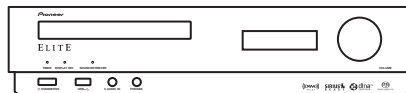


Service Manual



XC-Z9

ORDER NO.
RRV3660

SUPER AUDIO CD RECEIVER

XC-Z9

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Model	Type	Power Requirement	Remarks
XC-Z9	KUCXJ	AC 120 V	



For details, refer to "Important Check Points for good servicing".

1 2 3 4

SAFETY INFORMATION



This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.

Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 Proposition 65

NOTICE

(FOR CANADIAN MODEL ONLY)

Fuse symbols (fast operating fuse) and/or (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE

(POUR MODÈLE CANADIEN SEULEMENT)

Les symboles de fusible (fusible de type rapide) et/ou (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

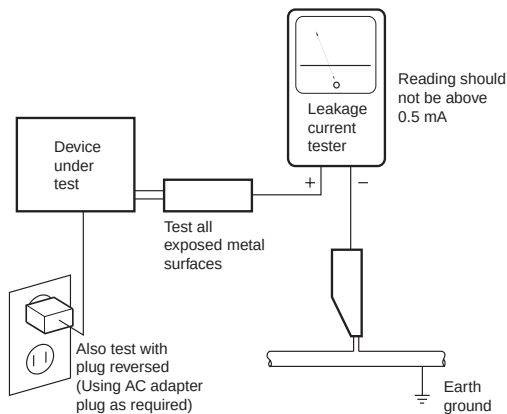
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60 Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5 mA.



AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual. The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

WARNING !

THE AEL (ACCESSIBLE EMISSION LEVEL) OF THE LASER POWER OUTPUT IS LESS THAN CLASS 1 BUT THE LASER COMPONENT IS CAPABLE OF EMITTING RADIATION EXCEEDING THE LIMIT FOR CLASS 1.
A SPECIALLY INSTRUCTED PERSON SHOULD DO SERVICING OPERATION OF THE APPARATUS.

LASER DIODE CHARACTERISTICS

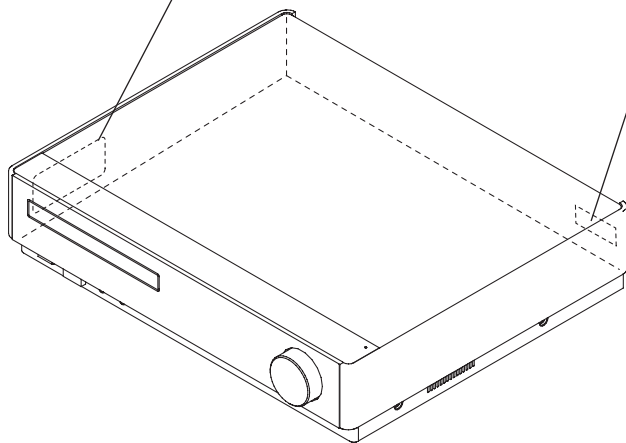
FOR CD : MAXIMUM OUTPUT POWER : 7 mW Continuous
WAVELENGTH : 780 nm
FOR SACD : MAXIMUM OUTPUT POWER : 5 mW Continuous
WAVELENGTH : 650 nm

LABEL CHECK

PRW1608

CLASS 1 LASER PRODUCT
APPAREIL À LASER DE CLASSE 1

(Printed on the Rear Panel)

**Additional Laser Caution**

- 1. Laser Interlock Mechanism**
 - Loading switch (S101 on the LOAB Assy) is used for interlock mechanism of the laser.
When this switch turned ON in SW2 (CLOSE) side (OPEN signal is 0V and CLOSE signal is 3.5V), a laser becomes the status which can completely oscillation.
Furthermore, the laser completely oscillates in the disc judgment and disc playback.
When player is power ON state and laser diode is not completely oscillating, 780nm laser diode is always oscillating by half power.
 - Laser diode is driving with Q307 (650nm LD) and Q308 (780nm LD) on the DVD M Assy.
Therefore, when short-circuit between the emitter and collector of these transistors or the base voltage is supplied for transistors turn on, the laser oscillates. (failure mode)
 - In the test mode *, there is the mode that the laser oscillates except for the disc judgment and playback. LD ON mode in the test mode oscillates with the laser forcibly.
The interlock mechanism mentioned above becomes invalid in this mode.
- 2. When the cover is open, close viewing through the objective lens with the naked eye will cause exposure to the laser beam.**

* : Refer to page 50.

Important Check Points for Good Servicing

In this manual, procedures that must be performed during repairs are marked with the below symbol.
Please be sure to confirm and follow these procedures.

1. Product safety



Please conform to product regulations (such as safety and radiation regulations), and maintain a safe servicing environment by following the safety instructions described in this manual.

- ① Use specified parts for repair.

Use genuine parts. Be sure to use important parts for safety.

- ② Do not perform modifications without proper instructions.

Please follow the specified safety methods when modification(addition/change of parts) is required due to interferences such as radio/TV interference and foreign noise.

- ③ Make sure the soldering of repaired locations is properly performed.

When you solder while repairing, please be sure that there are no cold solder and other debris.
Soldering should be finished with the proper quantity. (Refer to the example)

- ④ Make sure the screws are tightly fastened.

Please be sure that all screws are fastened, and that there are no loose screws.

- ⑤ Make sure each connectors are correctly inserted.

Please be sure that all connectors are inserted, and that there are no imperfect insertion.

- ⑥ Make sure the wiring cables are set to their original state.

Please replace the wiring and cables to the original state after repairs.
In addition, be sure that there are no pinched wires, etc.

- ⑦ Make sure screws and soldering scraps do not remain inside the product.

Please check that neither solder debris nor screws remain inside the product.

- ⑧ There should be no semi-broken wires, scratches, melting, etc. on the coating of the power cord.

Damaged power cords may lead to fire accidents, so please be sure that there are no damages.
If you find a damaged power cord, please exchange it with a suitable one.

- ⑨ There should be no spark traces or similar marks on the power plug.

When spark traces or similar marks are found on the power supply plug, please check the connection and advise on secure connections and suitable usage. Please exchange the power cord if necessary.

- ⑩ Safe environment should be secured during servicing.

When you perform repairs, please pay attention to static electricity, furniture, household articles, etc. in order to prevent injuries.
Please pay attention to your surroundings and repair safely.

2. Adjustments



To keep the original performance of the products, optimum adjustments and confirmation of characteristics within specification.
Adjustments should be performed in accordance with the procedures/instructions described in this manual.

3. Lubricants, Glues, and Replacement parts



Use grease and adhesives that are equal to the specified substance.
Make sure the proper amount is applied.

4. Cleaning



For parts that require cleaning, such as optical pickups, tape deck heads, lenses and mirrors used in projection monitors, proper cleaning should be performed to restore their performances.

5. Shipping mode and Shipping screws



To protect products from damages or failures during transit, the shipping mode should be set or the shipping screws should be installed before shipment. Please be sure to follow this method especially if it is specified in this manual.

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11.11 POWER SUPPLY UNIT..... 108

12. PCB PARTS LIST 110

A

B

C

D

E

F

1. SERVICE PRECAUTIONS

1.1 NOTES ON SOLDERING

- For environmental protection, lead-free solder is used on the printed circuit boards mounted in this unit.
Be sure to use lead-free solder and a soldering iron that can meet specifications for use with lead-free solders for repairs accompanied by reworking of soldering.
- Compared with conventional eutectic solders, lead-free solders have higher melting points, by approximately 40 °C.
Therefore, for lead-free soldering, the tip temperature of a soldering iron must be set to around 373 °C in general, although the temperature depends on the heat capacity of the PC board on which reworking is required and the weight of the tip of the soldering iron.

Do NOT use a soldering iron whose tip temperature cannot be controlled.

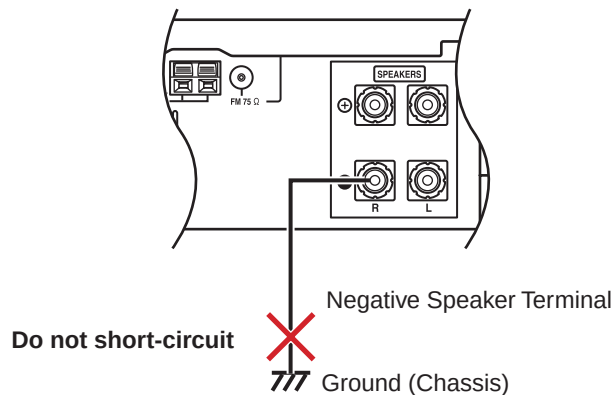
Compared with eutectic solders, lead-free solders have higher bond strengths but slower wetting times and higher melting temperatures (hard to melt/easy to harden).

The following lead-free solders are available as service parts:

- Parts numbers of lead-free solder:
GYP1006 1.0 in dia.
GYP1007 0.6 in dia.
GYP1008 0.3 in dia.

1.2 NOTES ON BTL DRIVE

As a signal to drive the BTL is output from the negative speaker terminal, **DO NOT** short-circuit between the negative speaker terminal and ground, such as the chassis.



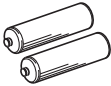
2. SPECIFICATIONS

2.1 ACCESSORIES



• Remote control (AXD7509)

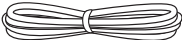
• AA/R6 dry cell batteries
(to confirm system operation) x2



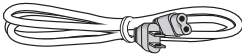
• AM loop antenna x1
(ATB7013)



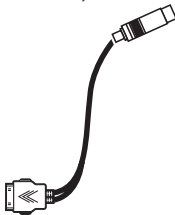
• FM antenna x1
(ADH7030)



• Power cord x1
(ADG7021)



• iPod Control Cable
(XDE7025)



• Warranty card
• Operating Instructions
• Network setup guide

2.2 SPECIFICATIONS

Receiver(XC-Z9)

■ Amplifier section

Continuous Power Output	50 W + 50 W (1 kHz, 10 % T.H.D., 4 Ω)
FTC Continuous Power Output	45 W + 45 W (1 kHz, 1.0 % T.H.D., 4 Ω)

■ FM tuner section

Frequency range	87.5 MHz to 108 MHz
Antenna	75 Ω, unbalanced

■ AM tuner section

Frequency range	
With 9 kHz step	531 kHz to 1602 kHz
With 10 kHz step	530 kHz to 1700 kHz
Antenna	Loop antenna

■ Network section

LAN terminal	Ethernet jack 10BASE-T/100BASE-TX
--------------	--------------------------------------

■ Other connectors

Power supply	
USB connector	5 V, 500 mA
iPod connector	Maximum power supply: 5 W
XM connector	5 V, 500 mA

■ Miscellaneous

Power requirements	AC 120 V, 60 Hz
Power consumption	52 W
Power consumption in standby	0.4 W
Dimensions	
	15-1/4 in. (W) x 3-1/2 in. (H) x 13-11/16 in. (D) 386 mm (W) x 88 mm (H) x 347 mm (D)
Weight	11 lb 1 oz/5.0 kg

■ Accessories

Remote control	1
AA/R6 dry cell batteries (to confirm system operation)	2
AM loop antenna	1
FM antenna	1
iPod control cable	1
Power cord	1
Warranty card	1
Operating instructions	
Network setup guide	

2.3 DISC CONTENT FORMAT

Disc / content format playback compatibility

This receiver is compatible with a wide range of audio disc types and media formats. Playable discs will generally feature one of the following logos on the disc and/or disc packaging. Note however that some disc types, such as recordable CDs, may be in an unplayable format—see the Disc compatibility table below for further compatibility information. Please also note that recordable discs cannot be recorded using this receiver.



Audio CD



CD-R



CD-RW



Super Audio CD

Disc compatibility table

Media	Compatible formats
CD-R/RW	• CD-Audio, ISO 9660 CD-ROM* * ISO 9660 Level 1 or 2 compliant. CD physical format: Mode1, Mode2 XA Form1. Romeo and Joliet file systems are both compatible. • Multi-session playback: No • Unfinalized disc playback: No
Compressed audio	• MPEG-1 Audio Layer 3 (MP3), Windows Media Audio (WMA) • Sampling rates: 44.1 kHz • Bit-rates: Any (128 kbps or higher recommended) • VBR (variable bit rate) playback: No • WMA lossless encoding: No • DRM (Digital Rights Management) compatible: Yes (DRM-protected audio files will not play in this player). • File extensions: .mp3, .wma (these must be used for the player to recognize MP3/WMA files) • File structure (may differ): Up to 299 folders on a disc; up to 648 folders and files (combined) within each folder
PC-created disc	• Discs recorded using a PC may not be playable due to the setting of the software used to create the disc. In these instances, check the software manual or disc boxes for more on compatibility. • Discs recorded in packet write mode are not compatible.

About DualDisc playback

A DualDisc is a new two-sided disc, one side of which contains DVD content video, audio, etc. while the other side contains non-DVD content such as digital audio material.

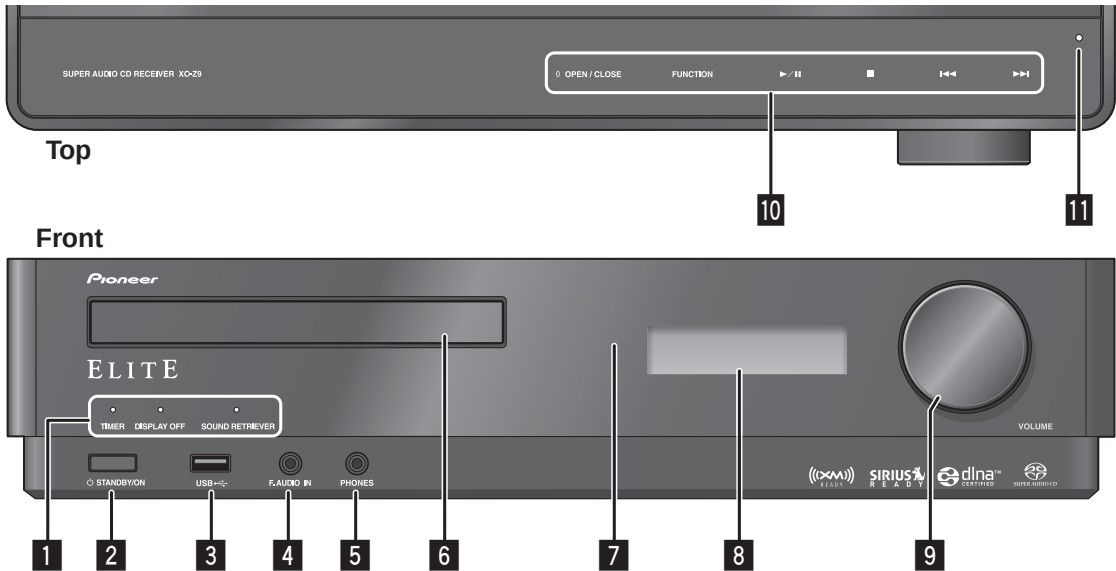
The non-DVD, audio side of the disc is not compliant with the CD Audio specification and therefore may not play.

The DVD side of a DualDisc plays in this product. DVD-Audio content will not play.

For more detailed information on the DualDisc specification, please refer to the disc manufacturer or disc retailer.

2.4 PANEL FACILITIES

Front / top panel



Front

- 1 TIMER indicator**
Displays the timer operation status.
DISPLAY OFF indicator
Lights when the front panel display is turned off.
SOUND RETRIEVER indicator
Lights when Sound Retriever is active.
- 2 $\odot$ STANDBY/ON**
Press to switch the receiver on/into standby.
- 3 USB interface**
Connect a USB audio device for playback.
- 4 F.AUDIO IN jack**
To listen to audio from an external component, connect with a stereo mini-plug cable. Once connected, the input automatically changes to **FRONT AUDIO IN**.
- 5 PHONES jack**
Use to connect headphones. When the headphones are connected, there is no sound output from the speakers.
- 6 Disc tray**
- 7 IR remote sensor**
- 8 Front panel display**
Displays various control functions.
If no operations are carried out for three minutes, the colors of the display reverse.
- 9 VOLUME dial**

Top

- 10 Touch sensor**
Lightly touch the center of displayed words or marks to control operations.
 $\triangle$ OPEN/CLOSE
Opens/closes the disc tray.
FUNCTION
Switches between functions as displayed below:

SACD/CD

TUNER

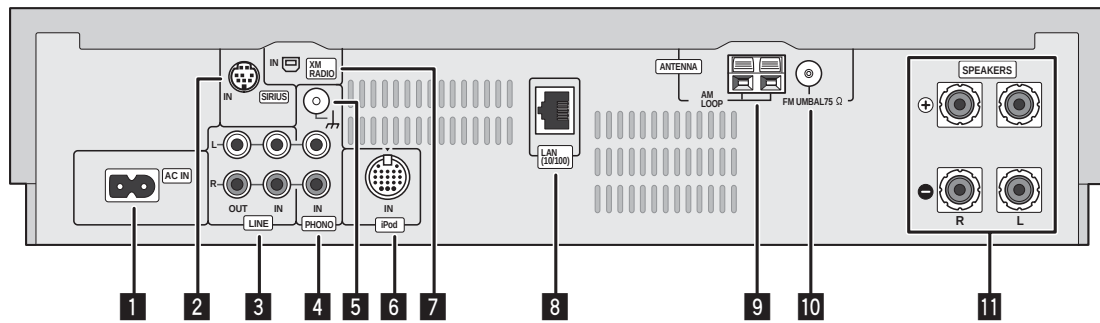
HOME MEDIA GALLERY

LINE

PHONO

FRONT AUDIO IN
- $\triangleright/\text{II}$**
Starts playback/stops.
- $\blacksquare$**
Stops playback.
- $\text{II} \ll$**
Skips to the start of the current track, then to previous tracks.
- $\gg \text{II}$**
Skips to the next track.
- 11 Action indicator**
Lights when a touch sensor operation is performed.

Rear panel



1 AC IN - Power inlet

Connect the supplied power cable.

2 SIRIUS IN terminal

See Using SIRIUS Radio.

3 LINE IN/OUT jacks

Connect an external component. To listen to components connected to the **LINE IN** jack, press **INPUT** on the remote control to select **LINE**.

4 PHONO IN jacks

Connect a turntable. To listen to audio from a connected turntable, press **INPUT** on the remote control to select **PHONO**.

5 Ground terminal

If your turntable has a grounding wire, connect it here to reduce undesired sounds.

6 iPod IN terminal

Connect the provided iPod control cable here.

7 XM IN terminal

See Using XM Radio.

8 LAN (10/100) terminal

Use LAN cable to connect to network.

9 AM LOOP antenna terminal

Connect provided AM loop antenna here.

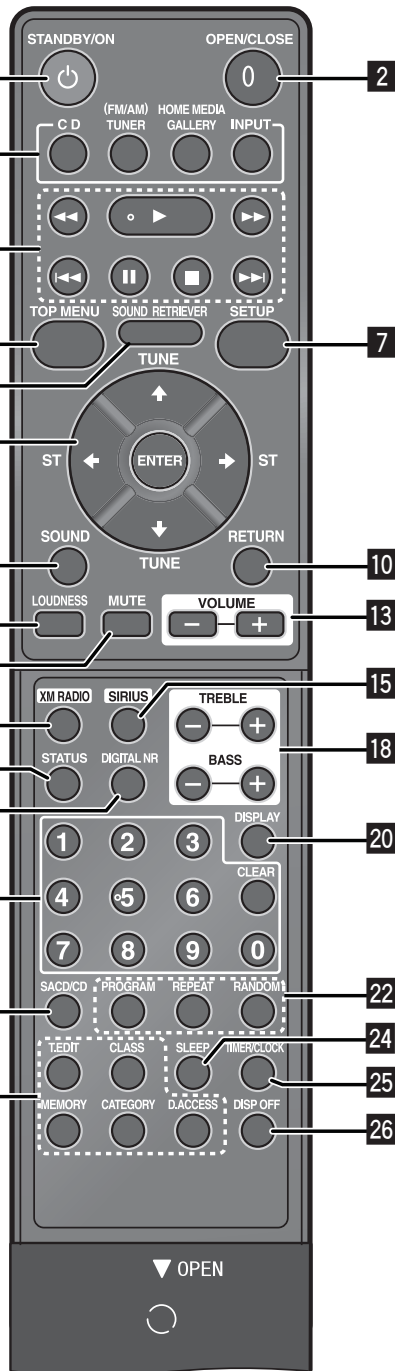
10 FM antenna socket

Connect provided FM antenna here.

11 SPEAKERS terminals

Connect provided speakers here.

Remote control



1 STANDBY/ON

Press to switch the receiver on/into standby.

2 OPEN/CLOSE

3 **Function select button**

CD

Press to listen to CDs and SACDs.

(FM/AM)TUNER

Press to select the built-in radio tuner.

HOME MEDIA GALLERY

Press to listen to music from an iPod, USB audio device, internet radio, or audio components on the network in Home Media Gallery.

INPUT

Press repeatedly to select one of the receiver's audio inputs (**LINE**, **PHONO**, **FRONT**, **AUDIO IN**).

4 **Playback controls**



Press to start playback.



Press to pause playback.



Press to stop playback.



Press to start fast reverse scanning.



Press to start fast forward scanning.



Skips to the start of the current track, then to previous tracks.



Skips to the next track.

5 **TOP MENU**

Press to display the Category screen from Home Media Gallery, the XM Menu, and the SIRIUS Menu.

6 **SOUND RETRIEVER**

Press to restore CD quality sound to compressed audio sources.

7 **SETUP**

Press to make various settings.

8 (TUNE/ST) /ENTER

Use to select/switch system settings and modes, and to confirm actions.

Use the **TUNE** buttons to find radio frequencies and use **ST** to find preset stations.

- 9 SOUND**
Press to switch the Sound mode.
- 10 RETURN**
Use to cancel settings.
- 11 LOUDNESS**
Press to enable the Loudness function.
- 12 MUTE**
Mutes/unmutes the sound.
- 13 VOLUME+/-**
Use to set the listening volume.
- 14 XM RADIO**
Press to listen to XM Radio.
- 15 SIRIUS**
Press to listen to SIRIUS Radio.
- 16 STATUS**
Press to confirm audio settings.
- 17 DIGITAL NR**
May improve the quality of sound for noisy sources.
- 18 TREBLE+/-, BASS+/-**
Use the treble and bass controls to adjust the overall tone.
- 19 Number buttons**
Use to enter a track number or radio station.
- 20 DISPLAY**
Press to change the display for songs playing back from SACD/CD, Home Media Gallery, XM Radio, or SIRIUS Radio.
- 21 SACD/CD**
Use to access SACD setup.
- 22 PROGRAM**
Use to program the order of songs to be played back from a SACD/CD, or to register favorites for Home Media Gallery.
- REPEAT**
Press to repeat a song playing from a SACD/CD or in Home Media Gallery.
- RANDOM**
Press to randomize the order of songs played back from a SACD/CD or in Home Media Gallery.

- 23 Radio controls**
- T.EDIT**
Memorizes/names stations for recall.
- CLASS**
Switches between the three banks of radio station presets.
- MEMORY**
Use to register a song title you are currently listening to.
- CATEGORY**
Press to browse digital radio broadcasts.
- D.ACCESS**
Press to access a radio station directly using the number buttons.
- 24 SLEEP**
Use to put the receiver in sleep mode and select the amount of time before sleep.
- 25 TIMER/CLOCK**
Use for setting the clock, as well as for setting and checking the timers.
- 26 DISP.OFF**
Use to turn the front panel display off.

