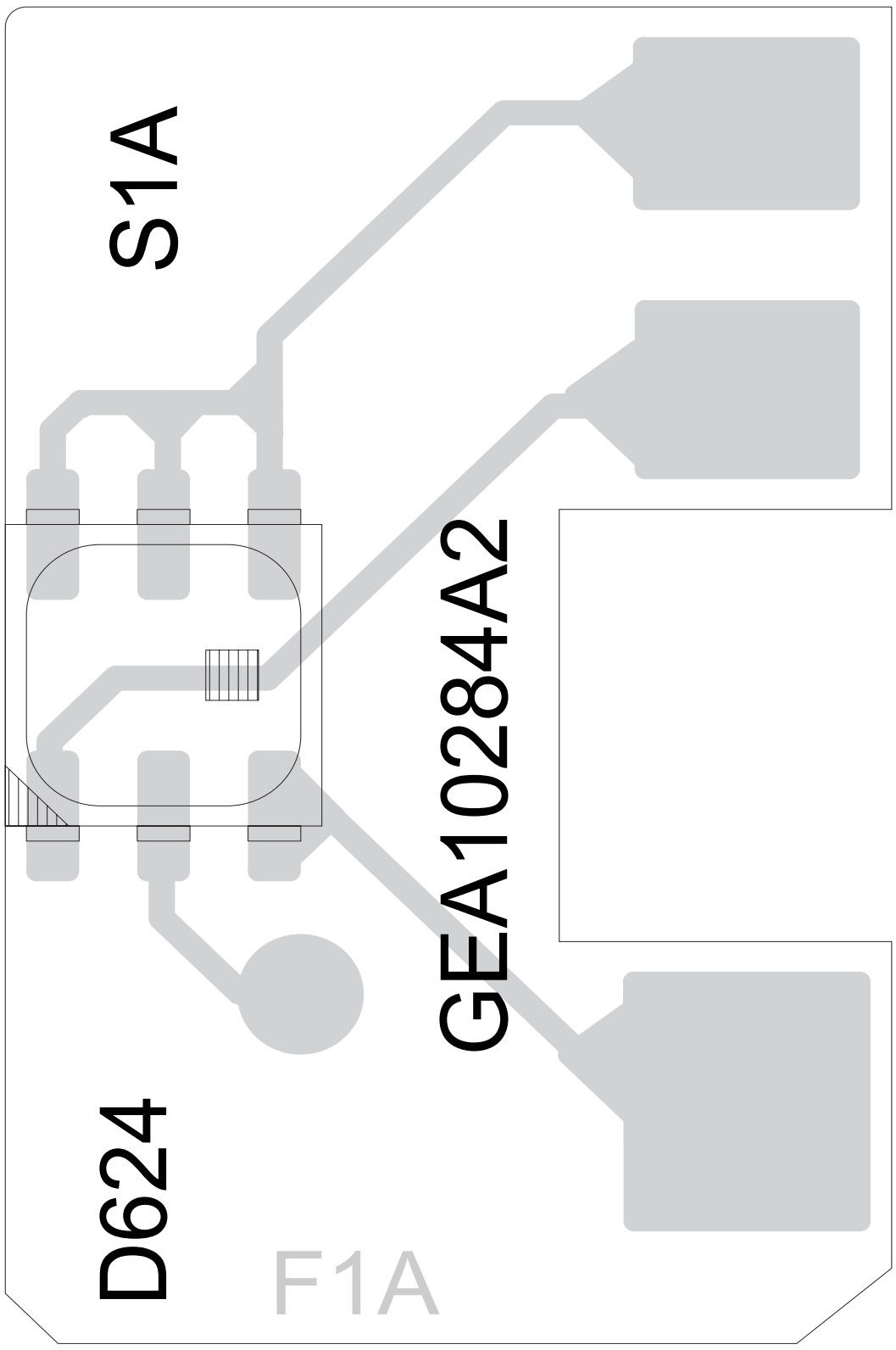
(Lead free solder used in the board (material : Sn-Ag-Cu, melting point : 219 Centigrade))
(Lead free solder used in the board (material : Sn-Cu, melting point : 230 Centigrade))