3. BASIC ITEMS FOR SERVICING

3.1 CHECK POINTS AFTER SERVICING

A **Check points after servicing (CD RECEIVER)**

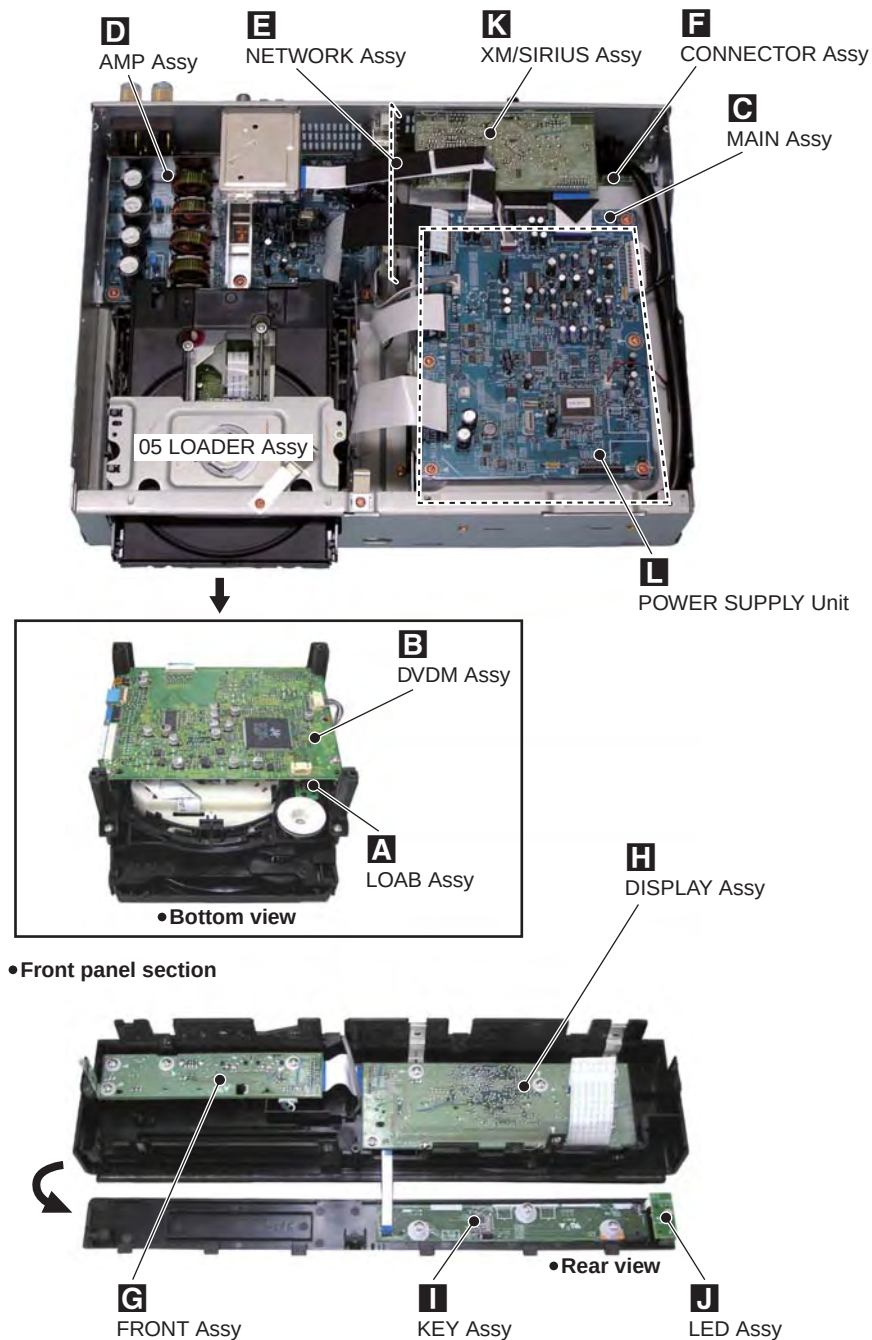
To keep the product quality after servicing, confirm recommended check points shown below.

No.	Procedure	Check points
1	Confirm the firmware version on Service Mode.	The version of the firmware must be latest. Update firmware to the latest one, if it is not the latest.
2	Confirm whether the customer complain has been solved. If the customer complain occurs with the specific disc, use it for the operation check.	The customer complain must not be reappeared. Audio and operations must be normal.
3	Confirm playback error rates at the innermost and outermost tracks by using the following disc. DVD test disc (GGV1025)	The error rates must be less than 5.0e-4. It can be confirmed if the Drive is degraded.
4	Play back a CD. (track search)	Audio and operations must be normal.
5	Play back a SACD. (track search)	Audio and operations must be normal.
6	Check the tuner (AM and FM) operations.	Audio and operations must be normal.
7	Check the sound from headphone output.	Sound must be normal, without noise.
8	Check the appearance of the product.	No scratches or dirt on its appearance after receiving it for service.

See the table below for the items to be checked regarding video and audio:

Item to be checked regarding audio
Distortion
Noise
Volume too low
Volume too high
Volume fluctuating
Sound interrupted

3.2 PCB LOCATIONS



LIST OF WHOLE PCB ASSEMBLIES

Mark	Symbol and Description	Part No.
NSP	1..LOAB ASSY	VWG2346
	1..DVDM ASSY	AWM8099
	1..MAIN ASSY	AWM8095
	2..MAIN ASSY	AWU8308
	2..AMP ASSY	AWU8314
	1..NETWORK ASSY	AWX8883

Mark	Symbol and Description	Part No.
	1..COMPLEX ASSY	AWM8091
	2..CONNECTOR ASSY	AWU8315
	2..FRONT ASSY	AWU8305
	2..DISPLAY ASSY	AWU8306
	2..KEY ASSY	AWU8307
	2..LED ASSY	AWU8316
	2..XM/SIRIUS ASSY	AWU8309
⚠	1..POWER SUPPLY UNIT	AWR7050
	1..FM/AM TUNER UNIT	AXX7250

Jigs list

Name	Jig No.	Remarks
Service Remote Control Unit	GGF1381	adjustment, diagnosis
DVD Test Disc (DVD-Video)	GGV1025	Check of DVD-Video
CD Test Disc	STD-905	Check of CD
Cable for service (17P)	GGF1157	Diagnosis of DVDM ASSY
Cable for service (5P)	GGD1425	Diagnosis of DVDM ASSY (SIDE B)

Lubricants and Glues list

Name	Lubricants and Glues No.	Remarks
Lubricating Oil	GYA1001	Refer to "9.4 05 LOADER ASSY" and "9.5 TRAVERSE MECHANISM ASSY-S"
Daifree	GEM1036	Refer to "9.4 05 LOADER ASSY"
Silicone Adhesive	GEM1037	Refer to "9.5 TRAVERSE MECHANISM ASSY-S"
Screw tight	GYL1001	Refer to "8.1.5 MECHANISM ADJUSTMENT"

CLEANING



Before shipping out the product, be sure to clean the following positions by using the prescribed cleaning tools:

Position to be cleaned	Cleaning tools
Pickup lenses	Cleaning liquid : GEM1004 Cleaning paper : GED-008



5



6



7



8



A



B



C



D



E



F



5



6



7

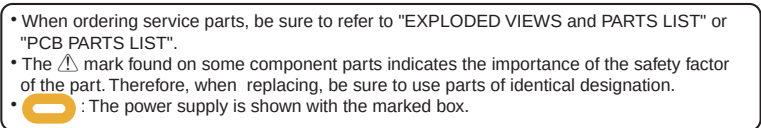


8



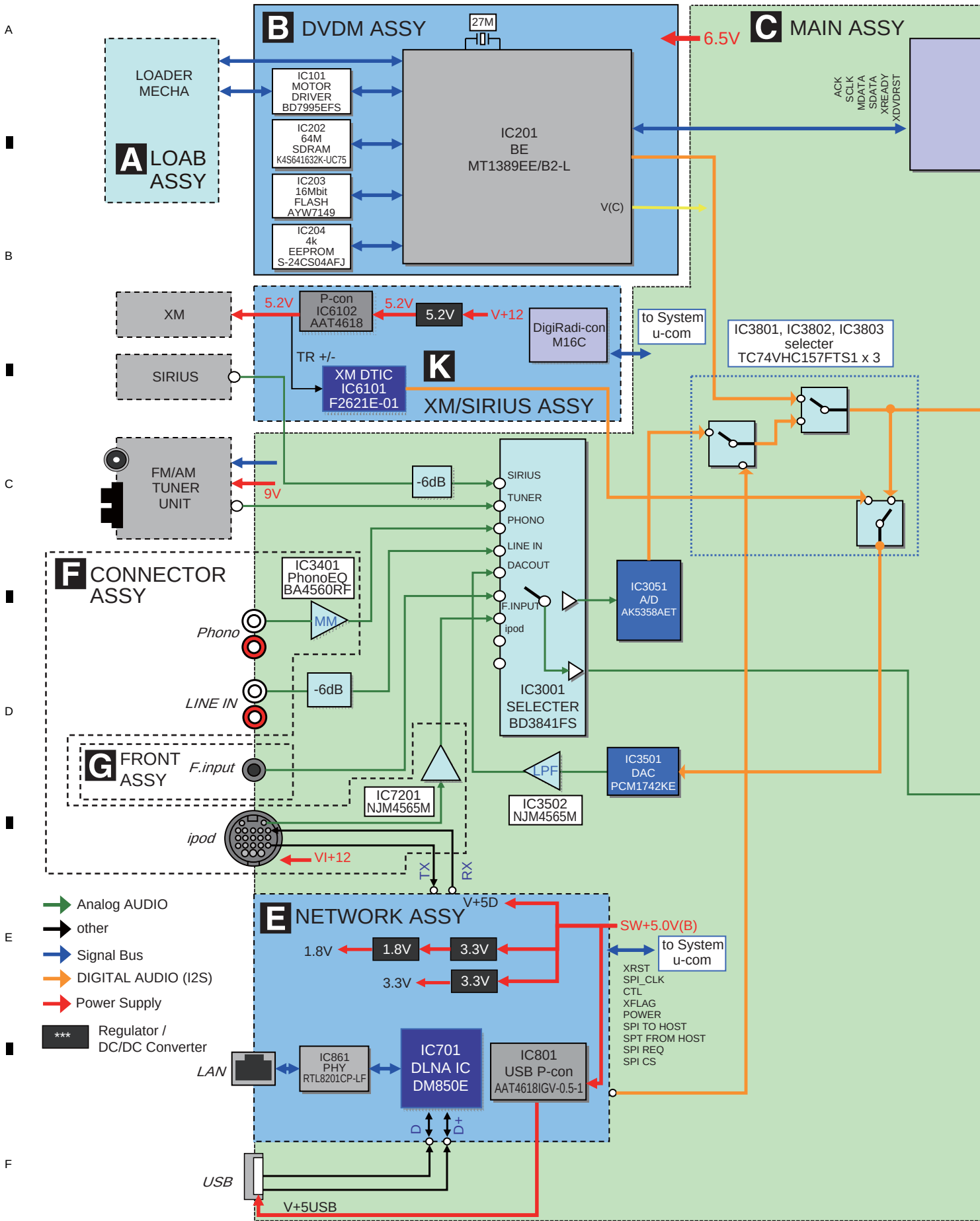
XC-Z9

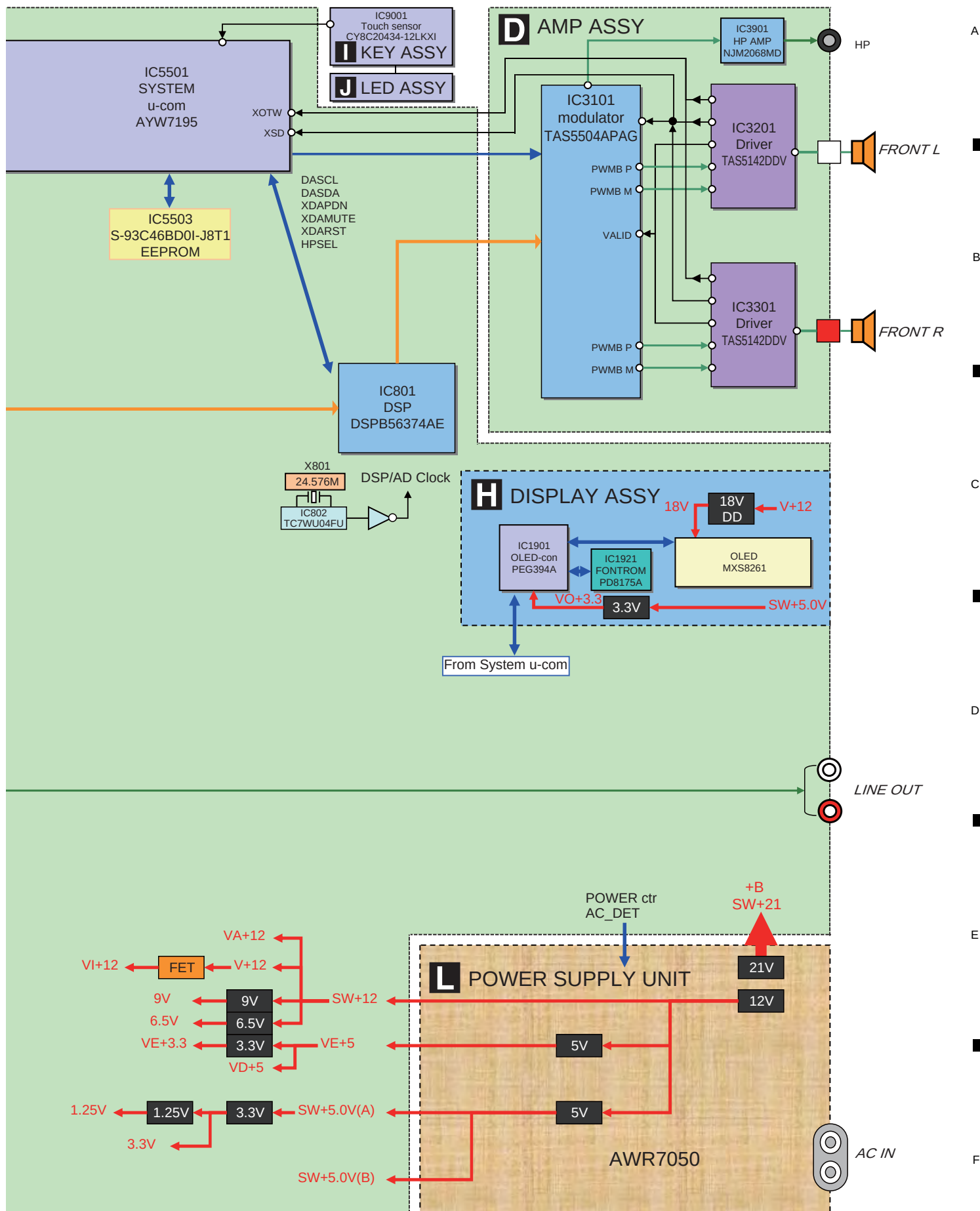
18





4.2 OVERALL BLOCK DIAGRAM





5. DIAGNOSIS

5.1 METHOD FOR DIAGNOSING DEGRADATION OF THE LDS ON THE PICKUP ASSY

Case when this diagnosis is required :

When playback of any disc, including a test disc (DVD: GGV1025, CD: STD-905), won't play or doesn't play

How to diagnose

In the case mentioned above, degradation of the laser diodes (LDs) mounted on the 05SD Pickup Assy is suspected. Measure the voltage between the two ends of one of the resistors mentioned below.

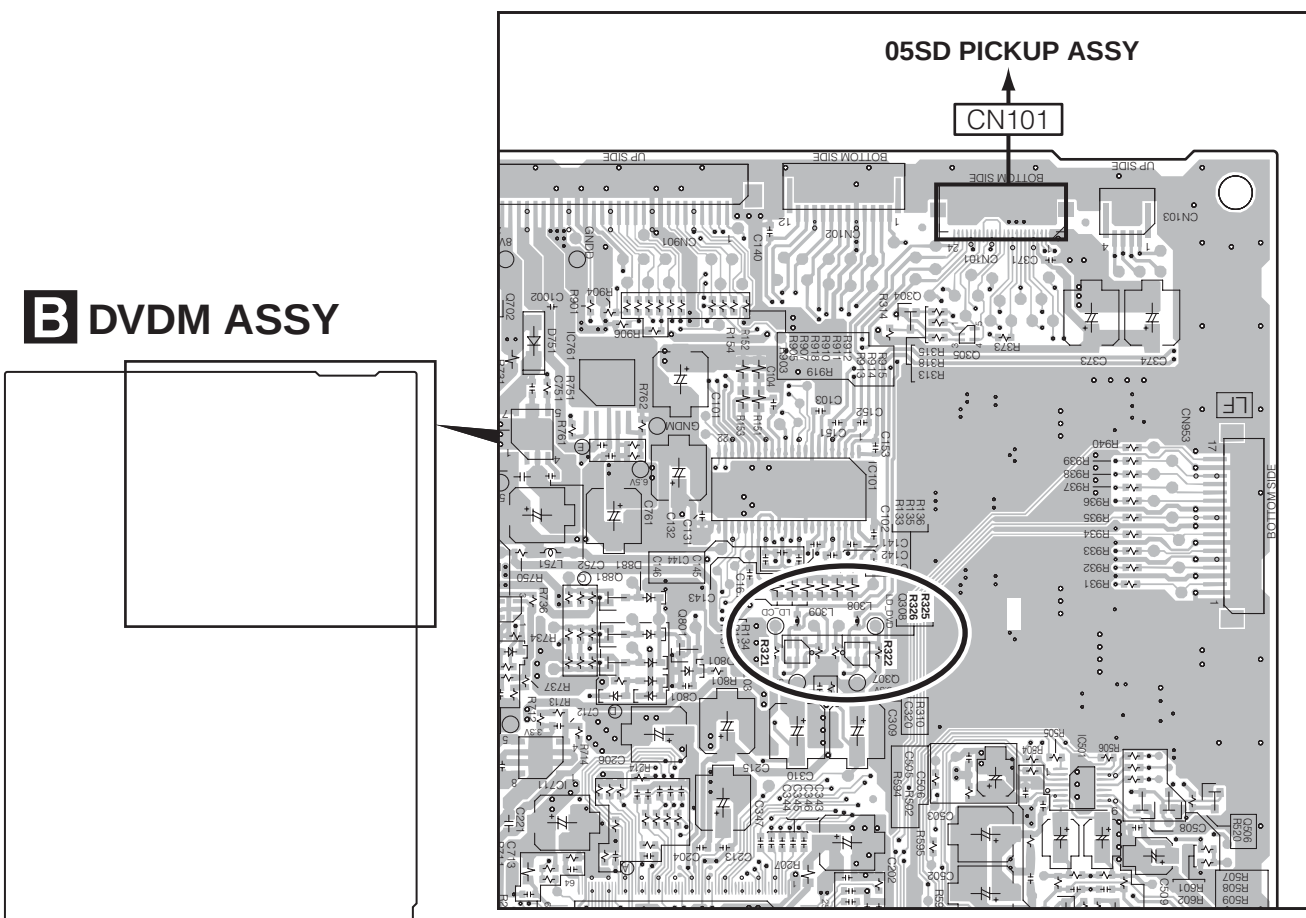
• No playback of a CD :

Measure the voltage between the both ends of R321 or R326 on the DVDM Assy. If the voltage is 0.4 V or higher, the 780-nm LD is degraded.

• No playback of a DVD (Test Mode), No playback of a SACD :

Measure the voltage between the both ends of R322 or R325 on the DVDM Assy. If the voltage is 0.4 V or higher, the 650-nm LD is degraded.

If the measurements show degradation of an LD, replace the 05SD Pickup Assy.



Front side ←

SIDE A

5.2 TROUBLESHOOTING OF THE SACD

No.	Symptoms	Diagnosis Contents	Possible Defective Points
1	The power is not turned on.	Are wires of output connector (MAIN Assy) and CN901 (DVDM Assy) disconnected or damaged ?	Connector / cable
		Check that the following voltage is output : + side of C739 : 3.3V	DVDM Assy 3.3V Regulator IC (IC731)
2	An opening screen is not displayed on the monitor. (The FL display lights. The mechanism does not work.)	Are the signals output from IC201-pin 98 (MDATA) and pin 99 (SCLK) on the DVDM Assy ? (in the range of 0-3V)	DVDM Assy DVD IC (IC201)
		Are the signals input into IC5501-pin 85 (MDATA) and pin 86 (SCLK) on the MAIN Assy ? (in the range of 0-3V)	MAIN Assy UCOM (IC5501)
		Check that the following voltage are output : IC751-pin 1 on the DVDM Assy : 5V	DVDM Assy 5V Regulator IC (IC751)
		Is a crystal resonator (X202: 27MHz) on the DVDM Assy oscillating ?	DVDM Assy Crystal resonator (X202)
		- Is a signal input into IC203-pin26 (PCE#) on the DVDM Assy ? (Is a signal "H" for 80 mS and then "L" after the power is turned on ?) → Communication with flash ROM. - Are the signals input into IC202-pin 16 (DWE#), pin 19 (DCS#) and pin 38 (SDCLK) on the DVDM Assy ? (Is a signal fluctuating ?) → Communication with SDRAM	DVDM Assy DVD IC (IC201) Flash ROM (IC203) SDRAM (IC202)
		Is a signal output from IC203-pin 28 (PRD#) on the DVDM Assy? (Is a signal fluctuating for several hundred mS after the power is turned on ?)	DVDM Assy Flash ROM (IC203)
		Is a signal input into IC5501-pin 11 (DVD ACK) on the MAIN Assy ? (Is a signal fluctuating ?) → Communication with FL Control IC	DVDM Assy DVD IC (IC201) MAIN Assy UCOM (IC5501)
		Is a signal output from IC5501-pin 13 (XREADY) on the MAIN Assy ? (Is a signal fluctuating in the range of 0-3V ?)	MAIN Assy UCOM (IC5501)
		Are the signals output from IC5501-pin 84 (SDATA) on the MAIN Assy ? (in the range of 0-3V)	DVDM Assy DVD IC (IC201) MAIN Assy UCOM (IC5501)
		Are the signals of IC204-pin 5(SDA) and pin 6(SCL) on the DVDM Assy fluctuating for one or two seconds after the power is turned ?	DVDM Assy EEPROM (IC204)
3	A tray cannot be opened. (An opening screen is displayed on the monitor)	Does the voltage of CN104-pin 3 and pin 5 on the DVDM Assy change normally ? Pin 3 (SW2(TRIN)): Tray is fully closed: "L" Pin 5 (SW1(TROUT)): Tray is fully opened: "L"	LOAB Assy Tray SW (S101)
		Is the signal input into IC101-pin 11 (TROPEN) on the DVDM Assy ? At open: 3.3V, At close: 0V	DVDM Assy DVD IC (IC201)
		Are the signals output from IC101-pin 1 and pin 2 (CN103-pin 1 and pin 2) on the DVDM Assy ? Pin 2: Approx. 6V during opening tray approx. 0V during closing tray. Pin 1: Approx. 0V during opening tray approx. 6V during closing tray.	DVDM Assy FTS Driver IC (IC101)
		Are wires of CN104 and CN103 on the DVDM Assy disconnected or damaged ?	Connector / cable
		Does the voltage of CN102-pin 1 on the DVDM Assy change to 0V by pressing the Inside switch.	Inside switch

No.	Symptoms	Diagnosis Contents	Possible Defective Points
A 4	Playback impossible (no focusing)	Are the signals output from IC101-pin 3 (FOCS_DRV) and pin 4 (FOCS_RTN) on the DVDM Assy ?	DVDM Assy FTS Driver IC (IC101)
		Does 650-nm LD emit light ? Does a pickup lens move up / down ? Does an actuator spring bend ?	Pickup
		Are plastic parts damaged ? Or is a shaft detached ? Is the turntable detached or tilted ?	Mechanism section (motor)
		Is flexible cable of CN101 on the DVDM Assy disconnected or damaged ?	Flexible cable / connector
		Is signal output from IC201-pin 42 (FOSO) on the DVDM Assy ? (Device control of about 1.4 V is output usually. It is fluctuated by about ± 250 mV with focus up / down.)	DVDM Assy DVD IC (IC201)
B 5	Playback impossible (Spindle does not turn)	Are the signals output from IC101-pin 30 (W), pin 33 (V) and pin 35 (U) on the DVDM Assy ? Is pin 26 (STBY) fixed LOW ? (pin 26 is High at playback: 3V)	DVDM Assy FTS Driver IC (IC101)
		Is there any part detached from the spindle motor ? Or Is there any foreign object lodged in it ?	Mechanism section (Spindle motor)
		Are wires of CN102 on the DVDM Assy disconnected or damaged ?	Flexible cable / connector
		Is signal output from IC201-pin 37 (DMSO) on the DVDM Assy ?	DVDM Assy DVD IC (IC201)
C 6	Playback impossible (Playback stops)	Does 650-nm LD deteriorate ? If the voltage at each both ends of R322 and R325 on the DVDM Assy is 0.4 V or more, the 650-nm LD is definitely deteriorated.	650-nm LD deteriorated. (When playback of a DVD is impossible)
		Does 780-nm LD deteriorate ? If the voltage at each both ends of R321 and R326 on the DVDM Assy is 0.4 V or more, the 780-nm LD is definitely deteriorated.	780-nm LD deteriorated. (When playback of a CD is impossible)
		Is there abnormality in FG waveform ? (IC201-pin 47)	DVDM Assy FG output : FTS Driver IC (IC101)
		Are there scratches or dirt on the disc ?	Disc

5.3 TROUBLESHOOTING OF THE NETWORK ASSY

5.3.1 DIAGNOSIS OF THE NETWORK BLOCK

1. Constitution of network function

SACD/CD -- TUNER (FM/AM) -- HOME MEDIA GALLERY -- LINE

- USB
- iPod
- Internet Radio
- Servier1
- Servier2
- Servier3
- Favorites
- Setup

Information

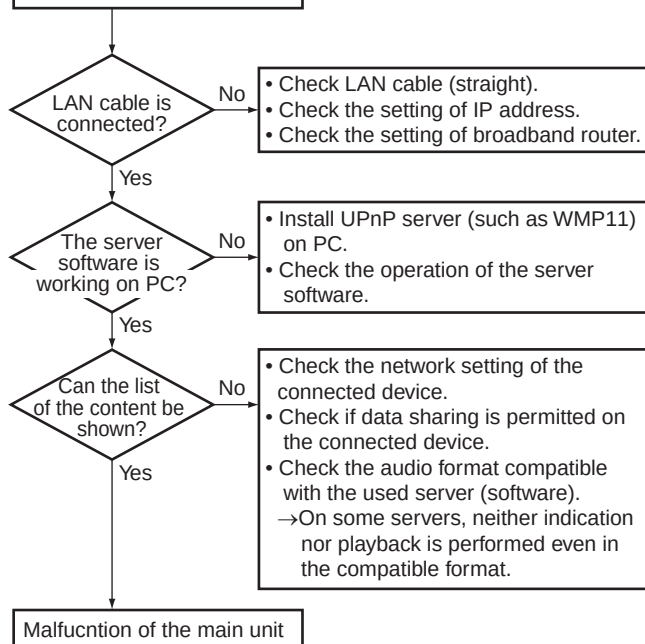
Firmware Version → Indicates the version of the firmware.
 MAC Address → Indicates MAC Address.
 IP Address → Indicates IP Address.
 Gateway IP → Indicates Gateway IP.
 Proxy Server → Indicates if Proxy Server is valid or invalid.
 Subnet Mask → Indicates Subnet Mask.

Network Setup

2. Flow chart for isolation of network malfunction

<Network connection>

- Internet Radio
 - Favorites
 - Setup
- Only those items are shown.



IC881: AYW7194
 Network and user defined settings such as favorites are stored in this IC.

A <USB connection>

The unit does not operate (the sound does not play) with a USB device connected.

Is "USB" shown on the Top menu ?

No

- Check that a mass storage device is connected via the USB port.
- Check the USB bus power.
→A device such as a portable HDD, whose power consumption is larger than the USB bus power, cannot be driven.
- Check the USB file system.
Only FAT16 and FAT32 are supported.

Yes

B

Can the content be played?

No

- Check compatible audio format.
→Some content cannot be played even if in the compatible format.

Yes

Malfunction of the main unit

<iPod connection>

The connected iPod does not function (no sound).

Is "iPod" shown on the menu display?

No

- Check the cable connecting the iPod.
- Check if your iPod is compatible with this unit.
→Only generation 4 or later of the iPod, iPod mini, iPod nano, and Photo are compatible.

Yes

Can you play content?

No

- Check if the content can be played back on your iPod.

Yes

Malfunction of the main unit

<Internet Radio connection>

Internet Radio does not operate (the sound does not play).

Are radio stations shown on the menu?

No

- Check LAN cable (straight).
- Check the setting of IP address.
- Check the setting of the broadband router.

Yes

Is selection of radio stations possible ?

No

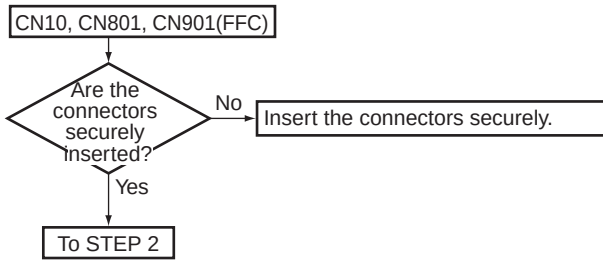
- Radio broadcasting is stopped temporarily.
→The station list does not reflect the actual broadcast condition even if some broadcasts may have been stopped or abandoned.

Yes

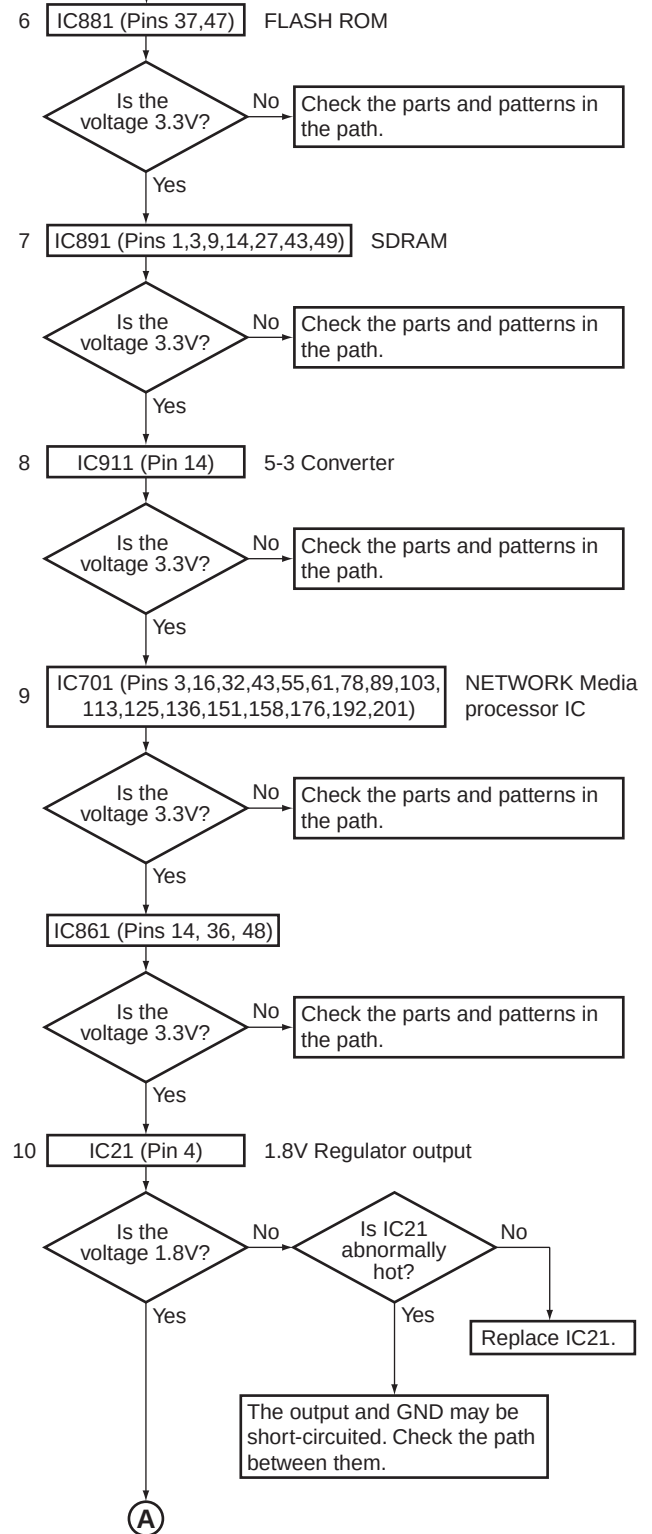
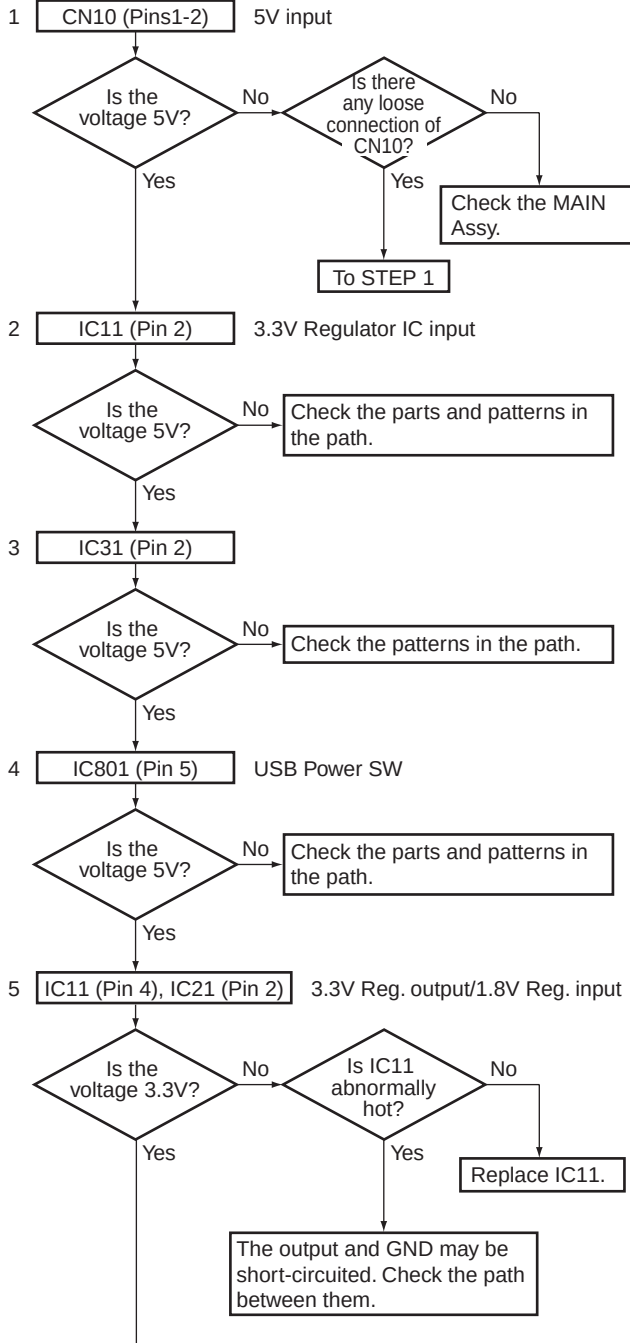
Malfunction of the main unit

5.3.2 TROUBLESHOOTING THE NETWORK BLOCK

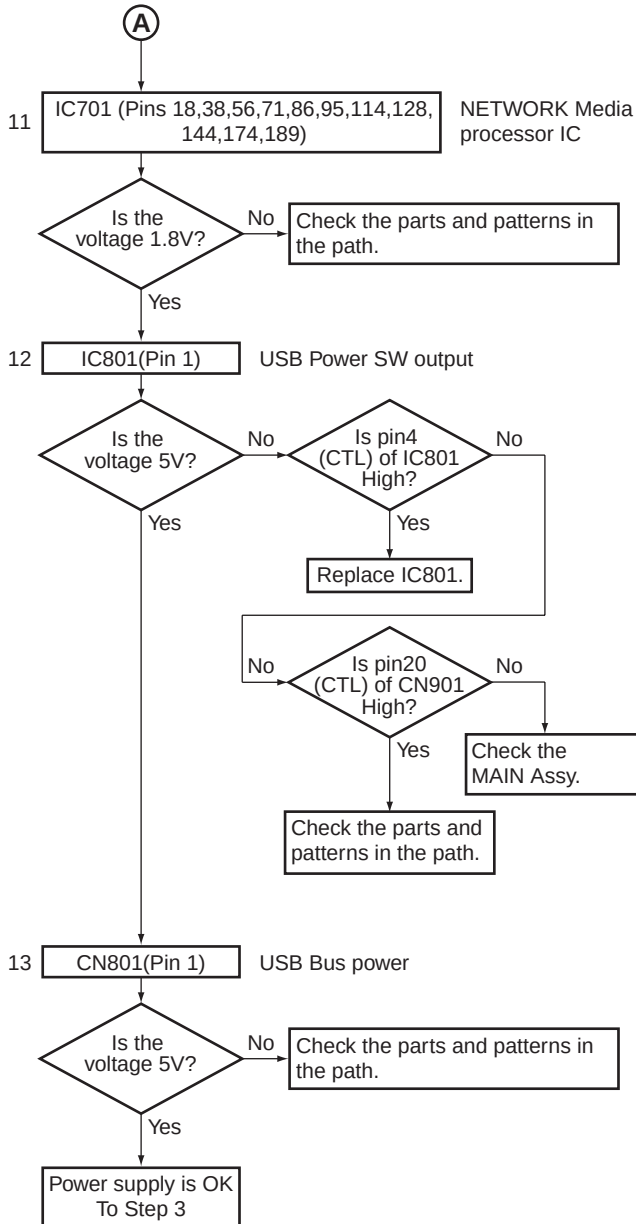
Step 1: Connectors



Step 2: Power supply

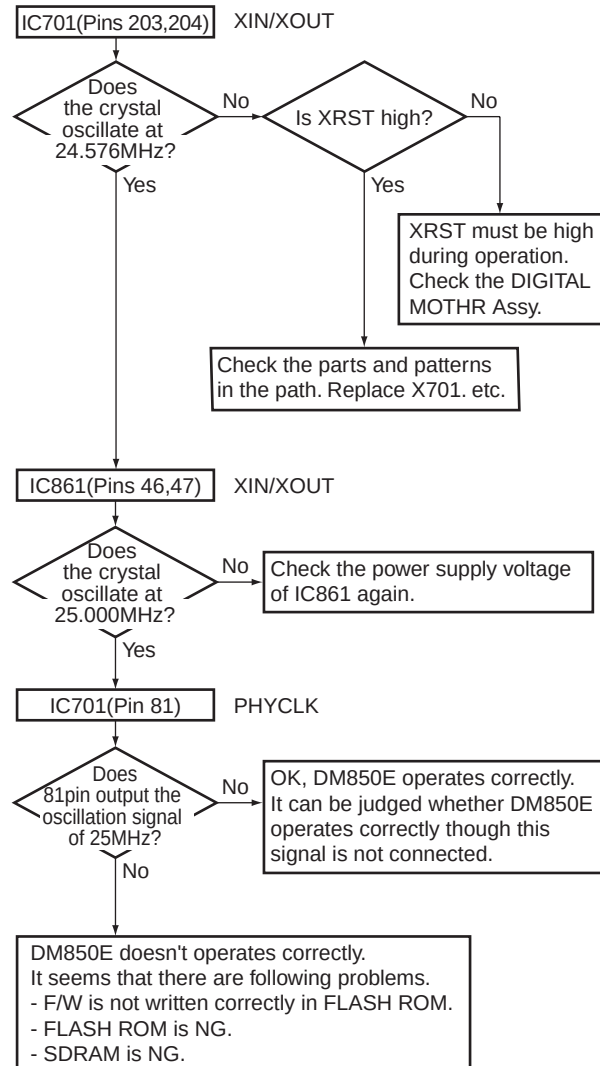


A



Step 3: Operation of Network Media processor IC

*Please confirm it with the USB memory connected for the content.



Step 4 : Communication between DM850E and System CPU

The signal shown by following fig are communication line of DM850E and main CPU(IC101).

Confirm the connection of the signals along these routes.

fig. 1

	CN901	IC911 (5V→3V)	IC701
XRST	Pin 1	Pin 12	Pin 11
SPI CS	Pin 10	Pin 2	Pin 3
SPI CLK	Pin 3	Pin 5	Pin 6
SPI TX	Pin 8	Pin 9	Pin 8

fig. 2

	IC701	IC921 (3V→5V)	CN901
SPI RX	Pin 146	Pin 9	Pin 8
SPI REQ	Pin 100	Pin 5	Pin 6

Step 5 : Communication between DM850E and System CPU

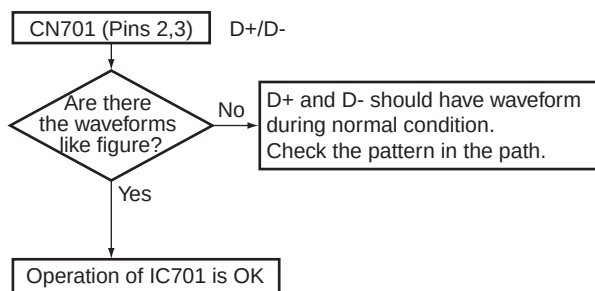
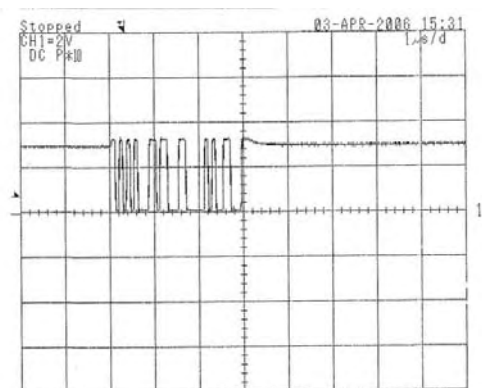
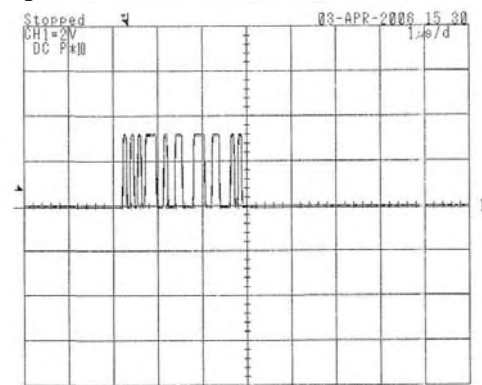


fig. : D+



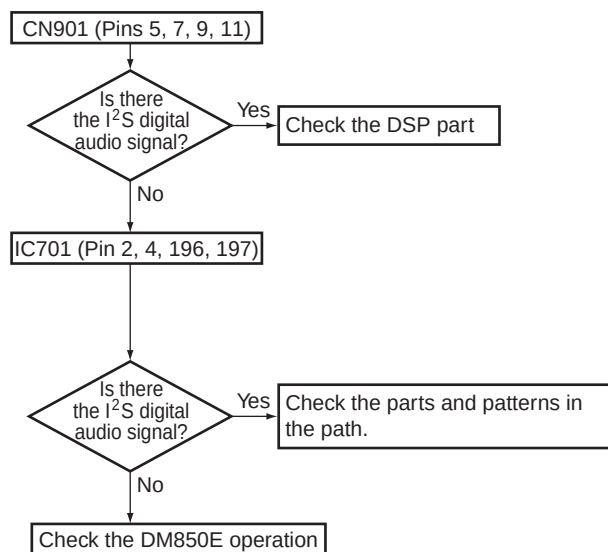
X : 1usec/div, Y : 2V/div

fig. : D-



X : 1usec/div, Y : 2V/div

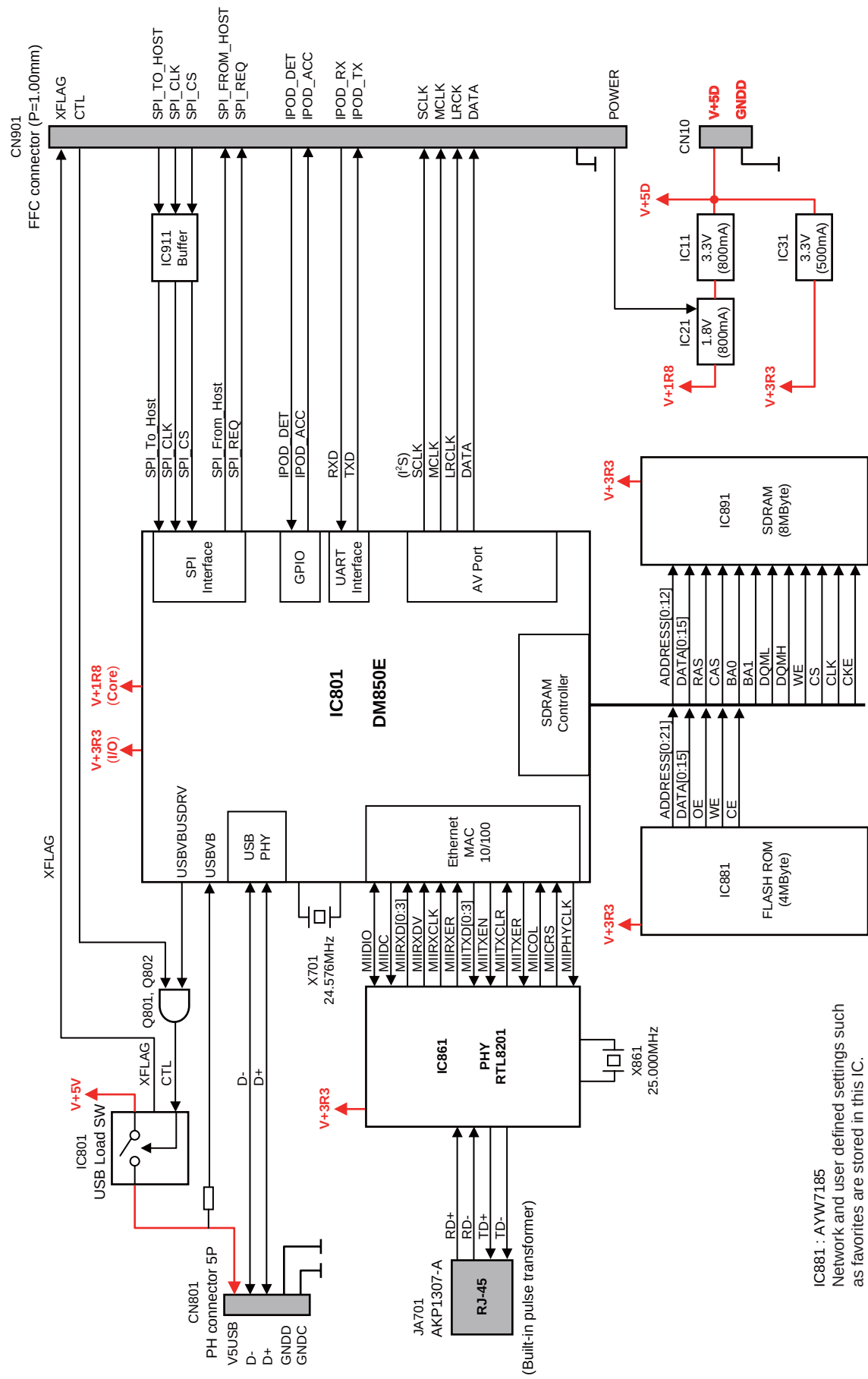
Step 6 : Audio Output



<Additional information>

- An IC having data (MAC addresses, Favorite and Details etc. that users have changed) on the network (Home Media Gallery) is IC881 (AYW7185).
- How to confirm the network connection
 Set to "Home Media Gallery" entry → Select "Set up" from home menu → Select "Network Setup" with ↑↓ Key →
 When "Network Connection Network Found" is displayed, the network can be connected.
 When "Network Connection No Network Found" is displayed, the network cannot be connected.
 → Check the router setting or LAN connection.

5.3.3 NETWORK MODULE BLOCK DIAGRAM



IC881 : AYW7185
Network and user defined settings such as favorites are stored in this IC.