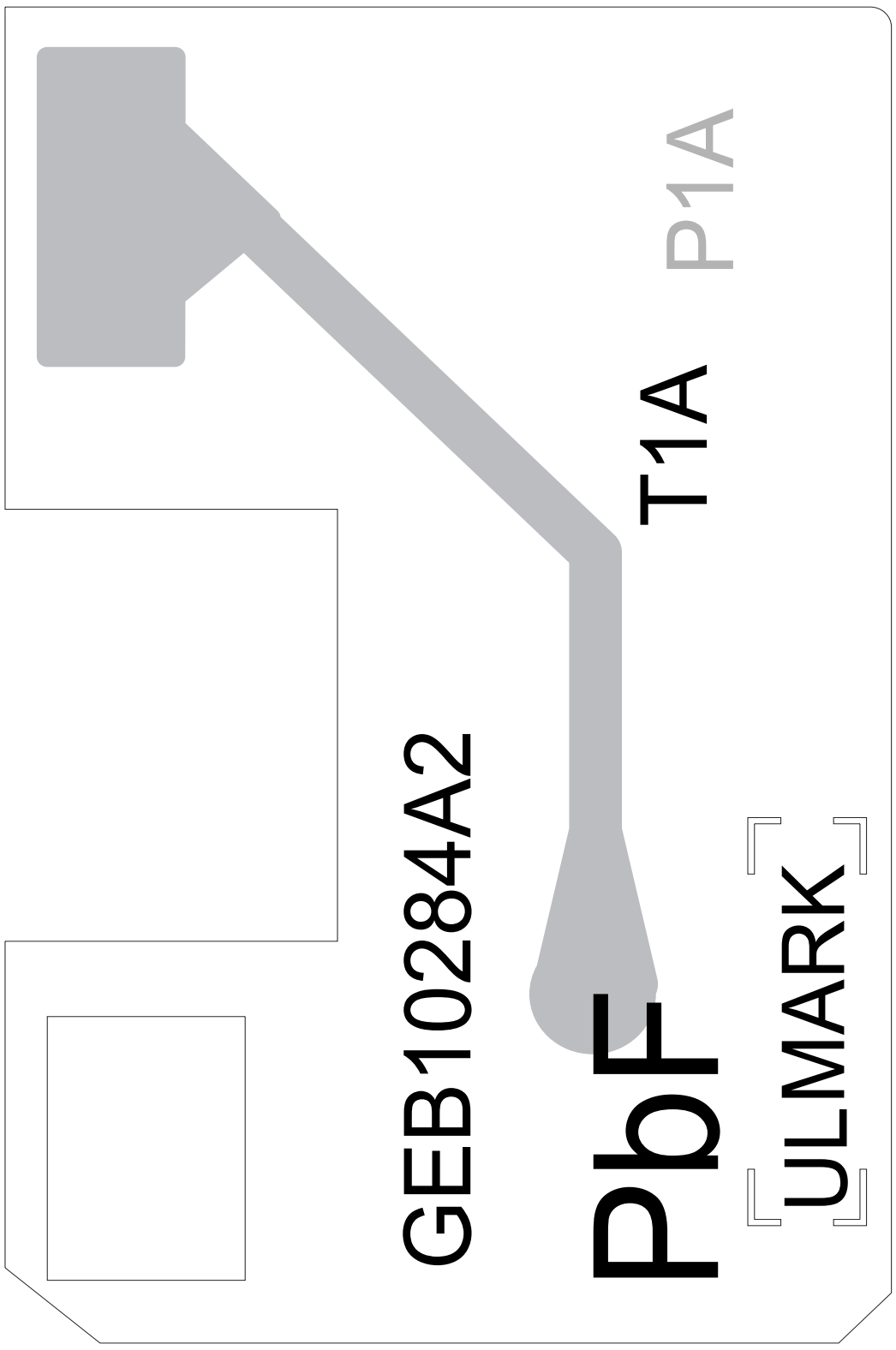
<LED board>

(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))