5.4 XM RADIO INFORMATION

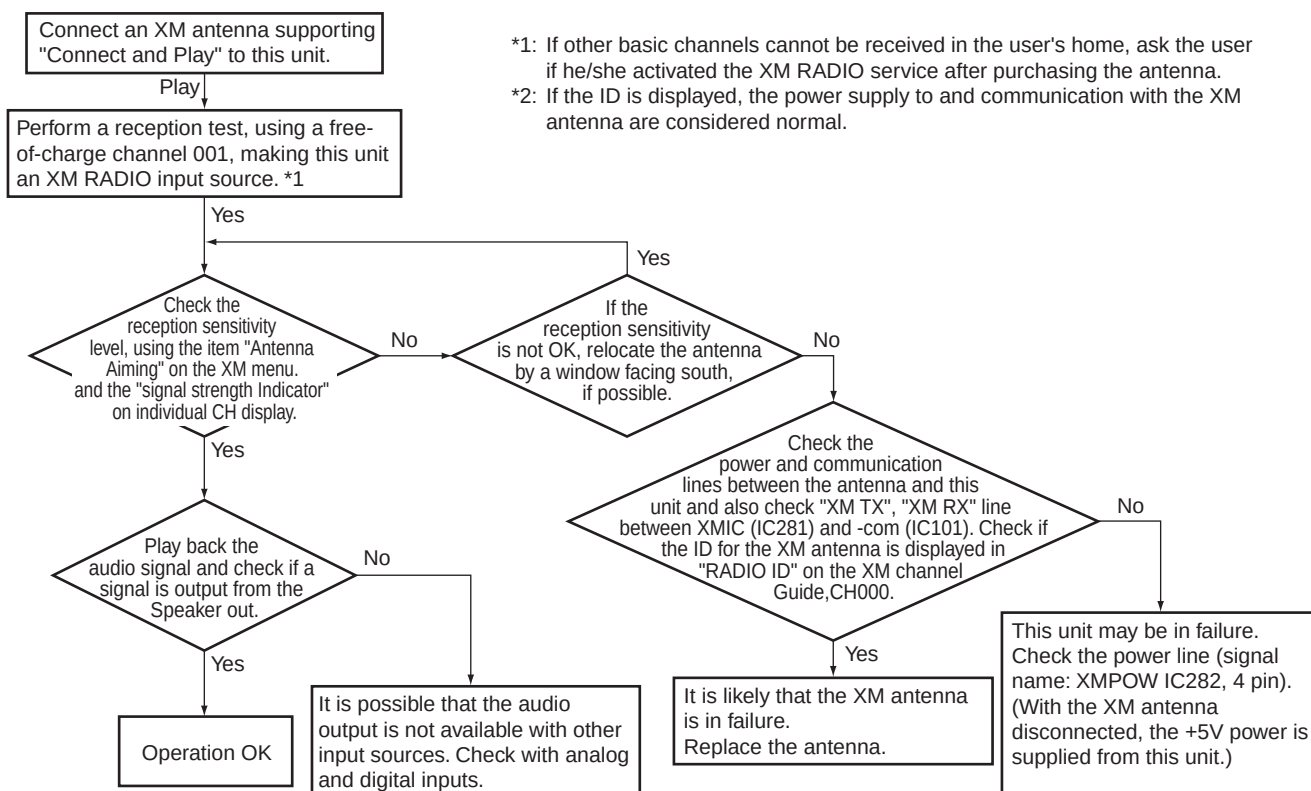
Products used for receiving XM Satellite Radio service

A commercially available "Connect and Play Antenna" can be used with this unit. To activate the XM RADIO service, it is necessary to receive a broadcast using your "Connect and Play Antenna."

About XM messages

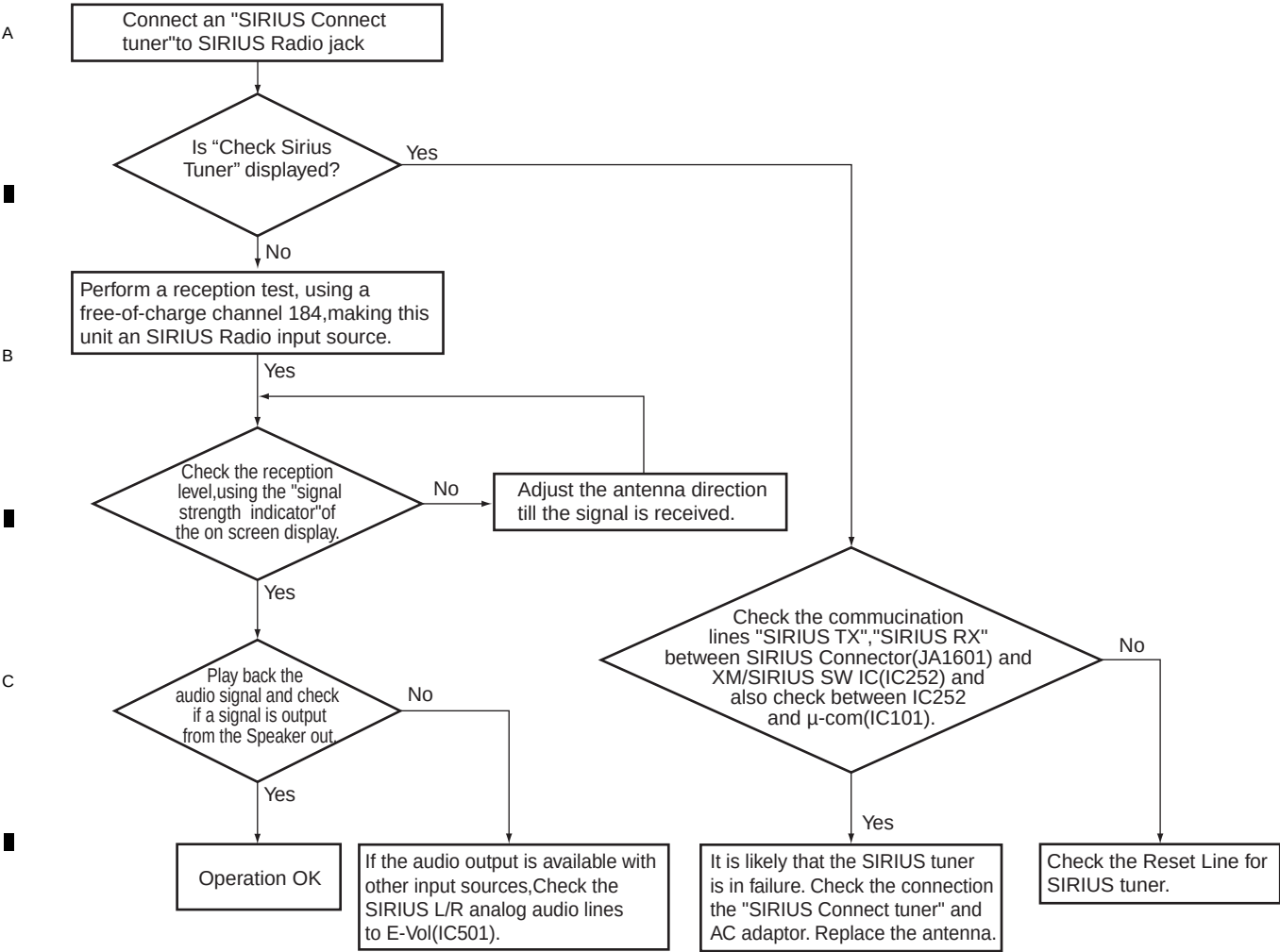
Symptom	Cause	Measures
Check Antenna	An XM antenna is not connected.	Check whether the XM antenna cable is securely connected.
XM Power Error	A short-circuit is occurring in the XM antenna or the surrounding antenna cable.	Make sure that there is nothing unusual with the XM antenna or XM antenna cable. Turn the power off then back on.
Updating	The radio is being updated with the latest encryption code.	Wait until the encryption code is updated. Channels 00 and 01 should function normally.
No Signal	The XM signal is too weak at the current location.	
Loading	The unit is acquiring audio or program information.	Wait until the unit has received the information.
Off Air	The channel currently selected has stopped broadcasting.	Select another channel.
CH - - -	The user has selected a channel number that does not exist or is not subscribed to.	The receiver automatically switches to Channel 001 or a last-selected channel.
- - - - -	There is no artist name/feature (song/program title), or channel category is associated with the channel.	No action needed.

Operation check of XM RADIO function



5.5 SIRIUS BLOCK TROUBLESHOOTING

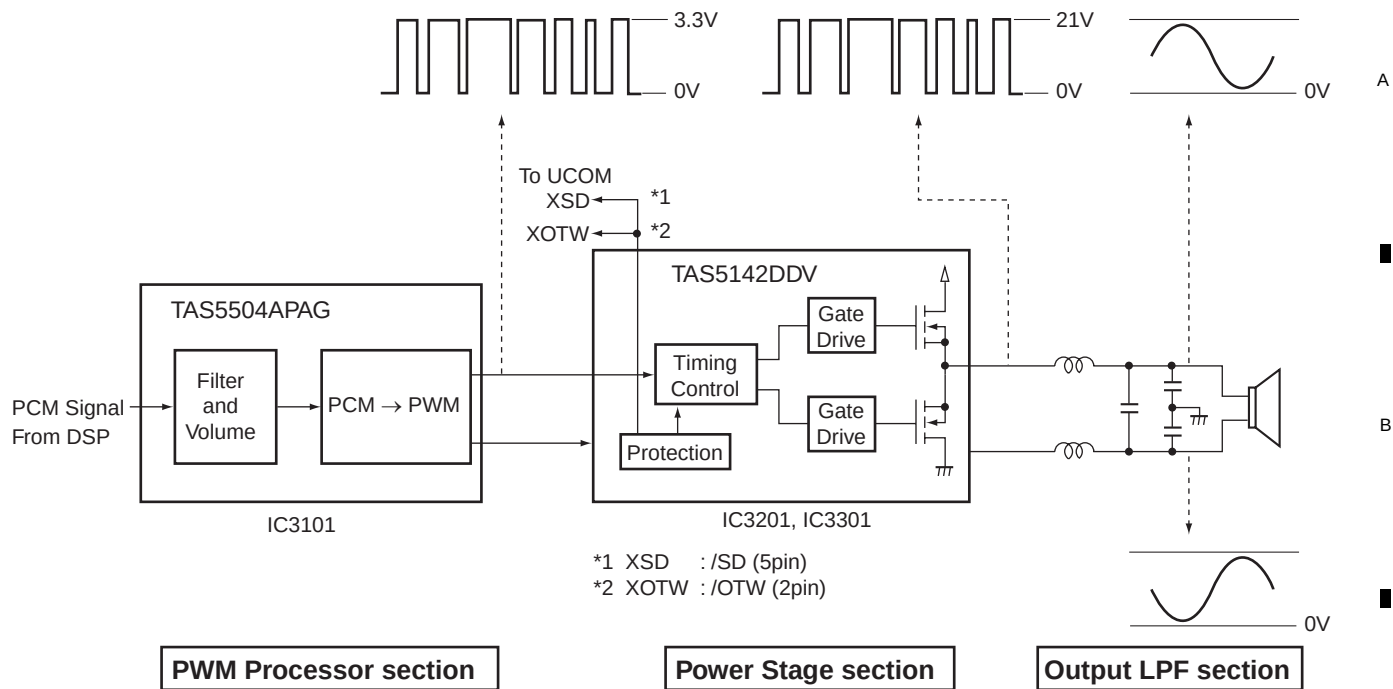
Step 1 : Connectors



SIRIUS radio messages

Symptom	Cause	Action
Antenna Error	Antenna is not properly connected.	Check that the antenna cable is attached securely.
Check Sirius Tuner	SIRIUS Connect tuner is not properly connected.	Check that the 8 pin mini DIN cable and AC Adapter are attached securely.
Acquiring Signal	The SIRIUS signal is too weak at the current location.	n/a
Subscription Updating	Unit is updating subscription.	Wait until the encryption code has been updated.
Updating Channels	Unit is updating channels.	Wait until the encryption code has been updated.
Invalid Channel	Selected channel is not available/does not exist.	Select another channel.

5.6 CIRCUIT DESCRIPTION OF DIGITAL AMP. SECTION



PWM Processor section

The PCM signals output from the DSP are input to this section, and their volume and sound quality are digitally adjusted. At the output stage, after conversion from PCM to PWM, the signals are output to the Power stage.

Power Stage section

In this section, timing is controlled so that the MOSFETs on the high and low sides will not be turned on simultaneously. The voltage of the PWM signals are raised to drive the gates of the MOSFET, and the PWM signals to drive the speakers are output from the MOSFET at the output stage. Detection and protection functions against short-circuiting of the output signals and temperature exceeding the standard value are also provided.

If the detection and protection work, the ports of the power stage ICs become the following state.

Power Stage ICs No.	Protection Enable State
IC3201	/SD (5pin) ⇒ L
IC3301	/OTW (2pin) ⇒ L

Output LPF section

The carrier elements, high-frequency signals that are unnecessary for these speakers, are eliminated. The signals passed through the LPF will become sine-wave signals, as shown in the figure above.

5.7 SPECIFICATIONS FOR THE PROTECTION CIRCUITS FOR THE DIGITAL AMPLIFIER

The protection circuits for the Digital Amplifier are activated, following the specifications shown below. The error indication on the FL display shows the reason a protection circuit was activated.

Upon diagnosis of the Digital Amplifier, refer to the specifications for the protection circuits here and the overview of the Digital Amplifier circuitry.

1. Overview

The system microcomputer monitors the ports for shutdown requests (Pin 5 : /SD) and the ports for abnormal-temperature detection (Pin 2 : /OTW) of the Power Stage ICs (IC3201/IC3301). As soon as any abnormality is detected, it shuts the unit down.

To notify the user of the possibility of a too high a volume, when the unit is turned on the next time, the volume level will be set to 0, and an error message will be displayed on the FL display.

2. Ports on the system microcomputer to be used for detection

Pin 75: SHUTDOWN

Low voltage at this pin means overcurrent at the Power Stage ICs or that the power supply voltage for the gate drive for the Power Stage ICs, i.e., VS+12 is less than 10V.

Pin 69: XOTW

Low voltage at this pin means the temperature at the Power Stage ICs exceeded 125°C.

3. Detection timing

Start : 500 ms after transmission of reset data to the TAS5504 begins (to compensate for the reset data transmission time of 500 ms).

Finish : When the STANDBY/ON key is pressed again (when the power-off process starts).

4. Operation of the protection circuits

The following three protection circuits are activated when the conditions shown below are met:

Overcurrent detection:

Conditions: If the SHUTDOWN ports, which are monitored every 10 ms, become low 7 times in succession.

Abnormal temperature detection 1:

Conditions: If the XOTW ports, which are monitored every 10 ms, become low in succession for one minute.

Abnormal temperature detection 2:

(Prerequisite: The XOTW ports, which are monitored every 10 ms, become low three times in succession.)

Conditions: The above prerequisite is upheld, and the conditions for an overcurrent detection are met.

5. Process when the protection circuits are activated

The unit is shut down within 30 ms after abnormality detection then the volume level is set to 0. The unit can be turned on immediately after the shutdown.

6. SERVICE MODE

6.1 SERVICE TEST MODE

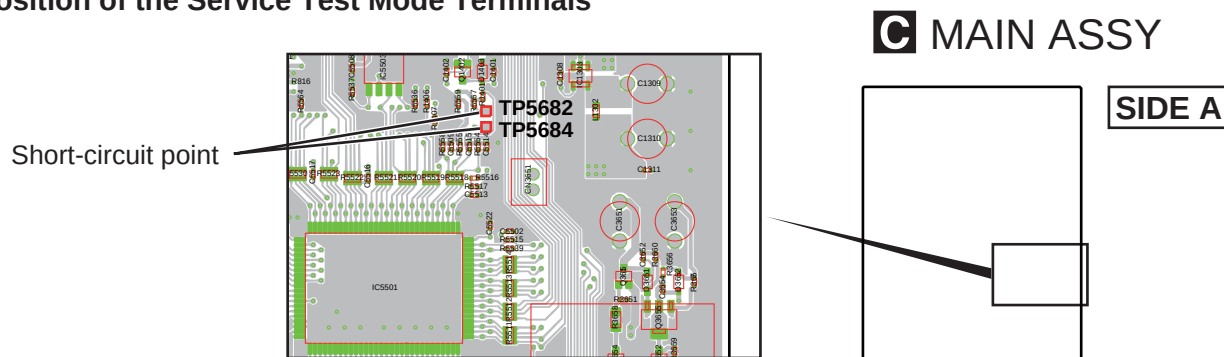
1. Configuration and Conditions to Check

- While in Service Test Mode, an emergency shutdown is not performed even if the one of errors shown below occurs. (Ignore)
- Even after the unit is forcibly shut off in Normal mode upon detecting one of the errors indicated below, you can immediately turn it on in Service Test mode, without waiting for 1 minute.
- You can check the accumulated power-on time in Service Test mode.

2. Entering Test Mode

- Short-circuit the STEST TEST land then turn on the AC power.
 - * The initial function is SACD/CD.

Position of the Service Test Mode Terminals



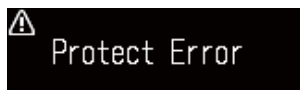
- The indications on the FL display upon entering Service Test mode differ depending on whether the unit was turned off normally or automatically shut off upon detection of one of the following failures:

<<After power turned off normally>>

[Display]



<<After an AMP error occurs>>



<<After an abnormal temperature is detected>>



<<After an SACD/CD error occurs>>



<<After an overcurrent is detected 1>>



<<After an EEPROM error occurs>>



- * To exit Service Test Mode, turn the power off or unplug the AC power cable.
- * When Service Test mode is exited, only data regarding the above-mentioned failures in RAM will be initialized. (User-setting data in RAM will not be initialized.)

3. Operations

- Operations are basically the same as in Normal Mode. However whenever functions are changed, the display indicates that the unit is in Service Test Mode, as shown below.

SERVICE TEST MODE scrolls across the top of the display when functions are changed.

After scrolling, SERVICE TEST MODE continues to be displayed only for LINE, PHONO, and FRONT AUDIO.

For all other functions, SERVICE TEST MODE is not displayed after it scrolls off the display.



4. Description of Errors

- According to the type of malfunction, the following error indications are displayed when the unit is turned on:



Protect Circuit is activated.

1. An abnormal level of electricity indicates a short-circuit at V+10, V+5, or V+3R3 or that the normal value(s) at one or more of these points has/have been exceeded.
2. The XPROTECT line up to the system control computer is short-circuited to ground or broken.



SACD/CD malfunction

1. An irregular current indicates a short-circuit at V+6R8, V+5V, or V+3 or that the normal value(s) at one or more of these points has/have been exceeded.
2. The VDET line up to the system control computer is short-circuited to ground or broken.



1. It is possible that there is a short-circuit or a break in the communication line to the EEPROM.
2. There may be a problem with the IC for the EEPROM.



- If an error message is not displayed the next time you turn on the power in Normal Mode, a speaker terminal may be short-circuited.
- If an error message is displayed again, it may indicate one of the following problems:
 1. The Digital AMP IC in the AMP Assy is malfunctioning.
 2. There is a short-circuit between the Digital AMP IC and the speaker terminals.
 3. The XSD line from the above-mentioned Digital AMP IC up to the system control computer is short-circuited to ground or broken.



- If "Over Temperature" is not displayed the next time you turn the power on in Normal Mode, the problem has been resolved.
(Turn down the volume when listening because high volumes may temporarily cause an increase in temperature.)
- If "Over Temperature" is displayed again, it may indicate one of the following problems:
 1. The Digital AMP IC in the AMP Assy is malfunctioning.
 2. The OTW line from the above-mentioned Digital AMP IC up to the system control computer is short-circuited to ground or broken.

5. Accumulated power-on time

- While the unit is on, if you hold the **STOP** key on the unit pressed for at least 8 seconds, the accumulated power-on time will be displayed, following the version of each microcomputer.

Microcomputer version

S	y	s	t	e	m	:	V	e	r	1	.	0	0	0		
D	i	g	R	a	d	i	:	V	e	r	1	.	0	0	0	
O	l	e	d			:	V	e	r	1	.	0	0	0		
F	o	n	t			:	V	e	r	1	.	0	0	0		

From the top: System computer, digital radio, OLED control microcomputer, Font ROM

↓ After about 3 seconds

Accumulated power-on time

10H30M

- The accumulated power-on time is counted regardless of the function or operation. (Time is not counted in Standby mode.)
- Countable time is up to 255H59M. Time exceeding this will not be counted (the display will not change).
- Generally, the accumulated power-on time cannot be cleared. (To clear the time, it is necessary to enter Special Mode (unavailable), which is used for CA checking on the production line.)

6. DSP Error Display

- While the unit is on, each time you press the **SOUND** key on the remote control unit, the DSP error indication and the normal display are toggled.

DSP Error Display specifications

The error name consists of 6 characters.

OLED

○ ○ ○ ○ ○ ○

Example>

ERR.1

D S P E R R

Cannot receive data from the DSP

→Communication error between the source and the DSP → A DSP error is suspected

ERR.2

H R E Q

No value for HREQ

→A DSP error is suspected

NO ERR

D S P O K

There is no problem

DSP Error Display mode

Press the "**SOUND**" key in Service Test Mode to enter DSP Error Display mode.

Press the "**SOUND**" key again to return to normal Service Test Mode.

This is why the normal "**SOUND**" function is disabled while in Service Test Mode.

7. Displaying the SASC/CD F/W Version

- With the power on, pressing the ESC and CHAP keys on the test remote control unit (GGF1381) displays the following:

71911-101

This indicates that the SASC/CD F/W part number is AYW7191 Version 1.01.

8. DISC Adjustment Mode

- Only in Service mode, playback of a DVD is enabled for adjusting servos.
Only the test DVD for servicing (GGV1025) is supported, and operations with other DVDs are not guaranteed.
Only basic playback, error-rate measurement, track selection, and scanning are supported, and any other operations are not guaranteed.

(Notes)

Self-diagnosis to check major IC communications (system control computer, display microcomputer, DSP, ROM, and others).

Use the following to check communications with the LSI.

Communication between the system control computer and the SASC/CD module

On the service remote: If the SASC/CD version is displayed on the OLED when you press ESC and CHAP, communication is OK.

Communication between the system control computer and the NETWORK module

If the Home menu is displayed with the HOME MEDIA GALLERY function, communication is OK.

Communication between the system control computer and the OLED control microcomputer

If the version of OLED is displayed after the STOP button on the main unit is held pressed for at least 8 seconds, communication is OK.

Communication between the OLED control microcomputer and the FONTROM

If characters are displayed, communication is OK.

Communication between the system control computer and the DSP

If there are no errors indicated on the DSP Error Display in Service Test Mode, communication is OK.

Communication between the system control computer and the modulator (TAS5504)

If sound is output and the volume can be adjusted up and down, communication is OK.

Communication between the system control computer and the EEPROM

If "EEPROM Error" is not displayed while the power is on, communication is OK.

7. DISASSEMBLY

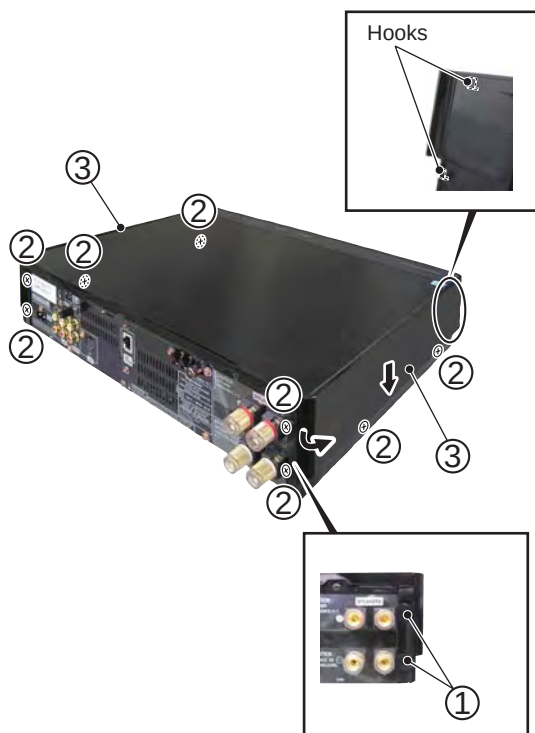
- Note 1:** Do NOT look directly into the pickup lens. The laser beam may cause eye injury.
- Note 2:** Even if the unit shown in the photos and illustrations in this manual may differ from your product, the procedures described here are common.
- Note 3:** For performing the diagnosis the DVDM ASSY, the following jigs for service is required:
- Cable for service (GGF1157) (When diagnosing side B, GGD1425 is also required.)

Diagnosing Each Board

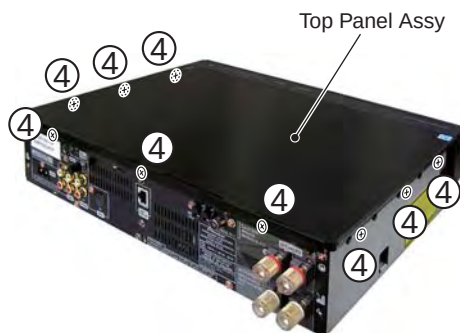
1 Side Panel, Top Panel Assy, Tray Panel

- 1 Remove the cushion seal.
- 2 Remove the 8 screws.
- 3 Slide the left and right side panels down and to the rear to remove them.

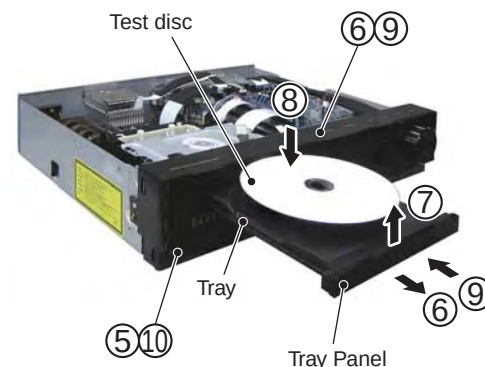
Caution: Do not damage the 2 hooks on the back of the left and right side panels.