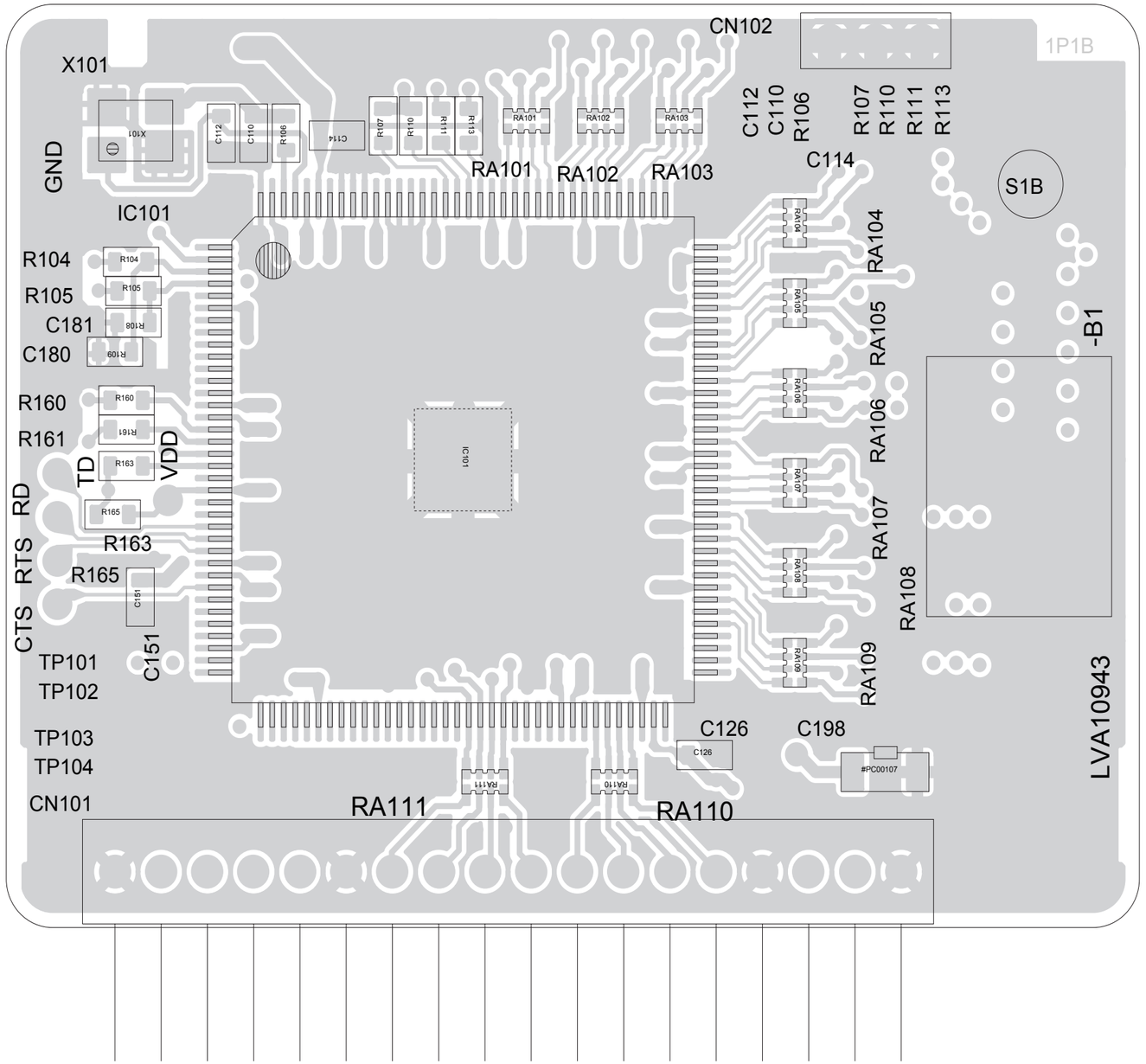


<LED board>
(Lead free solder used in the board (material : Sn-Ag-Cu, melting point : 219 Centigrade))
(Lead free solder used in the board (material : Sn-Cu, melting point : 230 Centigrade))