- 4 Remove the 9 screws and lift off the Top Panel Assy.



- 5 Turn on the power by pressing the STANDBY/ON (⏻) button.
- 6 Press the OPEN/CLOSE (▶) button to open the tray.
- 7 Remove the Tray Panel.
- 8 Insert the test disc.
- 9 Press the OPEN/CLOSE (▶) button to close the tray. (Test disc is clamped.)
- 10 Turn off the power by pressing the STANDBY/ON (⏻) button.
- 11 Unplug the power cord.



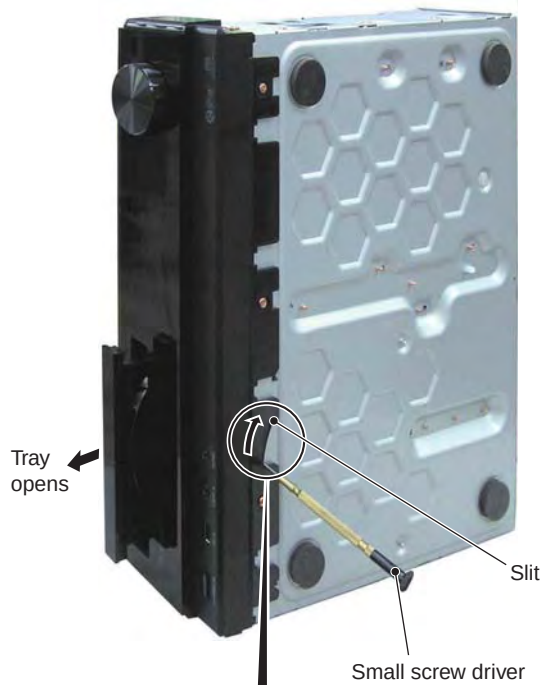
A

● Opening the tray when you can't turn on the power

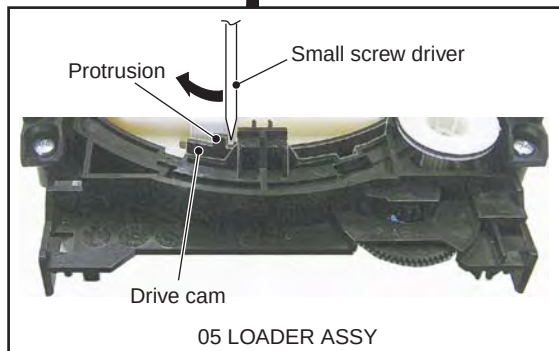
Place a small flat head screw driver through the slit on the bottom of the unit and slide the protrusion on the 05 LOADER ASSY drive cam in the direction shown in the picture. Once the tray is partially open, pull it completely open by hand.

B

C



D



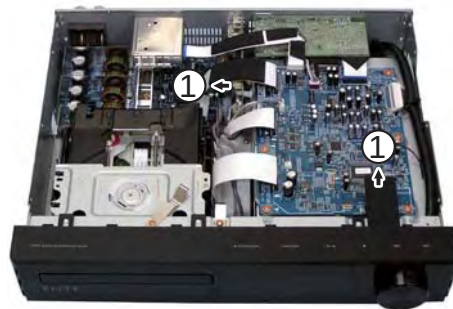
● Bottom view

E

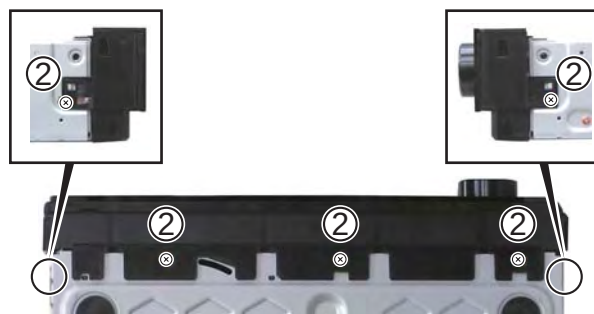
F

2 Front Panel Assy

- ① Disconnect the flexible cable (x1) and the connector (x1).

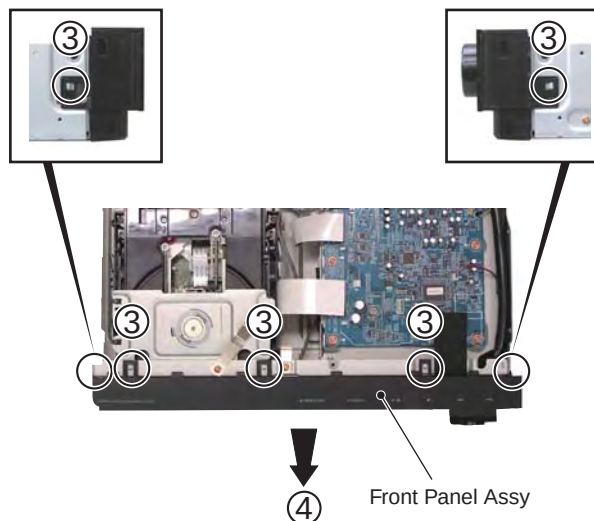


- ② Remove the 5 screws.

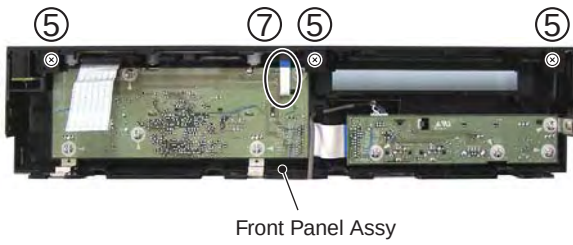


- ③ Unlatch the 5 hooks.

- ④ Remove the Front Panel Assy by sliding it in the direction of the arrow.



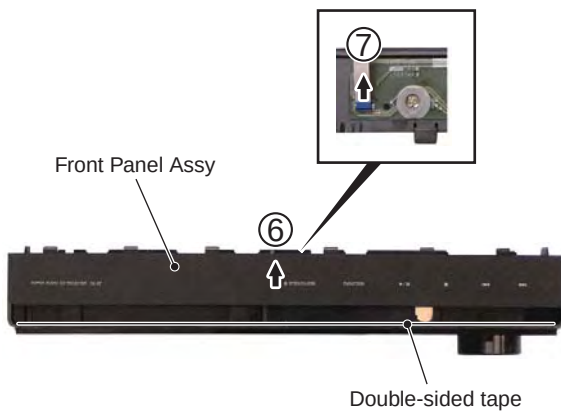
- ⑤ Remove the 3 screws.



- ⑥ Slide the Touch Panel to remove it from the Front Panel Assy.

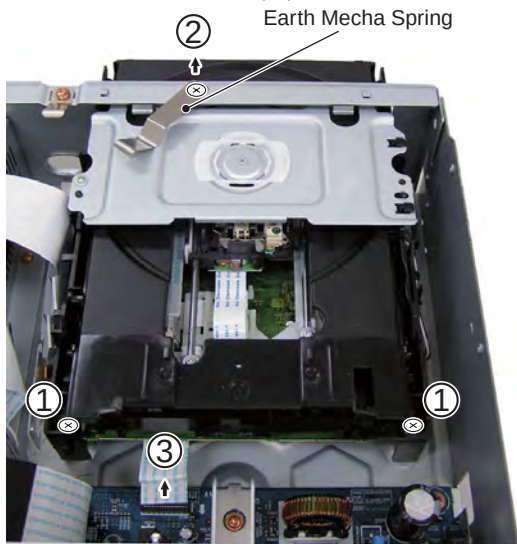
Caution: The Touch Panel is affixed with double-sided tape.

- ⑦ Remove the flexible cable (x1).



3 DVDM Assy

- ① Remove the 2 screws at the rear of the DVDM Assy.
- ② Remove the Earth Mecha Spring by removing the screw attaching it to the unit.
- ③ Remove the flexible cable (x1).



● Top View

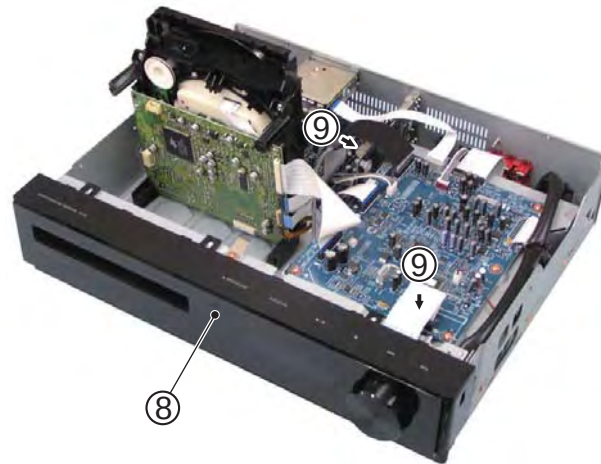
- ④ Slightly lift the 05 LOADER ASSY and slide it backwards.
- ⑤ Remove the Mecha Barrier.



- ⑥ Replace the flexible cable removed in step ② with an extension jig cable (GGF1157) and connect it to the same position.
- ⑦ Lift up the 05 LOADER ASSY.



- ⑧ Install the Front Panel Assy.
- ⑨ Reconnect the flexible cable (x1) and the connector (x1) to their original positions. (If you removed the flexible cable (x1) from on the Touch Panel in step ⑦ of section "2 Front Panel Assy", reconnect it to its original position.)



Diagnosis

Caution: Service cable 5P (GGD1425) is necessary for diagnosing the DVDM Assy (SIDE B).

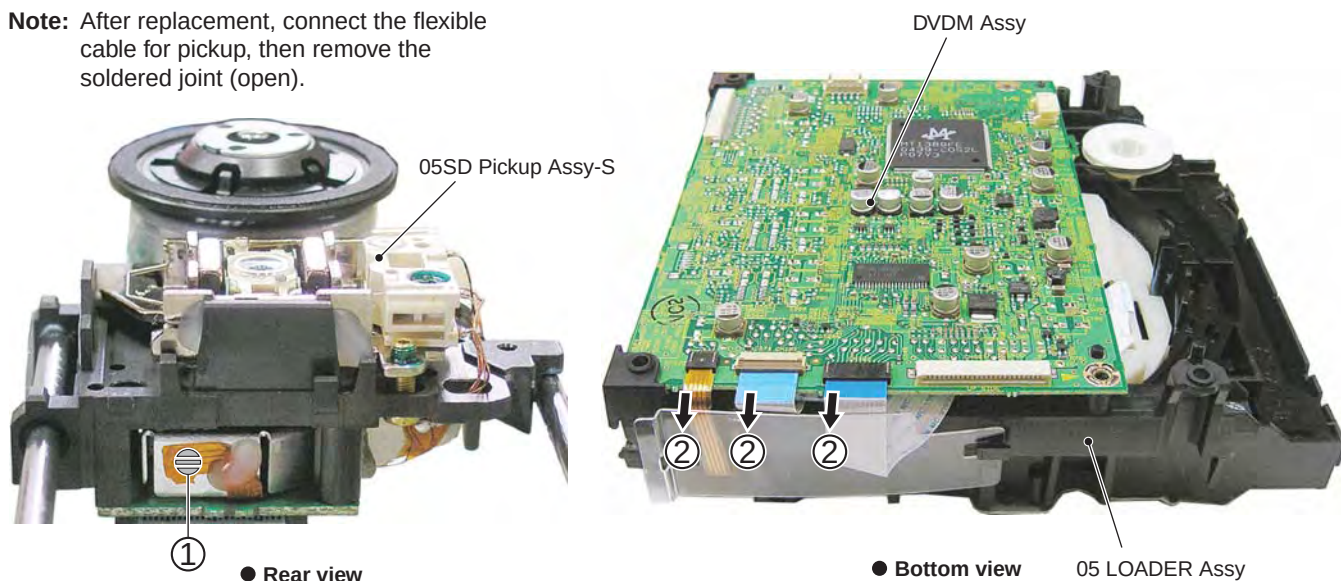
Removing the Traverse Mechanism Assy-S and 05SD Pickup Assy-S

1 05 LOADER Assy

- ① Short-circuit point by soldering.

Note: After replacement, connect the flexible cable for pickup, then remove the soldered joint (open).

- ② Disconnect the three flexible cables.

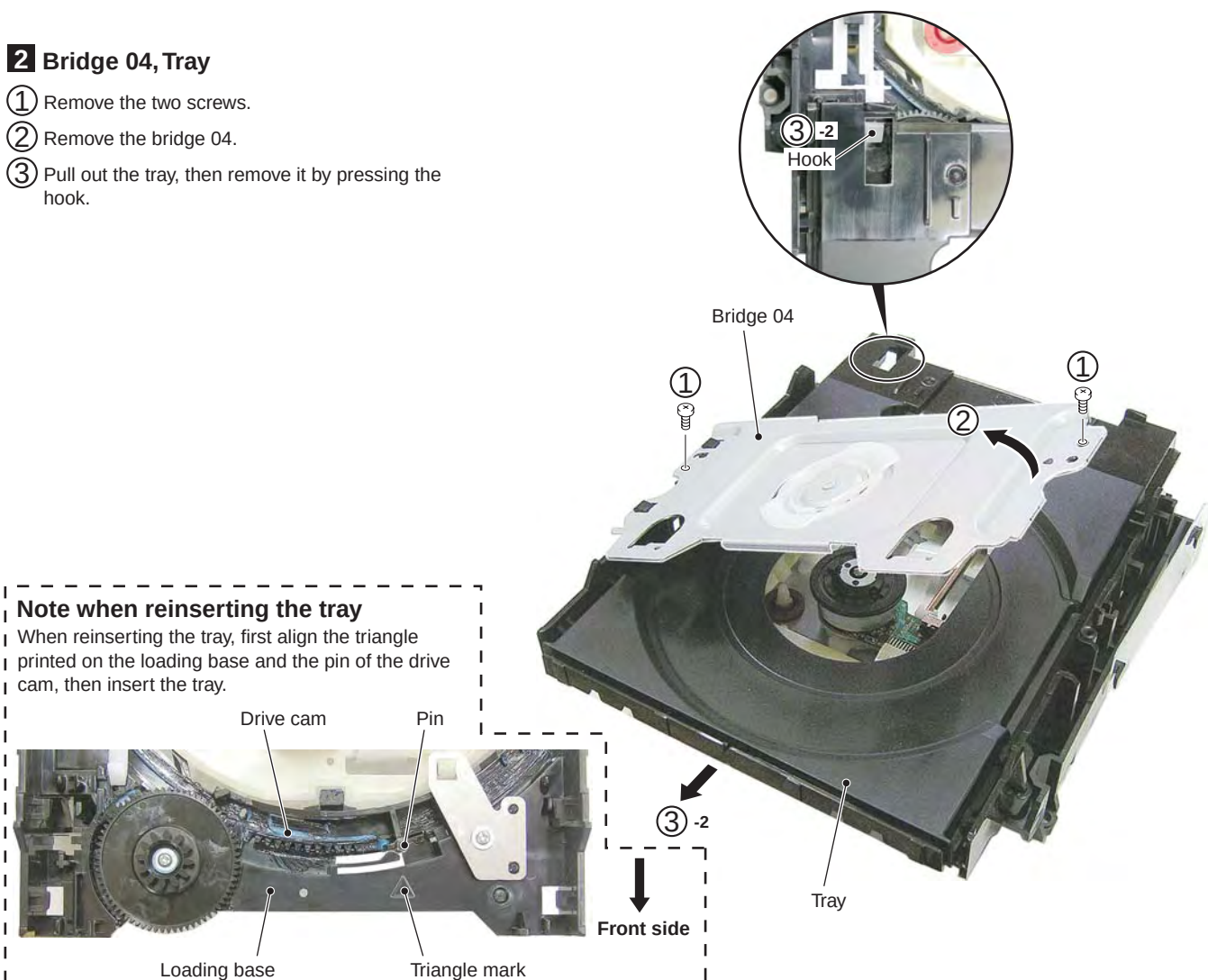


2 Bridge 04, Tray

- ① Remove the two screws.

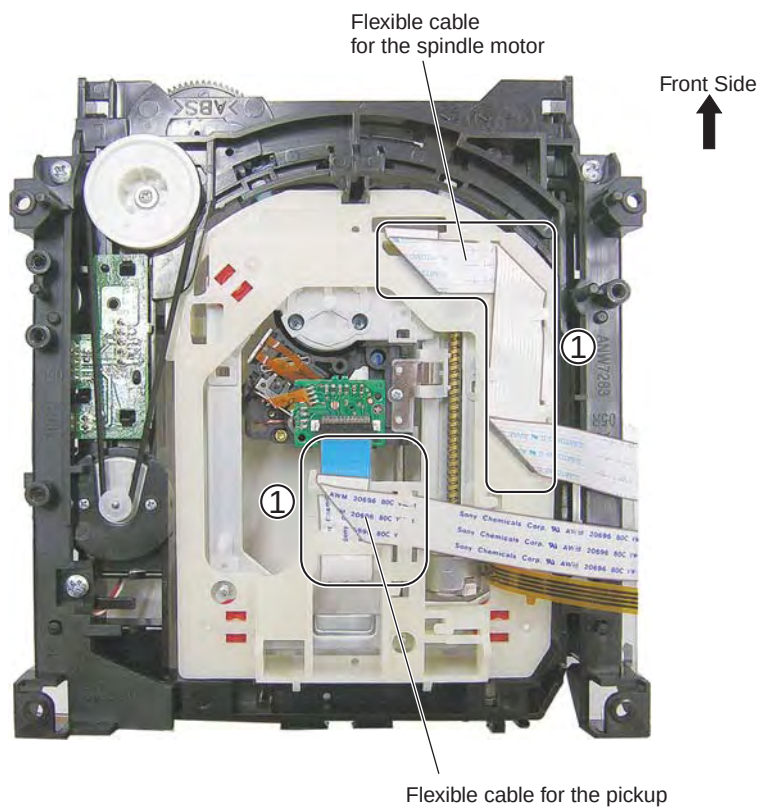
- ② Remove the bridge 04.

- ③ Pull out the tray, then remove it by pressing the hook.



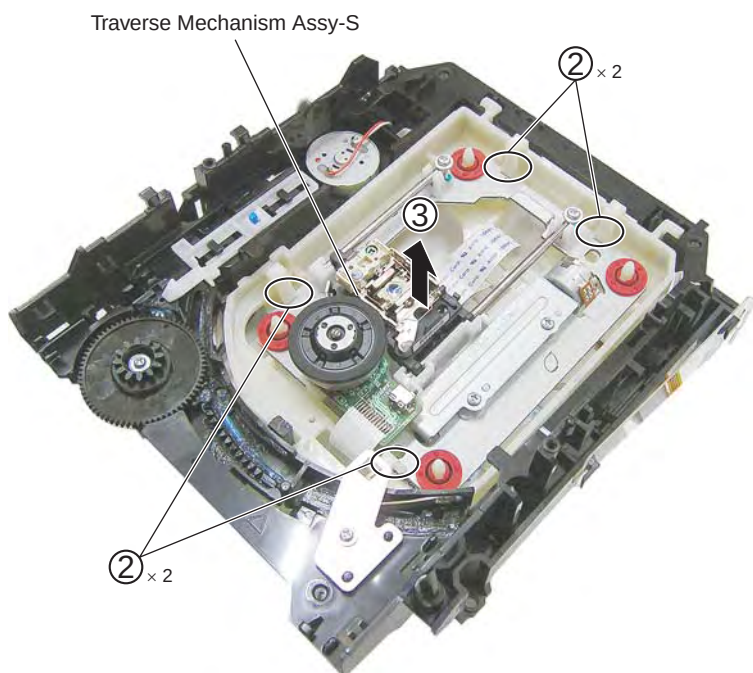
3 Traverse Mechanism Assy-S

- A ① Dislodge the two flexible cables from their factory placement.



● Bottom view

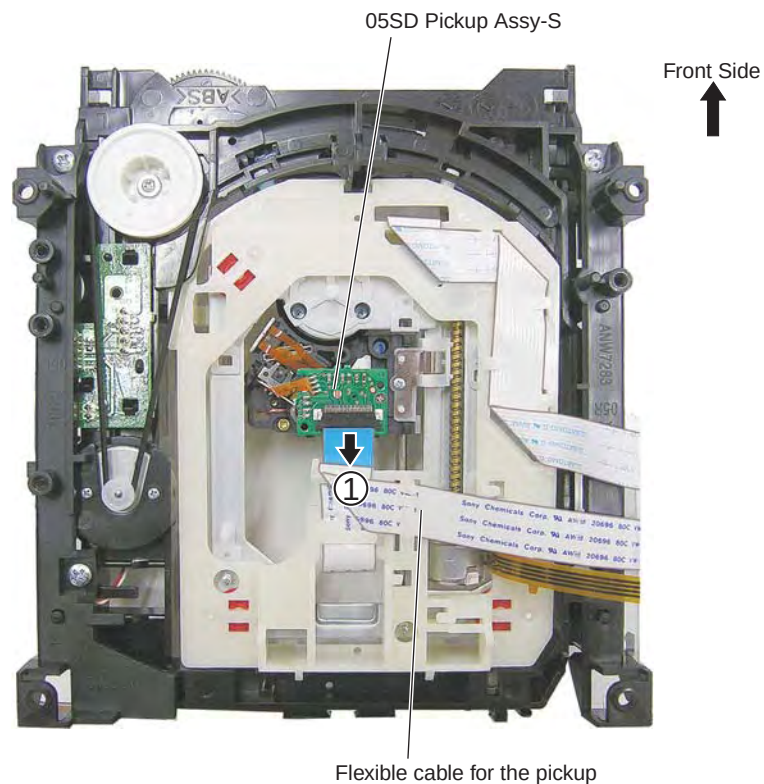
- D ② Unhook the four hooks.
③ Remove the Traverse Mechanism Assy-S



4 05SD Pickup Assy-S

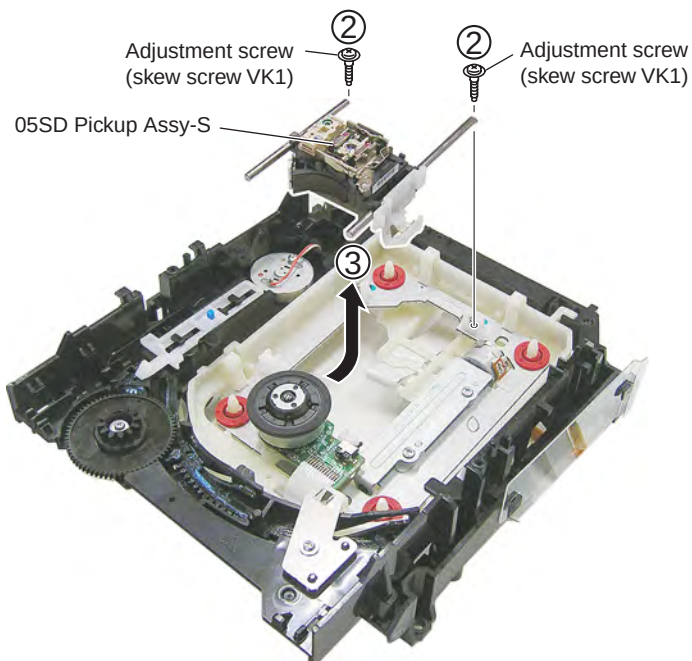
Note: The 05SD Pickup Assy-S can be removed without removing the Traverse Mechanism Assy-S.(shown as Step 3.)

- ① Disconnect the flexible cable for the pickup.

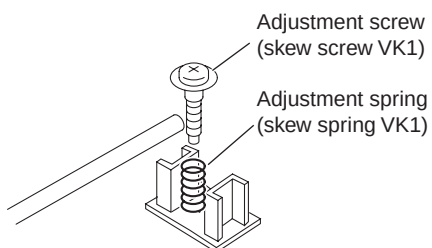


● Bottom view

- ② Remove the two adjustment screws.
- ③ Remove the 05SD Pickup Assy.

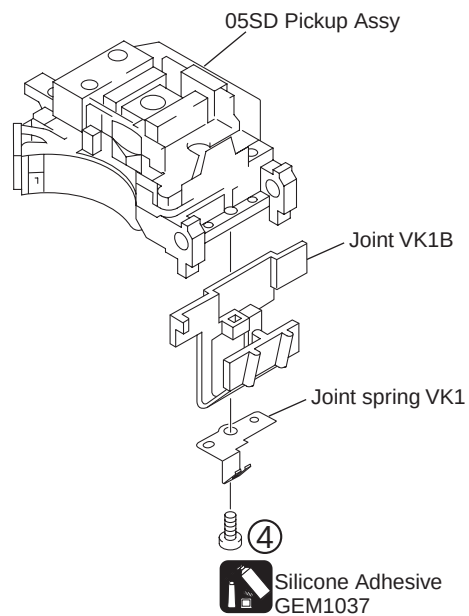


Note: Be careful not to lose the adjustment spring (skew spring VK1).