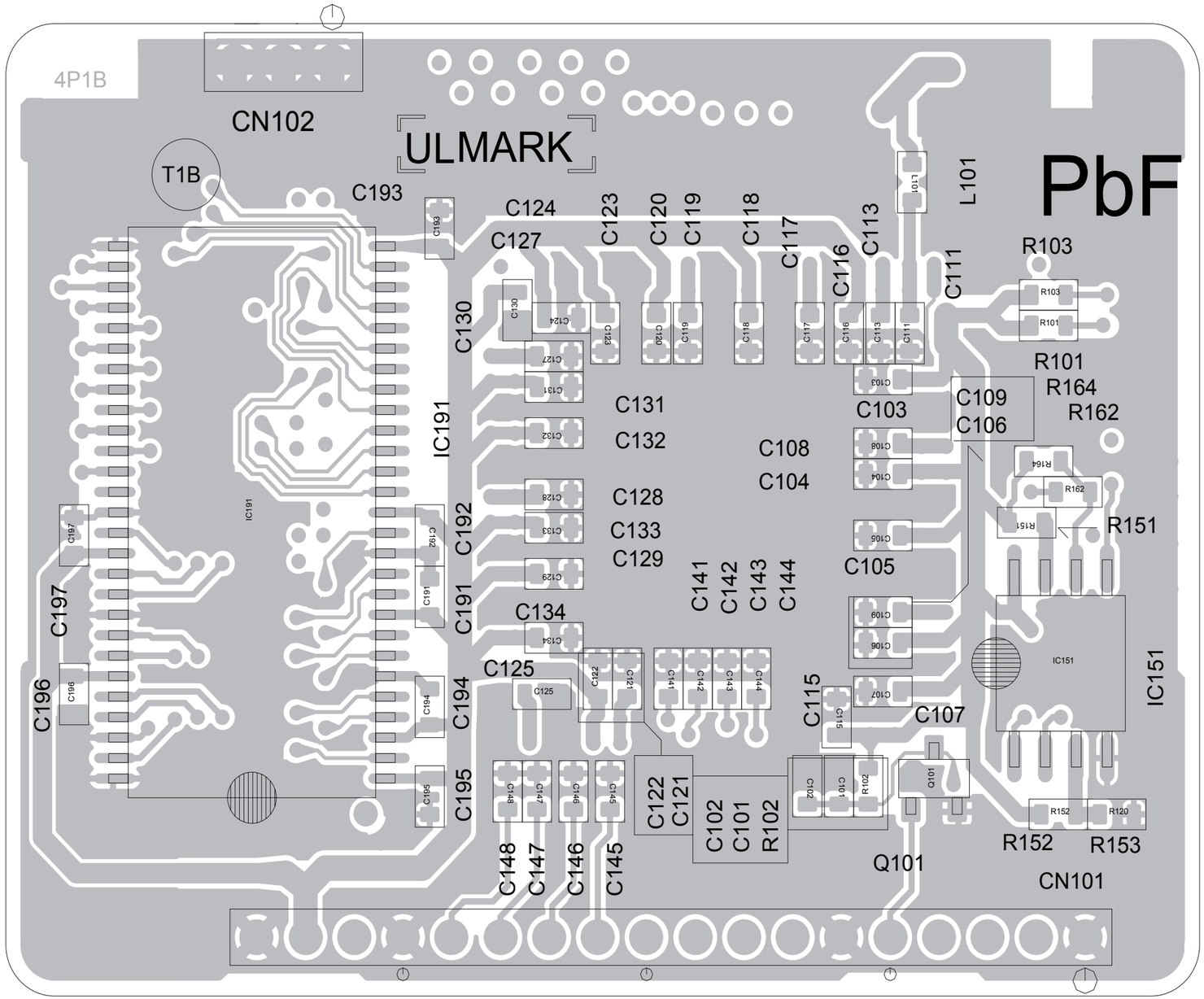
<HD board>

(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))



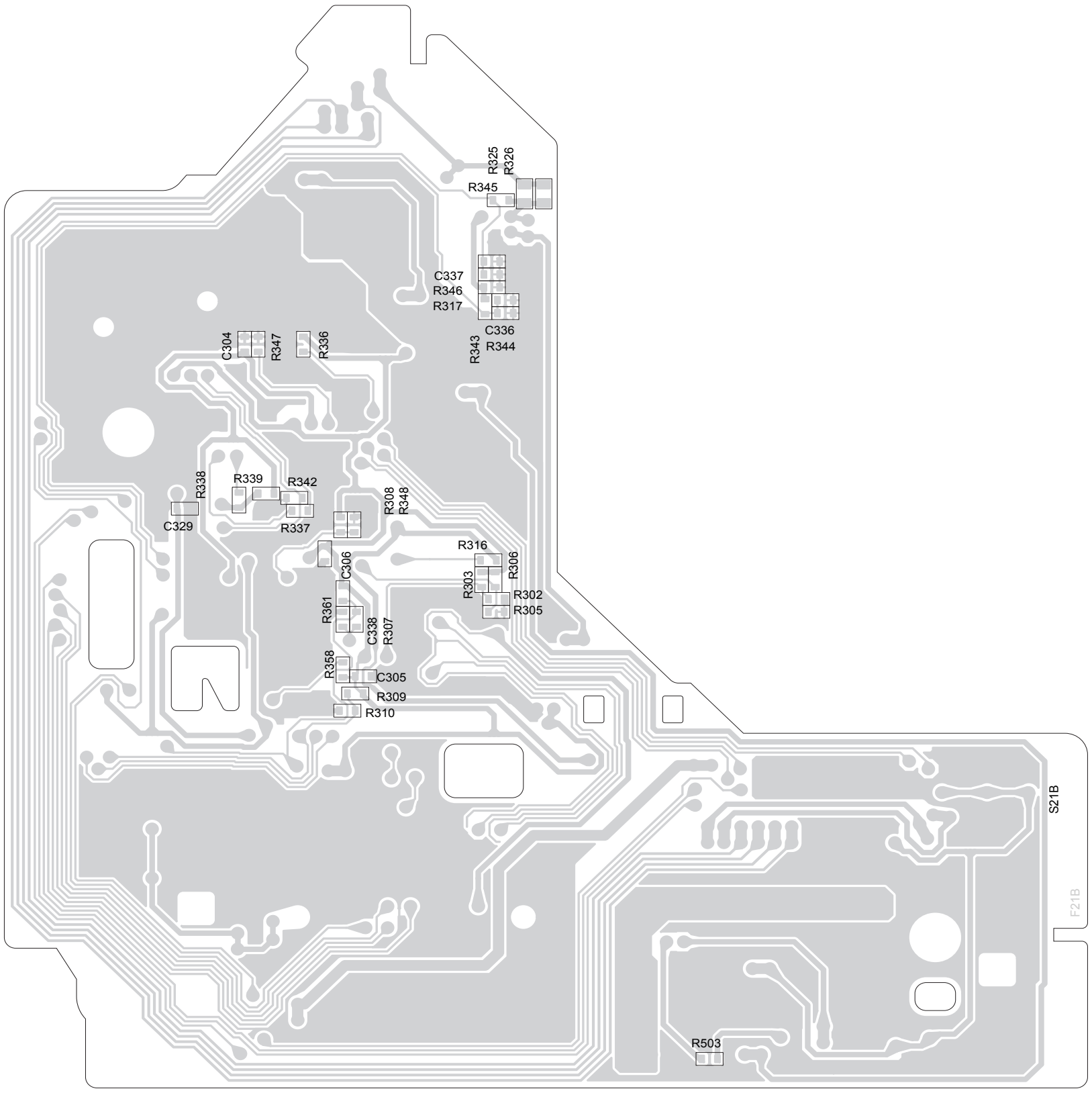
<HD board>

(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))