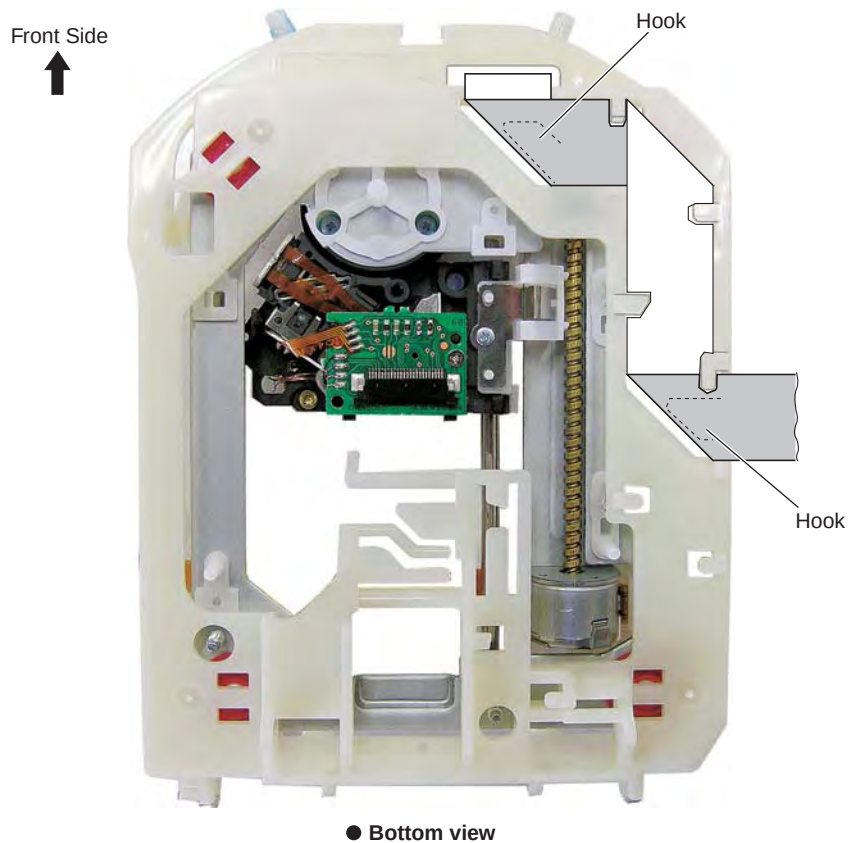
④ Remove the one screw.

Note: The screw is secured with the silicone adhesive.
Make sure to apply the silicone adhesive after reattaching the screw.



Arrangement of the flexible cable for the spindle motor

■ : Conductive surface



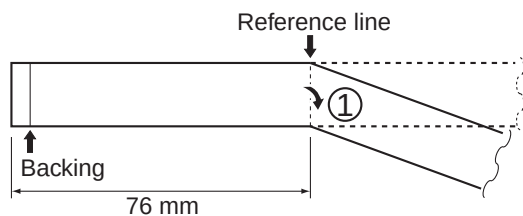
Arrangement of the flexible cable for the pickup

 : Conductive surface

Note:

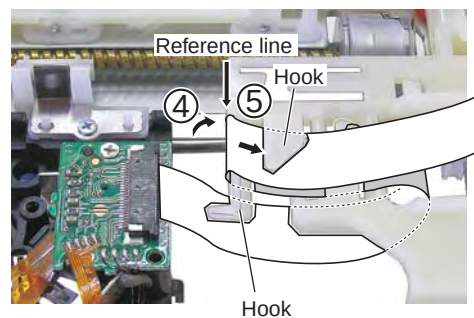
Be sure to move the 05SD Pickup Assy to the innermost perimeter.

- ① Fold the flexible cable for the pickup with the backing outward in the illustration below.

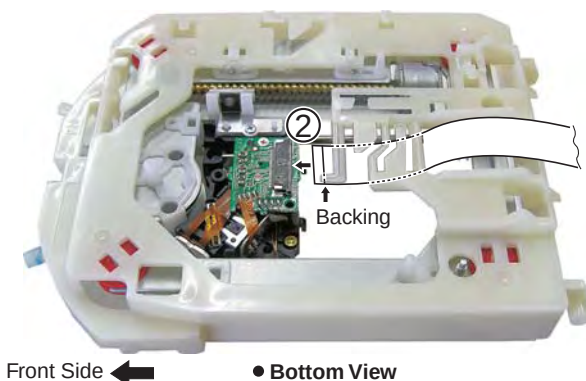


- ④ Hook the part folded in Step ① to the hook.

- ⑤ Pass the flexible cable through the hook.

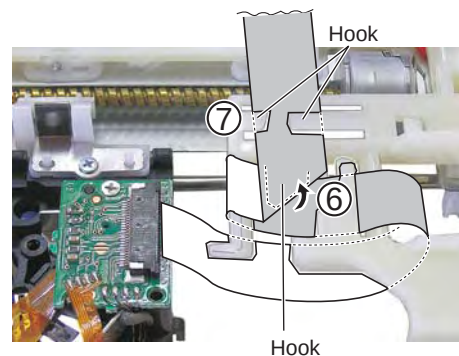


- ② Attach the flexible cable for the pickup to the connector.

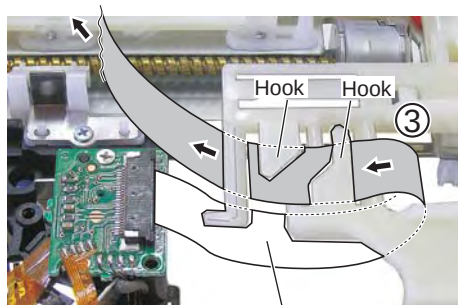


- ⑥ Fold the flexible cable along the hook.

- ⑦ Pass the flexible cable through the hook.



- ③ Pass the flexible cable through the hook.



Make sure that the cable is loose.

8. EACH SETTING AND ADJUSTMENT

8.1 ADJUSTMENT

8.1.1 ADJUSTMENT ITEMS AND LOCATION

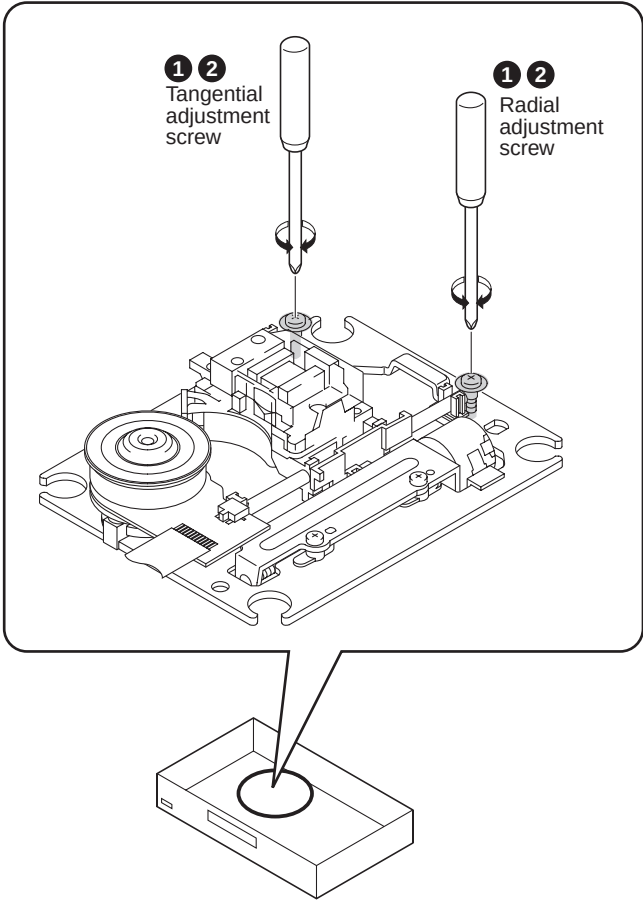
■ Adjustment Items

- [Mechanism Part]
- ① Tangential and Radial Height Coarse Adjustment
 - ② DVD (CD) Error Rate Adjustment

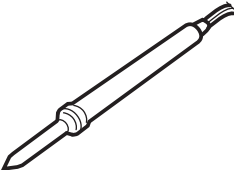
[Electrical Part]
Electrical adjustments are not required.

■ Adjustment Points (Mechanism Part)

Cautions: After adjustment, adjustment screw locks with the Screw tight.



8.1.2 JIGS AND MEASURING INSTRUMENTS

 ⊕ Screwdriver (large)	 ⊕ Screwdriver (medium)	 Test mode remote control unit (GGF1381)	
 ⊕ Precise screwdriver	 DVD test disc (GGV1025)	 Soldering iron	Screw tight (GYL1001)

5 6 7 8

8.1.3 NECESSARY ADJUSTMENT POINTS

When

Adjustment Points

■ Exchange Parts of Mechanism

Exchange the 05SD Pickup Assy



Mechanical
point

①, ②

* After adjustment, screw locks
with the Screw tight.

Electric
point

Exchange the Traverse Mechanism
Assy-S



Mechanical
point

Electric
point

Exchange the Spindle Motor



Mechanical
point

②

* After adjustment, screw locks
with the Screw tight.

Electric
point

■ Exchange PCB Assy

Exchange PC Board
LOAB and DVDM ASSYS



Mechanical
point

Electric
point

8.1.4 TEST MODE

POWER ON

How to display the error rate

■ Turn the power on in Service Test Mode.

Short circuit the STEST TEST land on the MAIN ASSY and then turn on the AC power.

(See "6.1 SERVICE TEST MODE")

*DISC Adjustment Mode

Limited only to Service Test Mode, it is used for adjusting the servo for playing back DVDs.

Only the service test DVD (GGV1025) is supported.

Operations using other DVDs are not guaranteed.

The DVD supports only basic playback, measurement of the error rate, track selection, and SCAN.

Other operations are not guaranteed.

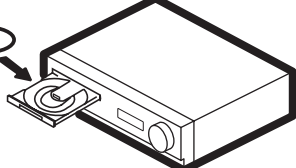
DISC SET

<TRAY OPEN>

OPEN/CLOSE
(Player)



DVD disc



<TRAY CLOSE>

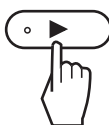
OPEN/CLOSE
(Player)



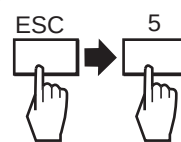
TEST MODE: PLAY

<PLAY>

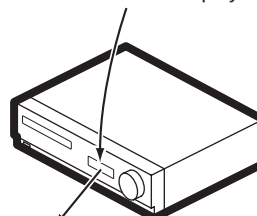
Press the play key
(▶) of the normal
remote control unit.



GGF1381
(Test mode
remote control
unit)



An error rate is displayed



9 9 0 E - 6

The error rate is displayed as above.
But this means "9.90E - 6".

Notes:

- The audio signal are outputted during the test mode.
- The SKIP key and the SCAN key are effective during the test mode.

Note: Even if you intend to continue using the unit after using Service Test Mode, be sure to turn the power off and then back on.

TEST MODE: OFF

GGF1381
(Test mode
remote control
unit)



POWER





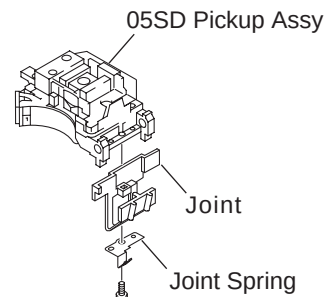
1 Tangential and Radial Height Coarse Adjustment

START

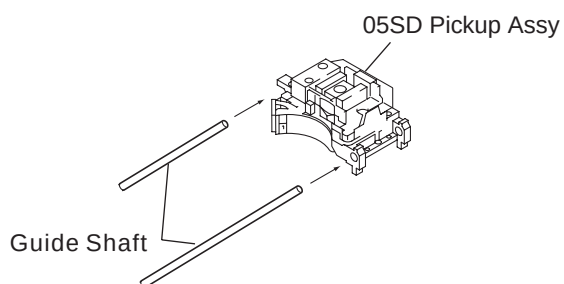
- Remove the 05SD Pickup Assy from the Traverse Mechanism Assy-S.
- Remove the joint and the joint spring of the 05SD Pickup Assy.

Note:

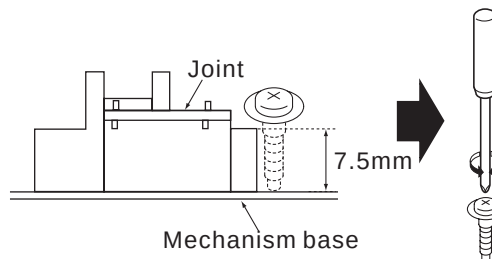
Before removing the flexible cable for the pickup, soldering of the pickup circuit is necessary.
For details, see "1 05 LOADER ASSY of 7. DISASSEMBLY".



- Pass through the guide shaft to a new 05SD Pickup Assy.
- Attach it to the Traverse Mechanism Assy-S.



- Put the joint between the Tangential (or Radial) adjustment screw and the mechanism base and turn each screw to adjust the height.
(Refer to "8.1.1 ADJUSTMENT ITEMS AND LOCATION".)



- Attach the Traverse Mechanism Assy-S to the 05 LOADER Assy.
- Turn it over and attach the joint and the joint spring.
- Arrange the flexible cables.
(Refer to "7. DISASSEMBLY".)

2 DVD Error Rate Adjustment

Notes:

- Use disc: GGV1025

9 9 0 E - 6

The error rate is displayed as above.
But this means "9.90E - 6".

START

- Play the DVD test disc at inner track
- Display ERROR RATE on the OLED display

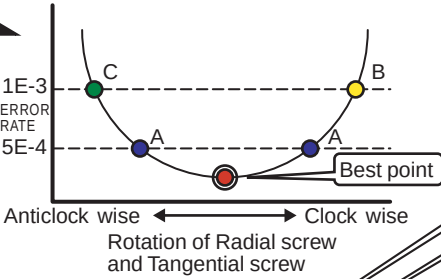


Traverse Mechanism Assy-S
Adjust the radial adjustment screw so that ERROR RATE becomes around "5E-4". ● A

- Play the DVD test disc at inner track (around #30000) → (Play title1)
- * At stop mode, press [1], then [ENTER] key of the set remote control.

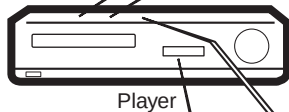


Traverse Mechanism Assy-S
Fasten the radial adjustment screw so that ERROR RATE becomes around "1E-3". ● B



- Unfasten the radial adjustment screw by 90 degrees step till ERROR RATE becomes around "1E-3" again. ● C
- Record the number of rotation (N1).

- Fasten the radial adjustment screw till the number of rotation becomes half of N1. ● Best Radial point



Player



Service mode end

- Play the DVD test disc at outer track (around #200000) → (Play title 22)
- * At stop mode, press [2], [2], then [ENTER] key of the set remote control.

Turn the POWER OFF in case of NG once, and perform the adjustment once again.

If error rate is OK, locks a root of tangential and radial adjustment screws with the Screw tight.
Screw tight: GYL1001



CHECK

In this check, the error rate that is less than "5E-5" is better.

NG

OK

Disc playback normally.
• The measurement of block error rate



Service mode end

- Unfasten the tangential screw by 90 degrees step till ERROR RATE becomes around "1E-3" again. ● C
- Record the number of rotation (N1).

- Fasten the tangential adjustment screw till the number of rotation becomes half of N1. ● Best tangential point



Traverse Mechanism Assy-S
Fasten the tangential adjustment screw so that BER becomes around "1E-3". ● B



5



6



7



8



A



B



C



D



E



F



5



6



7



8

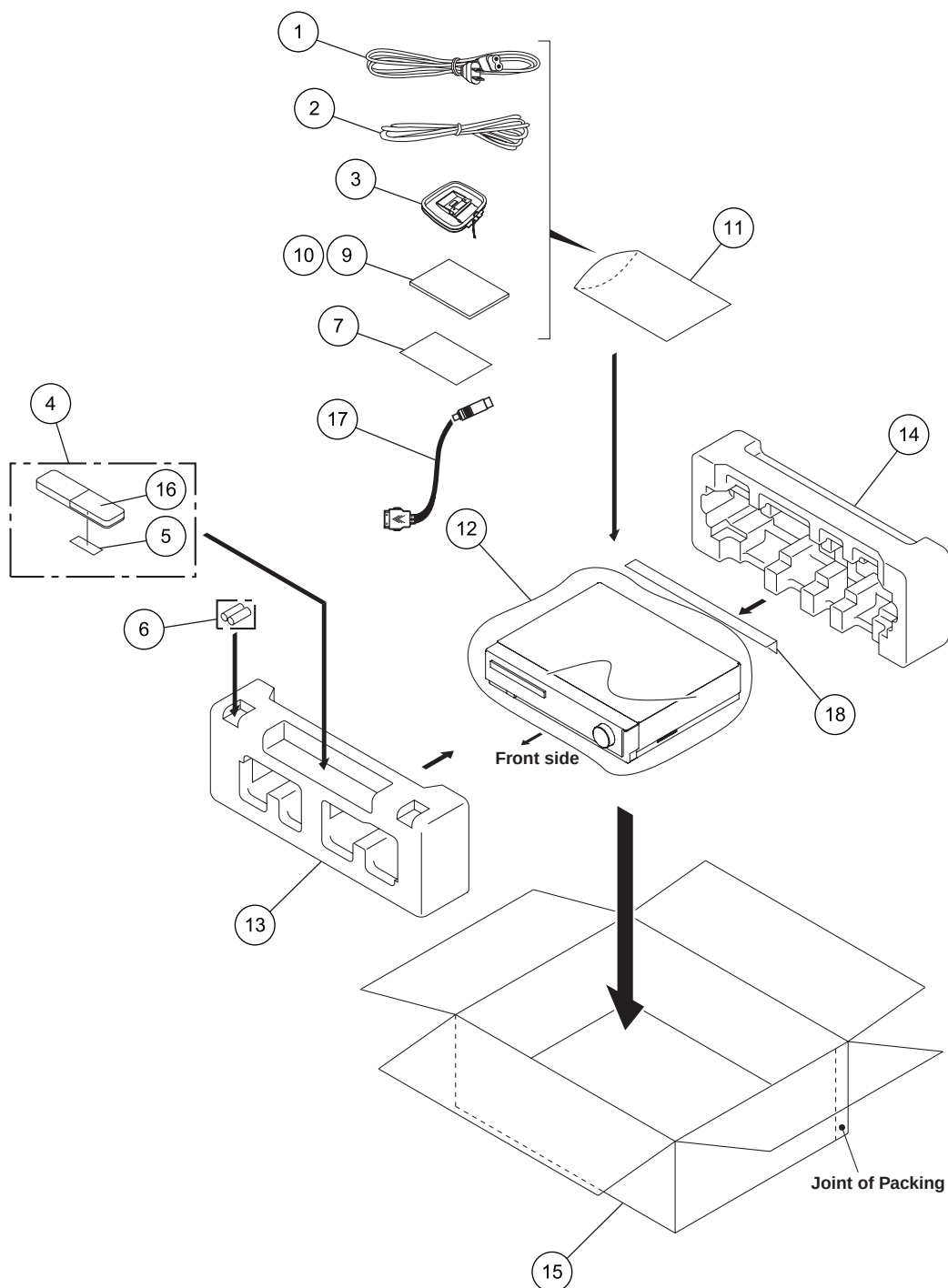


XC-Z9

9. EXPLODED VIEWS AND PARTS LIST

- NOTES:
- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
 - The  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
 - Screws adjacent to ▼ mark on product are used for disassembly.
 - For the applying amount of lubricants or glue, follow the instructions in this manual.
(In the case of no amount instructions, apply as you think it appropriate.)

9.1 PACKING SECTION



PACKING SECTION PARTS LIST

Mark No.	Description	Part No.
⚠ 1	AC Power Cord	ADG7021
2	FM Antenna	ADH7030
3	Loop Antenna	ATB7013
4	Remote Control	AXD7509
5	Battery Cover	VZN1015
NSP 6	Battery (R6) 2P	XEX3002
NSP 7	Warranty Card	ARY7007
8	• • • • •	
9	Operating Instructions (English/French)	ARE7631
10	Network Setup Guide (English/French)	ARE7632
NSP 11	Polyethylene Bag	AHG7117
12	Nonwoven Sheet	AHG7137
13	Front Pad HQ	AHA7470
14	Rear Pad HQ	AHA7471
15	Packing Case	AHD8542
16	Top Cover	AZA7438
17	iPod Control Cable	XDE7025
NSP 18	Spacer HQ	AHC7044

4



EXTERIOR SECTION PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.	
1	DVDM ASSY	AWM8099	50	Cushion Circle 14B	AED7081	
2	MAIN ASSY	AWU8308				
3	AMP ASSY	AWU8314	51	•••••		A
4	NETWORK ASSY	AWX8883	NSP 52	Serial Label	DRW2311	
5	CONNECTOR ASSY	AWU8315	53	Acetate Tape	AED7109	
			54	Screw	BBZ30P080FCC	
⚠ 6	POWER SUPPLY UNIT	AWR7050	55	Round End Screw 3x6	ABA7140	
7	FM/AM TUNER UNIT	AXX7250				
NSP 8	Chassis HQ	ANA7208	56	Screw	BBT30P100FCC	
9	Rear Panel HQ KUC	ANC8495	57	Screw	IBZ30P060FCC	
10	Side Panel L HQ	AAK8424	58	Screw	XBA3015	
			59	Screw	BBZ30P080FNI	
11	Side Panel R HQ	AAK8425	60	Screw	BBZ30P080FTB	B
12	Top Panel Assy HQ	AXG7363				
13	Top Barrier HQ	AEC7580	61	Screw	BPZ30P060FTC	
14	Top Cushion HQ	AEB7388	NSP 62	Energy Star Label	AAX8022	
15	29P FFC/60V	ADD7622	63	Screw	IBZ30P180FTC	
			64	Screw	PMZ30P060FCC	
16	27P FFC/60V	ADD7623	65	XM/SIRIUS ASSY	AWU8309	
17	17P FFC/60V	ADD7624				
18	25P FFC/60V	ADD7626	66	PCB MOLD	AMR2533	
19	23P FFC/60V	ADD7627	67	21P FFC/60V	ADD7625	
20	11P FFC/60V	ADD7628	68	Shield Cushion	AEB7372	
			NSP 69	Name Label	AAL7438	C
21	Connector Assy	PF04PP-C10	70	Top Panel Assy	AXG7364	
22	Connector Assy	PF12EE-S17				
23	Connector Assy	PG05KK-E07				
24	4P Lead With Housing	ADX7587				
NSP 25	Tray Cap HQ	AAK8402				
NSP 26	Traycap Mould HQ	AMR7532				
27	HQ Leg	AEC7577				
28	Terminal Screw	AKE-031				
29	PCB Holder HQ	ANG7597				
30	Locking Wire Saddle	AEC7589				D
31	Heat Sink HQ	ANH7196				
32	HS Holder HQ	ANG7596				
33	PCB Holder	AEC7057				
34	Shield Case HQ	ANK7133				
35	Primary Barrier	AEC7575				
36	Edge Saddle	AEC7590				
NSP 37	PCB Holder	PNW1706				
38	FFC Cusion	AEB7373				
39	FFC Cushion A DM	AEB7377				E
40	•••••					
41	FFC Cushion HQ	AEB7389				
42	Earth Spring W5.1	ABH7240				
43	Earth Mecha Spring	ABH7251				
44	Adaptor05 L	XNW3014				
45	Adaptor05 R	XNW3015				
46	Mecha Barrier	AEC7581				
NSP 47	Loader Assy	VWT1230				F
48	SP Sheet HQ	AEC7576				
49	Laser Caution	PRW1608				

1 2 3 4

9.3 FRONT PANEL SECTION

A

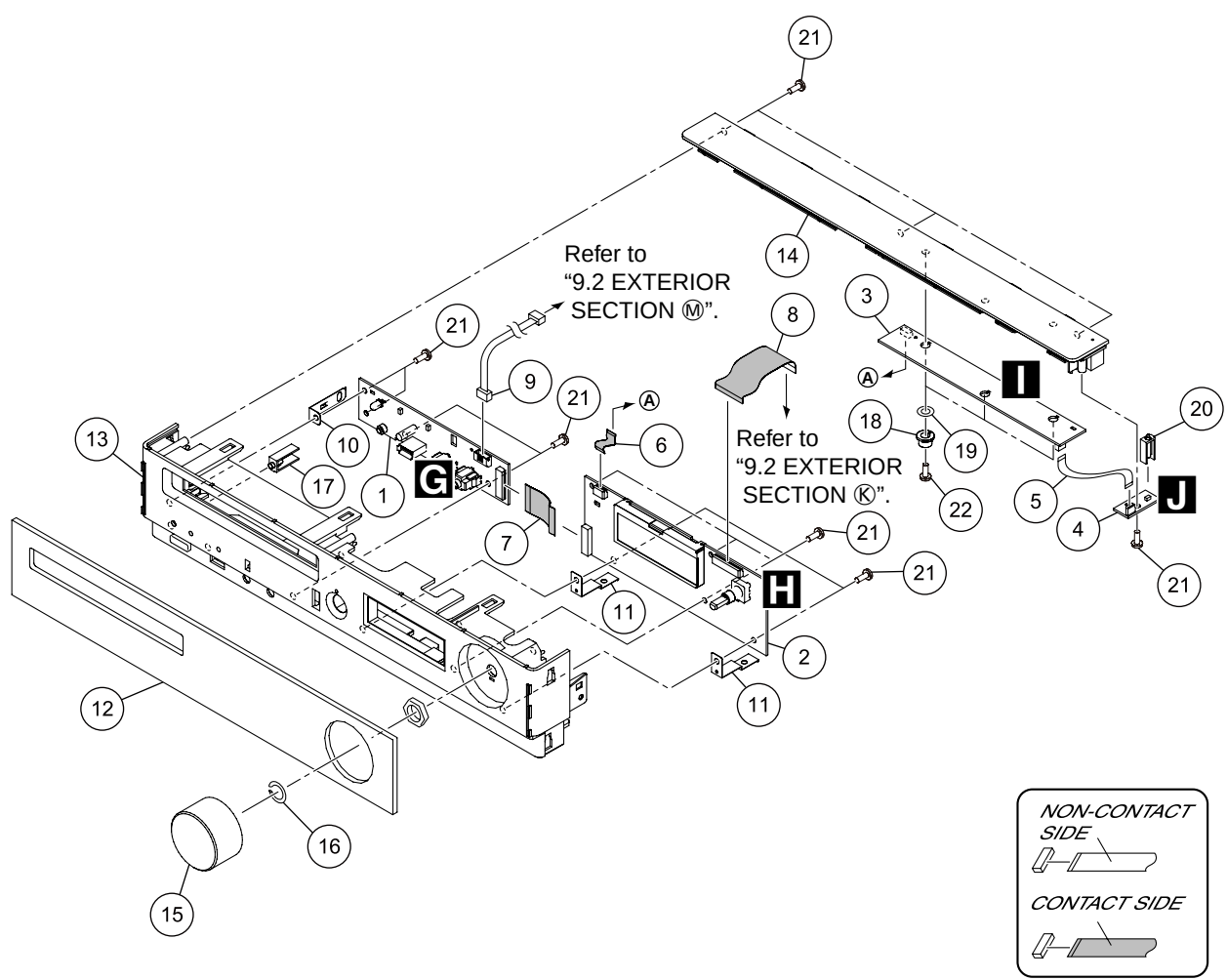
B

C

D

E

F



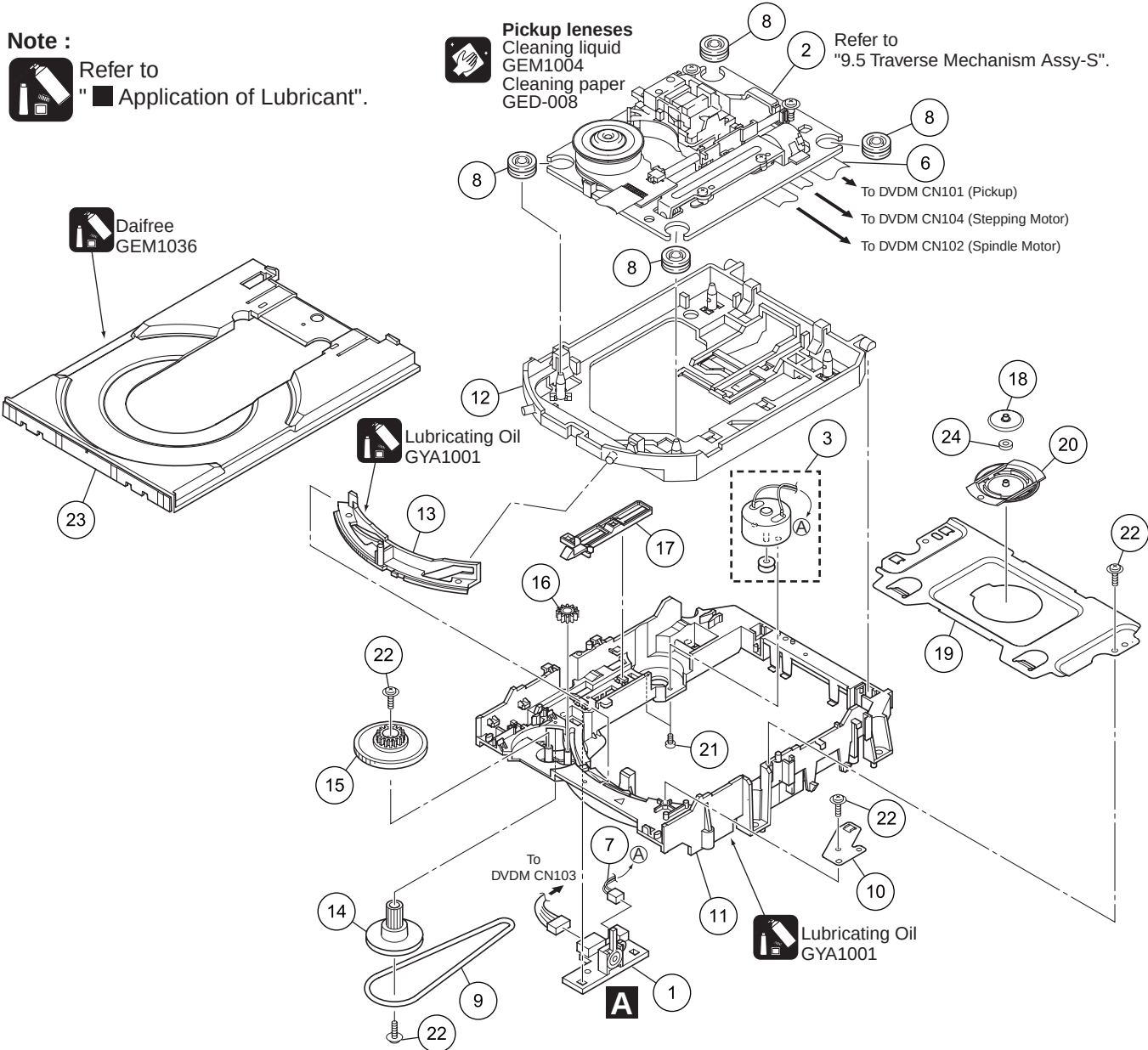
FRONT PANEL SECTION PARTS LIST

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
1	FRONT ASSY	AWU8305
2	DISPLAY ASSY	AWU8306
3	KEY ASSY	AWU8307
4	LED ASSY	AWU8316
5	4P FFC/60V	ADD7618
6	5P FFC/60V	ADD7619
7	21P FFC/60V	ADD7620
8	25P FFC/60V	ADD7621
9	5P Lead With Housing	ADX7585
10	Earth Plate DM	ANG7552
11	Earth Plate B	ANG7602
NSP 12	Window HQ	AAK8422
13	Panel Base Assy HQ	AXG7357
14	Touch Panel HQ	AAK8416
15	Vol.knob Assy HQ	AAA7054
16	Ring	ABH7213
17	Front Lens HQ	AAK8415
18	PCB Mould HQ	AMR7533
19	TS Cushion	AEB7387
20	Touch Lens HQ	AAK8400
21	Screw	BBZ30P080FNI
22	Screw	ABA7127

1 2 3 4

9.4 05 LOADER ASSY

Note :
Refer to "Application of Lubricant".



05 LOADER ASSY PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
NSP 1	LOAB Assy	VWG2346	16	Drive Gear	VNL1923
2	Traverse Mechanism Assy-S	DXX2581	17	SW Lever	VNL1925
3	Loading Motor Assy	VXX2912	18	Clamper Plate 04	VNE2342
4	• • • • •		19	Bridge 04	VNE2343
E 5	• • • • •		20	Clamper 04	VNL1969
6	Flexible Cable (24P)	ADD7546	21	Screw	JGZ17P028FTC
7	Connector Assy 2P	VKP2253	22	Screw	VBA1094
8	Floating Rubber	VEB1351	23	Tray	VNL1920
9	Belt	VEB1358	24	Clamp Magnet	VMG1029
10	Stabilizer	VNE2253			
11	Loading Base	VNL1917			
12	Float Base 04	VNL1968			
F 13	Drive Cam	VNL1919			
14	Gear Pulley	VNL1921			
15	Loading Gear	VNL1922			

Application of Lubricant



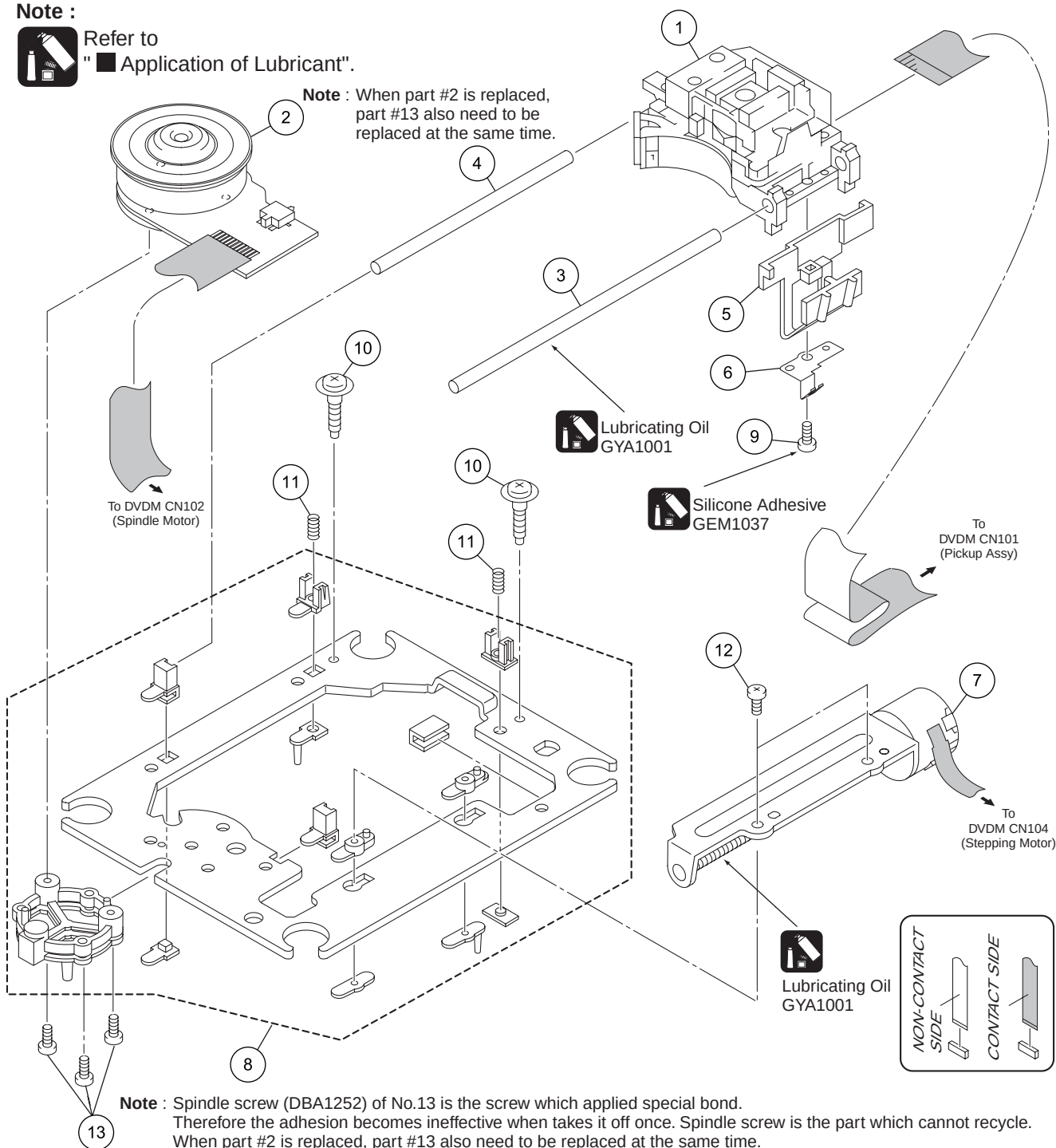
9.5 Traverse Mechanism Assy-S

Note :



Refer to
"Application of Lubricant".

Note : When part #2 is replaced,
part #13 also need to be
replaced at the same time.



Traverse Mechanism Assy-S PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	05SD Pickup Assy-s	OXX8019	10	Skew Screw VK1	DBA1211
2	Spindle Motor N200	DXM1197	11	Skew Spring VK1	DBH1516
NSP 3	Guide Shaft VK1	DLA1940	NSP 12	Stepping Screw	DBA1205
NSP 4	Sub Guide Shaft VK1	DLA1941	13	Spindle Screw VK1(for Service)	DBA1252
NSP 5	Joint VK1B	DNK4272			
NSP 6	Joint Spring VK1	DBK1235			
7	Stepping Motor VK1	DXM1201			
NSP 8	Mechanism Frame VK1	DNK4160			
9	Precision Screw VK1	DBA1209			

PRECAUTIONS WHEN REPLACING THE STEPPING MOTOR (DXM1201)

You must apply grease to the following locations when replacing the stepping motor. Follow the instructions below to apply grease to these locations.

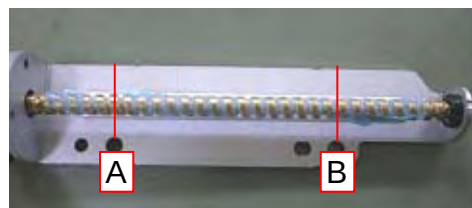
(1) Stepping motor feed screw



- Apply grease GYA1001 to the 3 locations shown in the picture
- Amount of grease: 3 ± 1 mg each for 3 locations

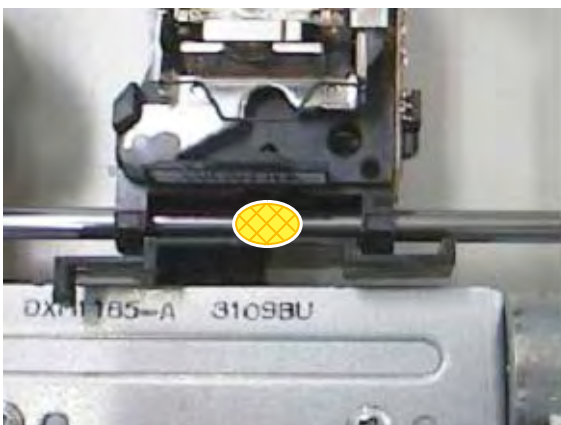


After applying GYA1001, smooth the grease evenly over the stepping motor feed screw, as shown in the picture.
Take care not to scratch the shaft.



Spread the GYA1001 grease from screw hole A to B shown in the picture.
Fibers or dirt in the grease have an adverse affect on operation and must be removed.

(2) Guide bar

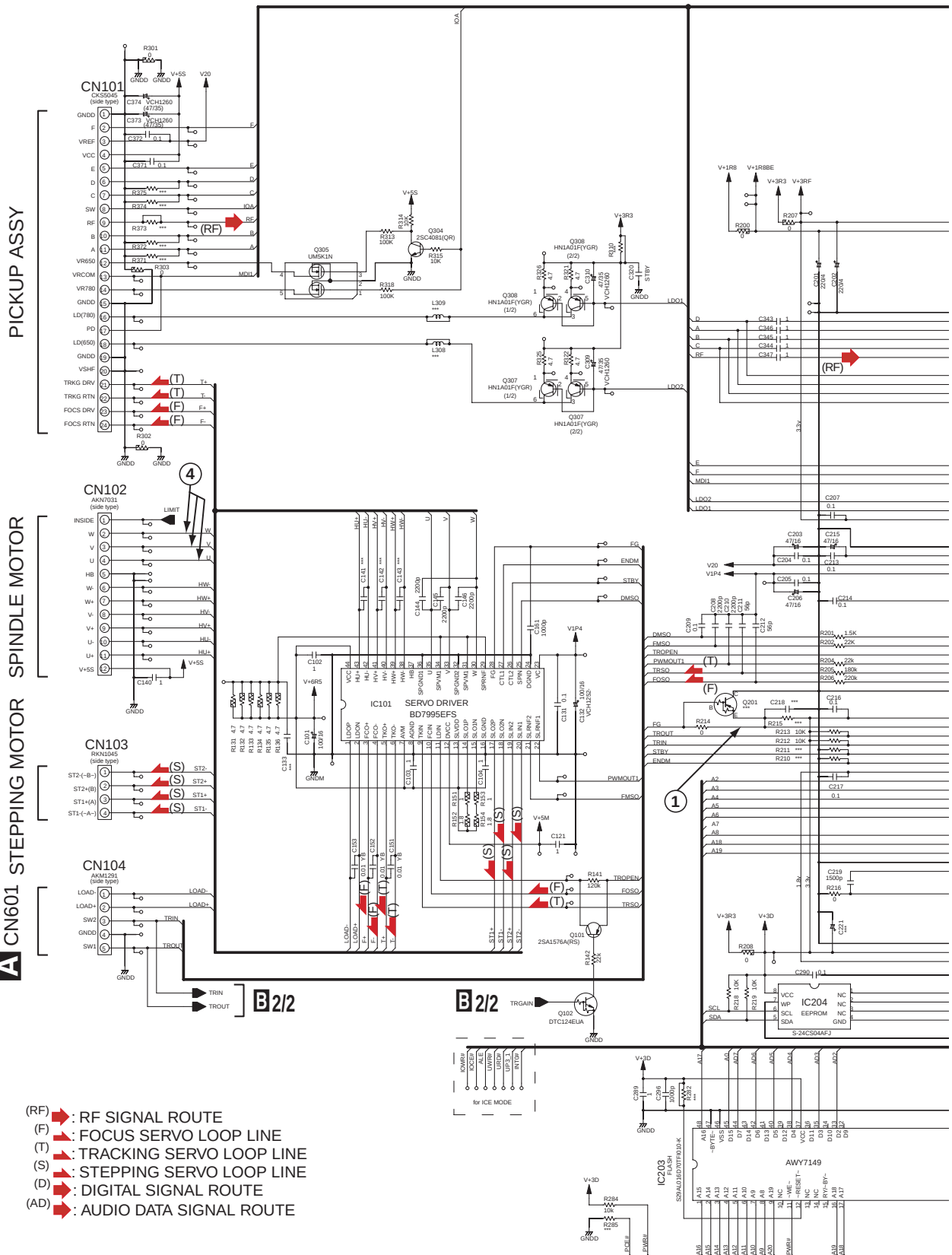


- Apply grease GYA1001 to the crosshatched area shown in the center of the picture
- Amount of grease: 2 ± 1 mg for 1 location

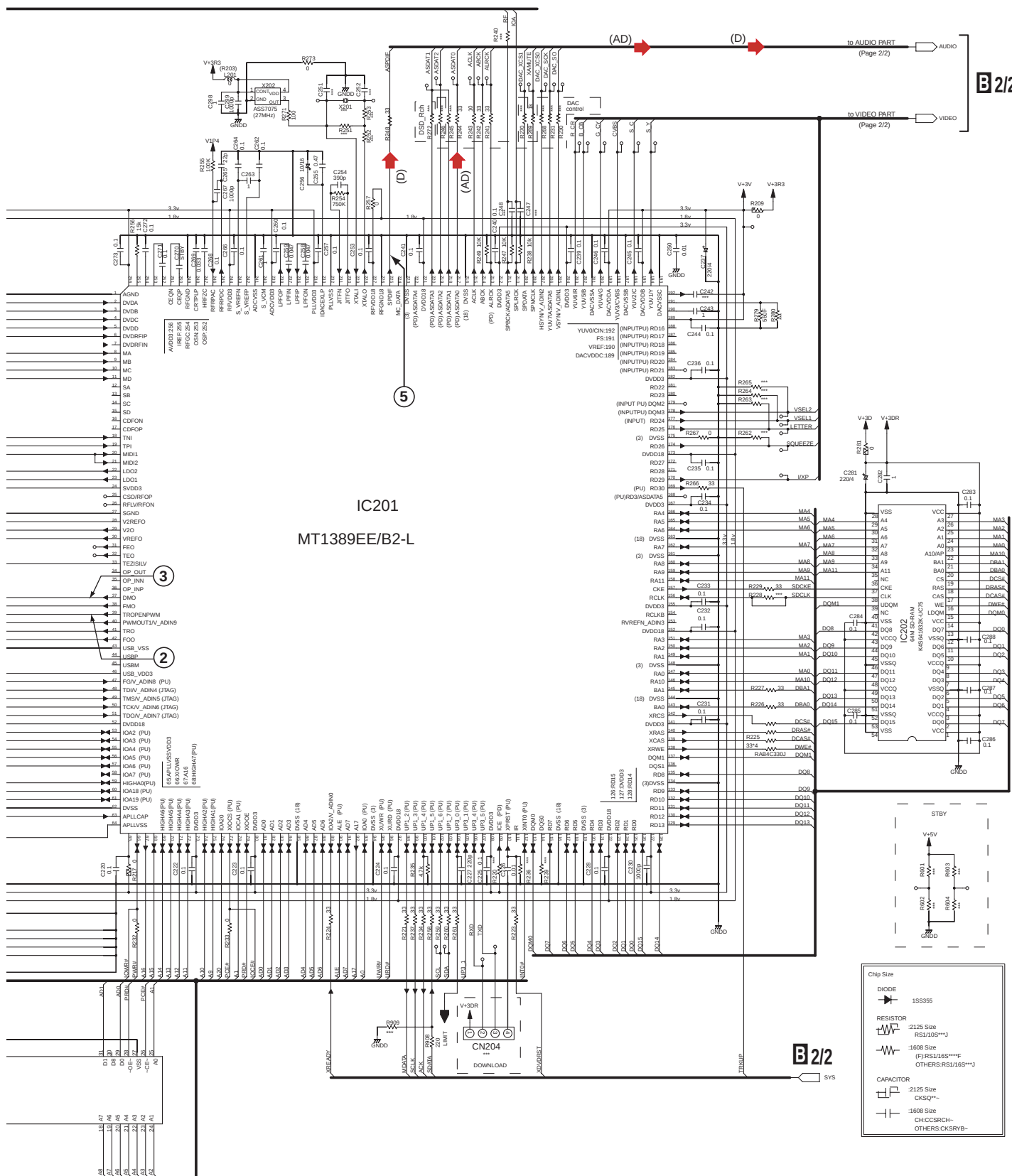
10. SCHEMATIC DIAGRAM

10.1 DVDM ASSY (1/2)

B 1/2 DVDM ASSY (AWM8099)