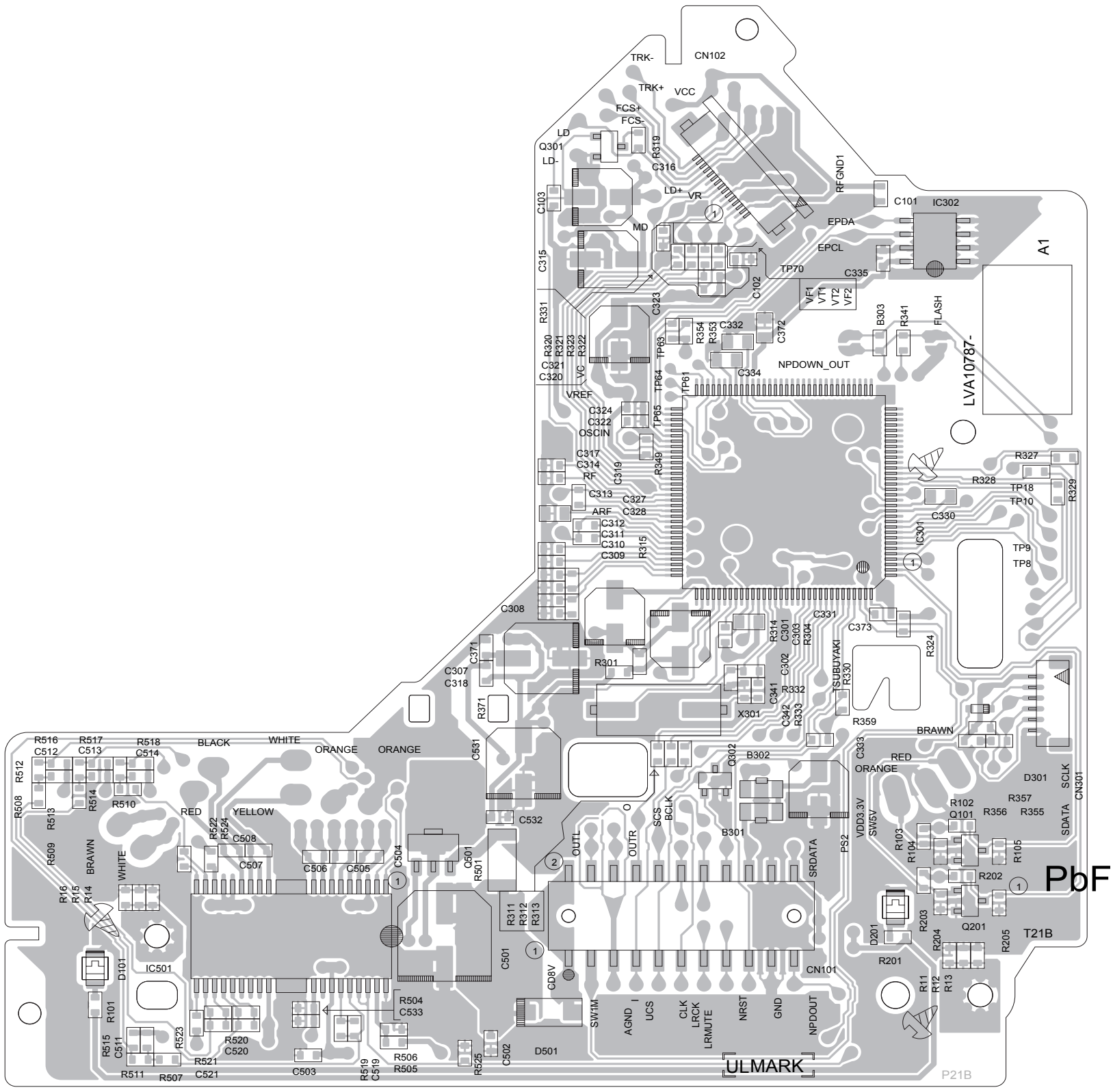
<Mecha control board>

(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))



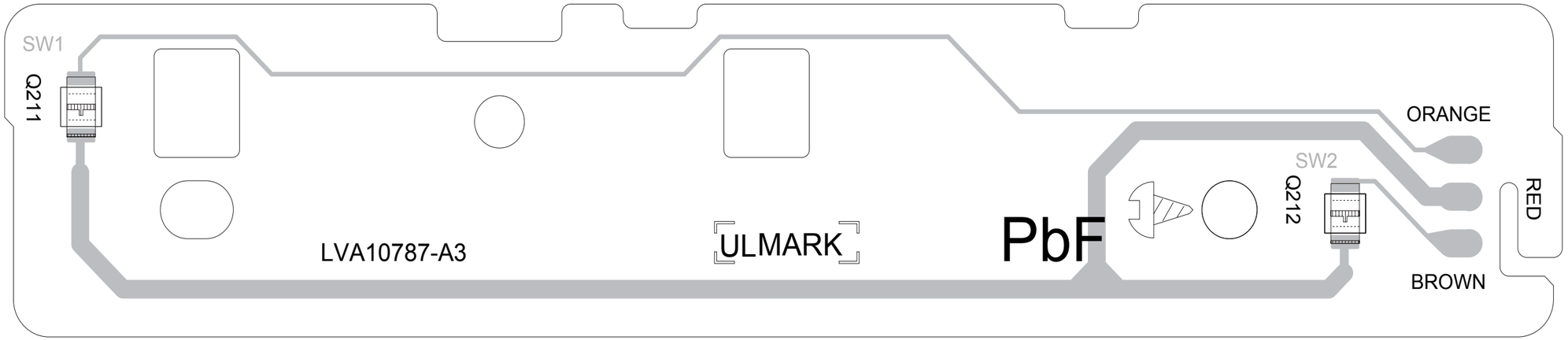
<Mecha control board>

(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))



<Photo board>

(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))



<Rest switch board>
(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))