B 1/2



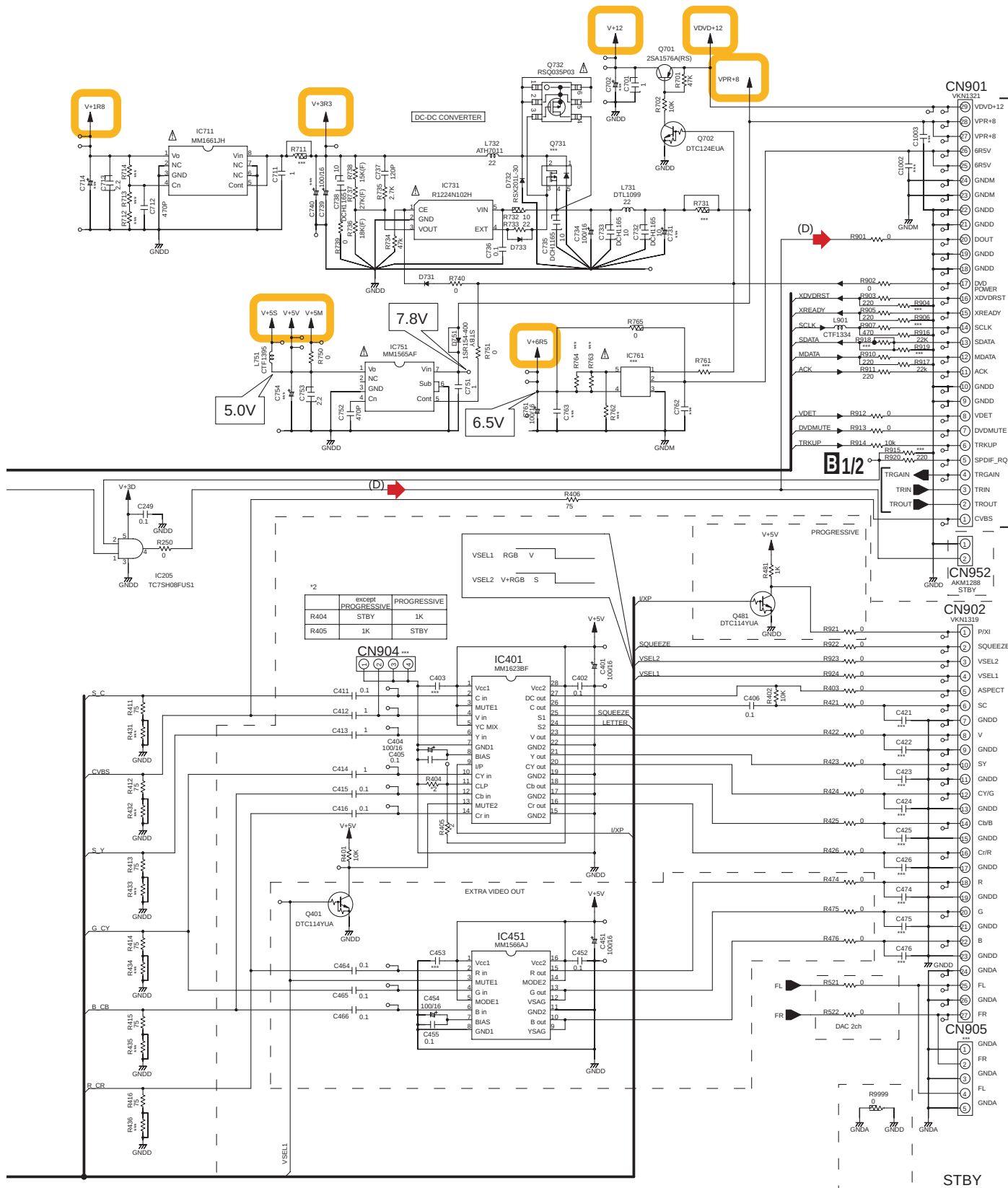
DVDM ASSY
(AWM8099)

AUDIO [redacted] from PAGE 1/2



VIDEO  from PAGE 1/2

***:parts not mounted



C13 CN5502

A

B

C

D

E

F

B 2/2

△

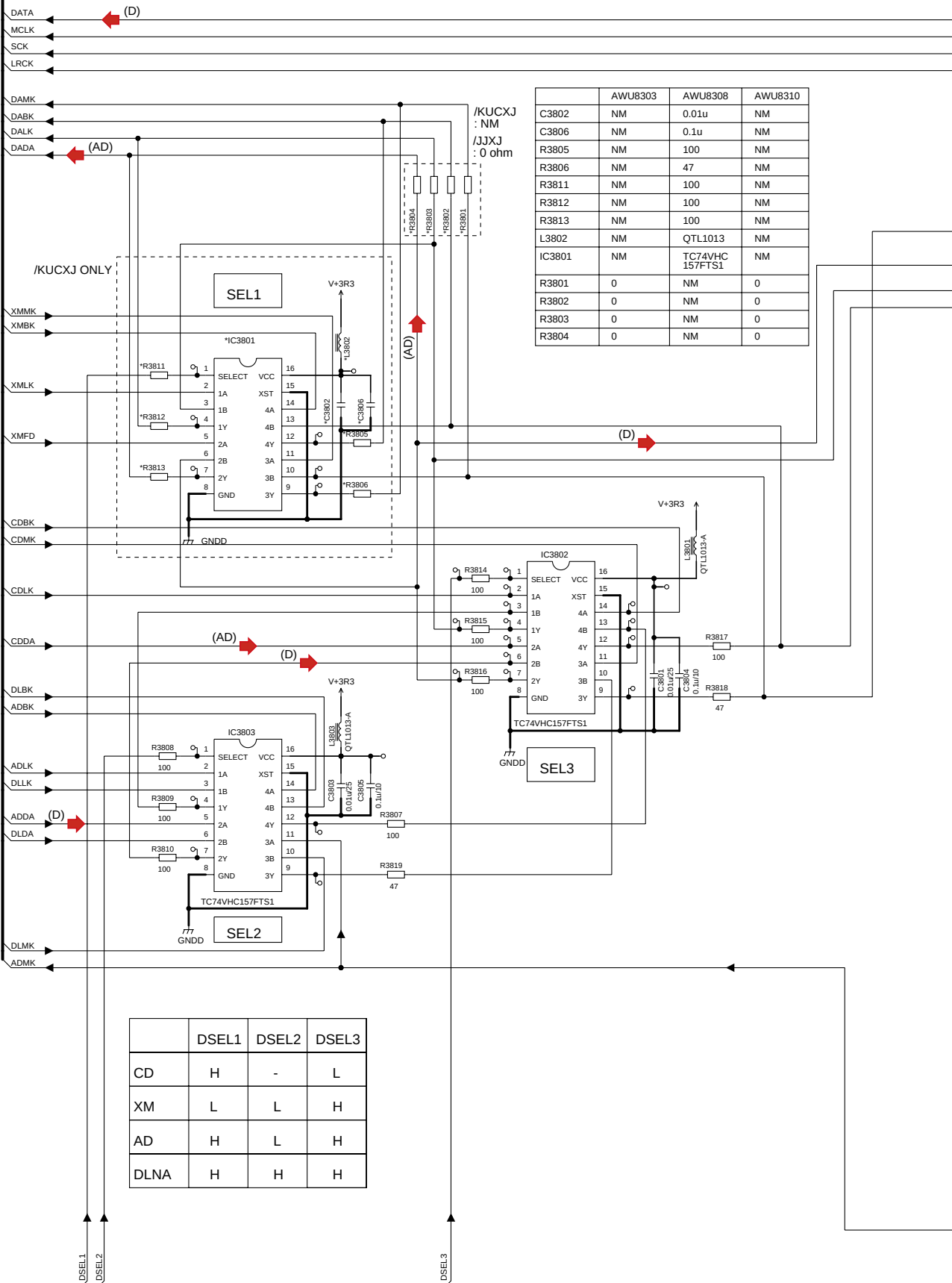




A

D.AUDIO

C 1/3, 3/3



	AWU8303	AWU8308	AWU8310
C3802	NM	0.01u	NM
C3806	NM	0.1u	NM
R3805	NM	100	NM
R3806	NM	47	NM
R3811	NM	100	NM
R3812	NM	100	NM
R3813	NM	100	NM
L3802	NM	QTL1013	NM
IC3801	NM	TC74VHC 157FST1	NM
R3801	0	NM	0
R3802	0	NM	0
R3803	0	NM	0
R3804	0	NM	0

	DSEL1	DSEL2	DSEL3
CD	H	-	L
XM	L	L	H
AD	H	L	H
DLNA	H	H	H

F

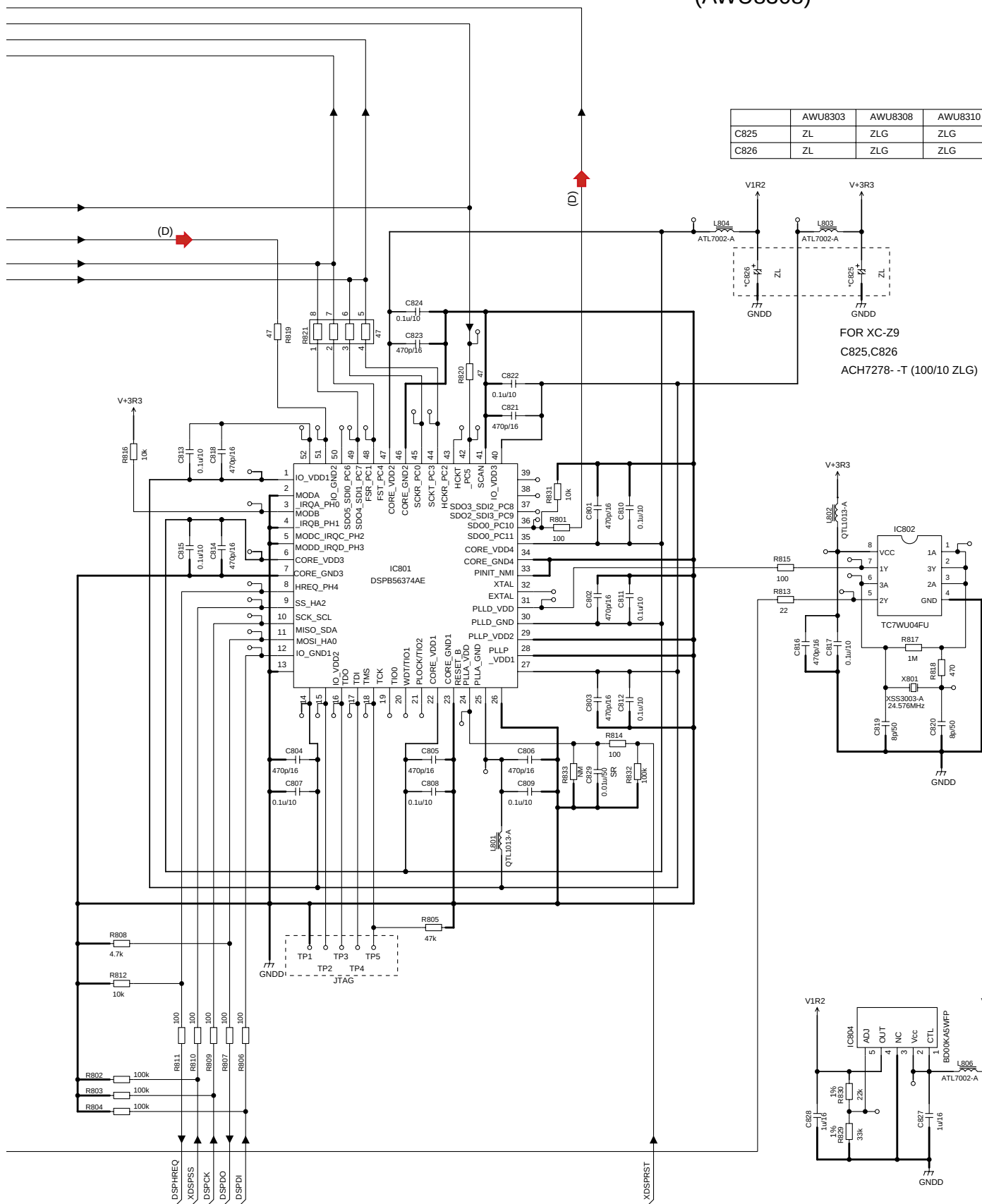
C_{1/3}

LICOM

C_{2/3}

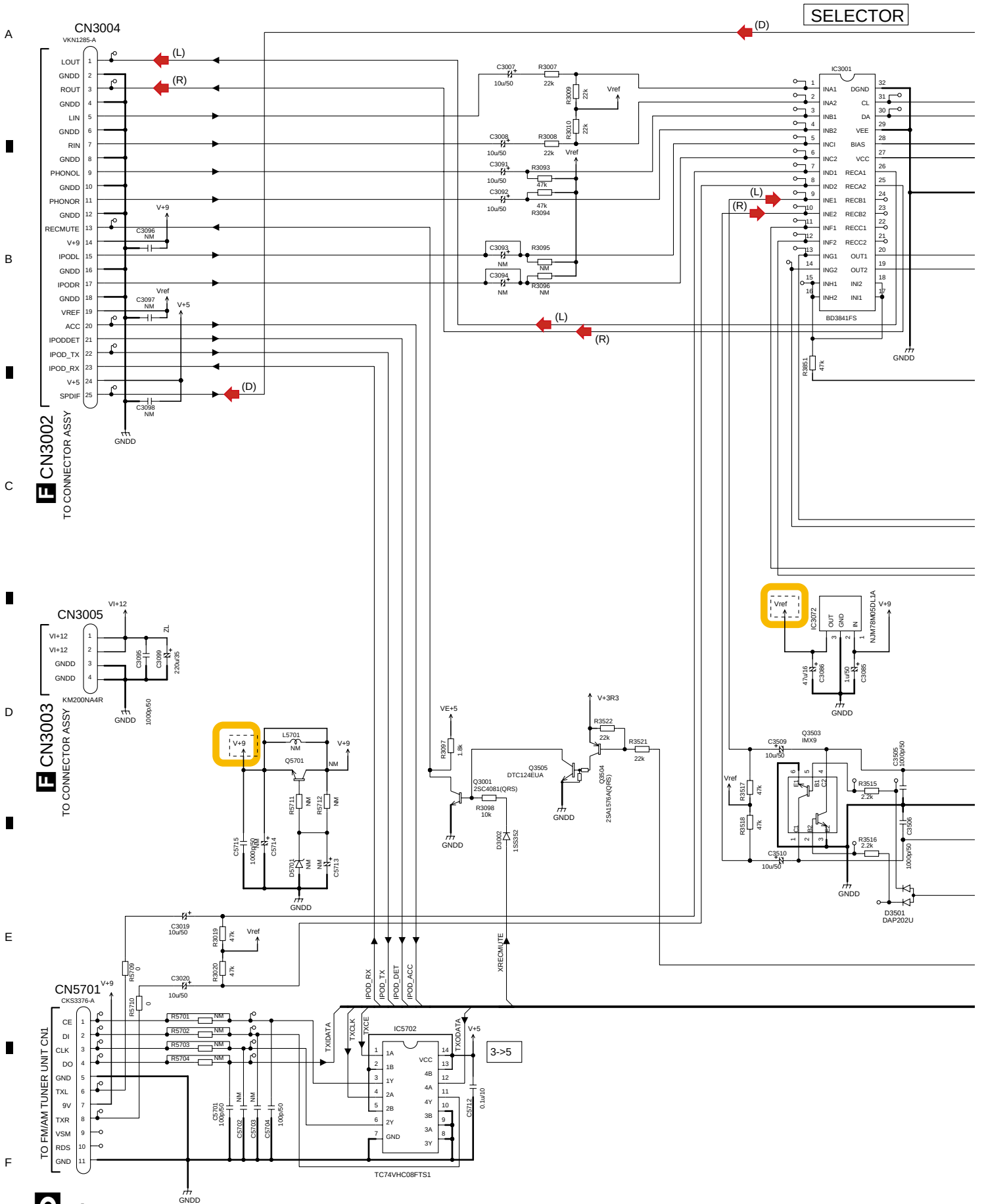
C2/3 MAIN ASSY (2/3) (AWU8308)

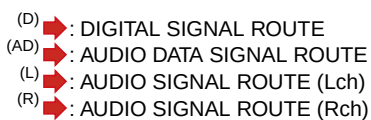
	AWU8303	AWU8308	AWU8310
C825	ZL	ZLG	ZLG
C826	ZL	ZLG	ZLG



(D) ➔ : DIGITAL SIGNAL ROUTE
(AD) ➔ : AUDIO DATA SIGNAL ROUTE

10.5 MAIN ASSY (3/3)



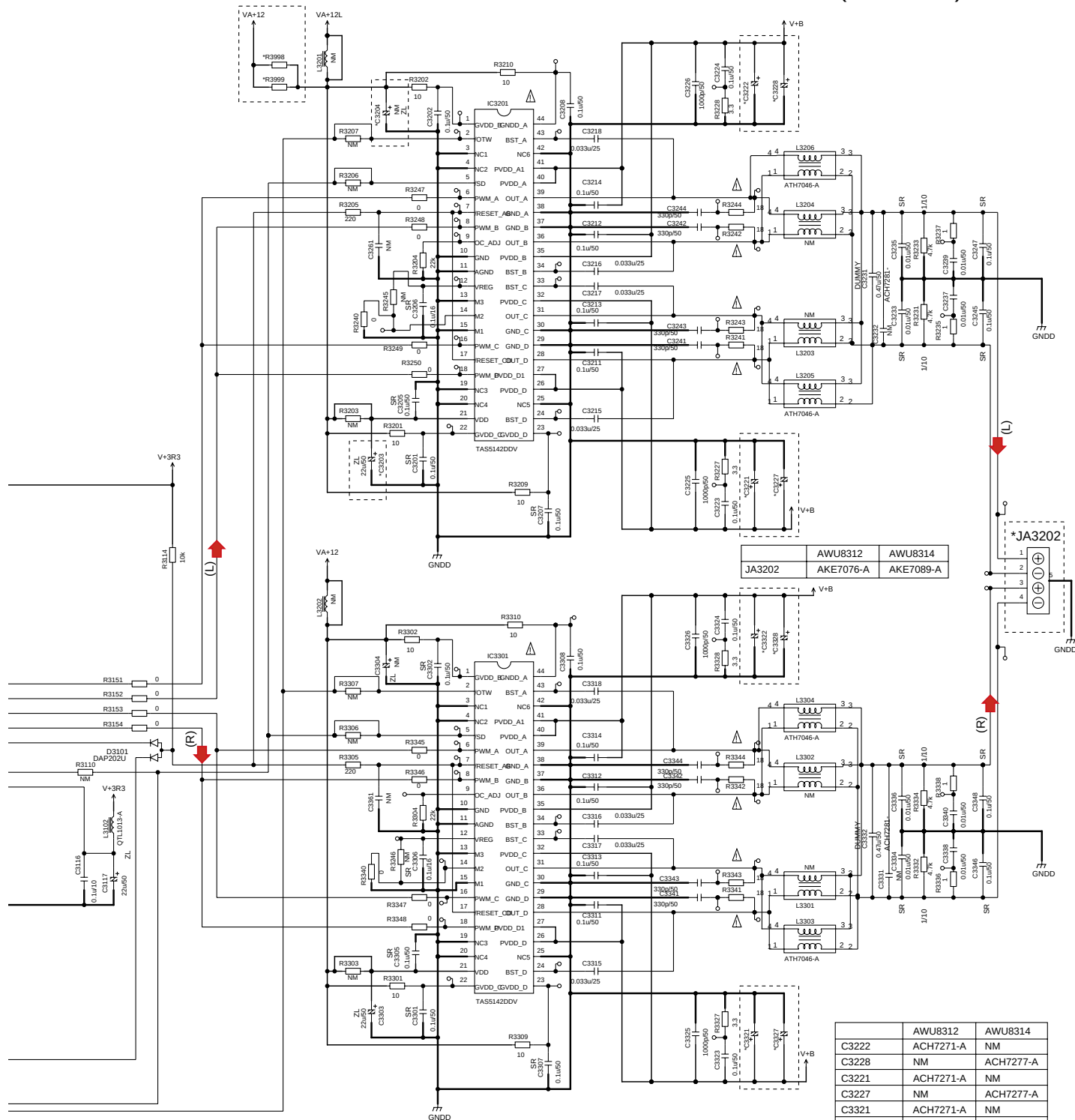


4



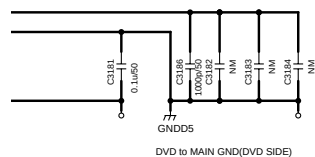
	AWU8312	AWU8314
R3998	0	NM
R3999	0	NM

D AMP ASSY (AWU8314)



	AWU8312	AWU8314
JA3202	AKE7076-A	AKE7089-A

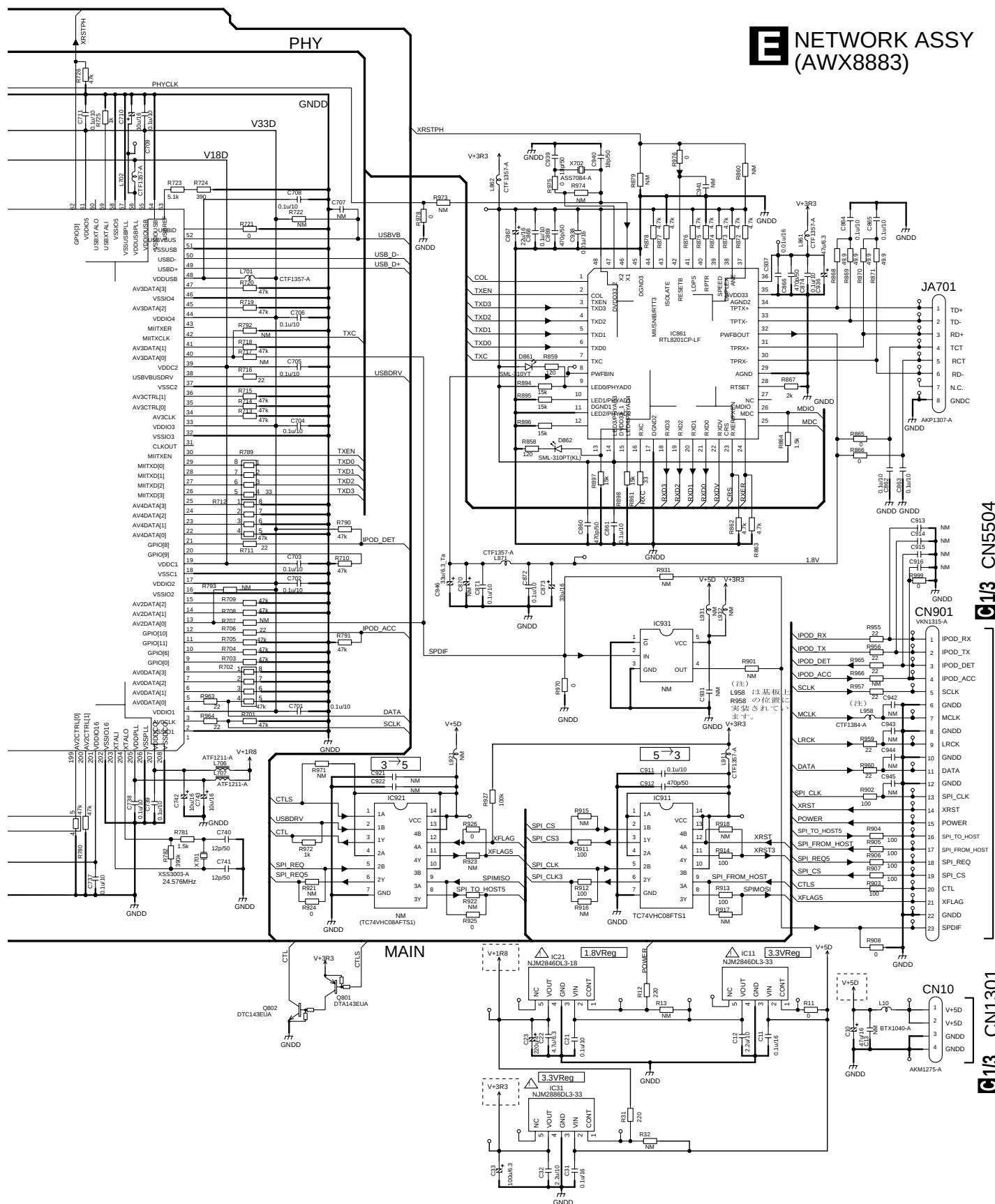
	AWU8312	AWU8314
C3222	ACH7271-A	NM
C3228	NM	ACH7277-A
C3221	ACH7271-A	NM
C3227	NM	ACH7277-A
C3321	ACH7271-A	NM
C3327	NM	ACH7277-A
C3322	ACH7271-A	NM
C3328	NM	ACH7277-A



- (D) ➡ : DIGITAL SIGNAL ROUTE
- (AD) ➡ : AUDIO DATA SIGNAL ROUTE
- (L) ➡ : AUDIO SIGNAL ROUTE (Lch)
- (R) ➡ : AUDIO SIGNAL ROUTE (Rch)

4

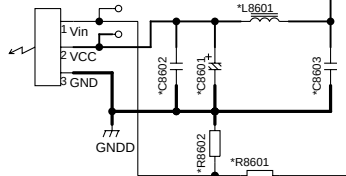




10.8 CONNECTOR ASSY

DOUT
Except /KU

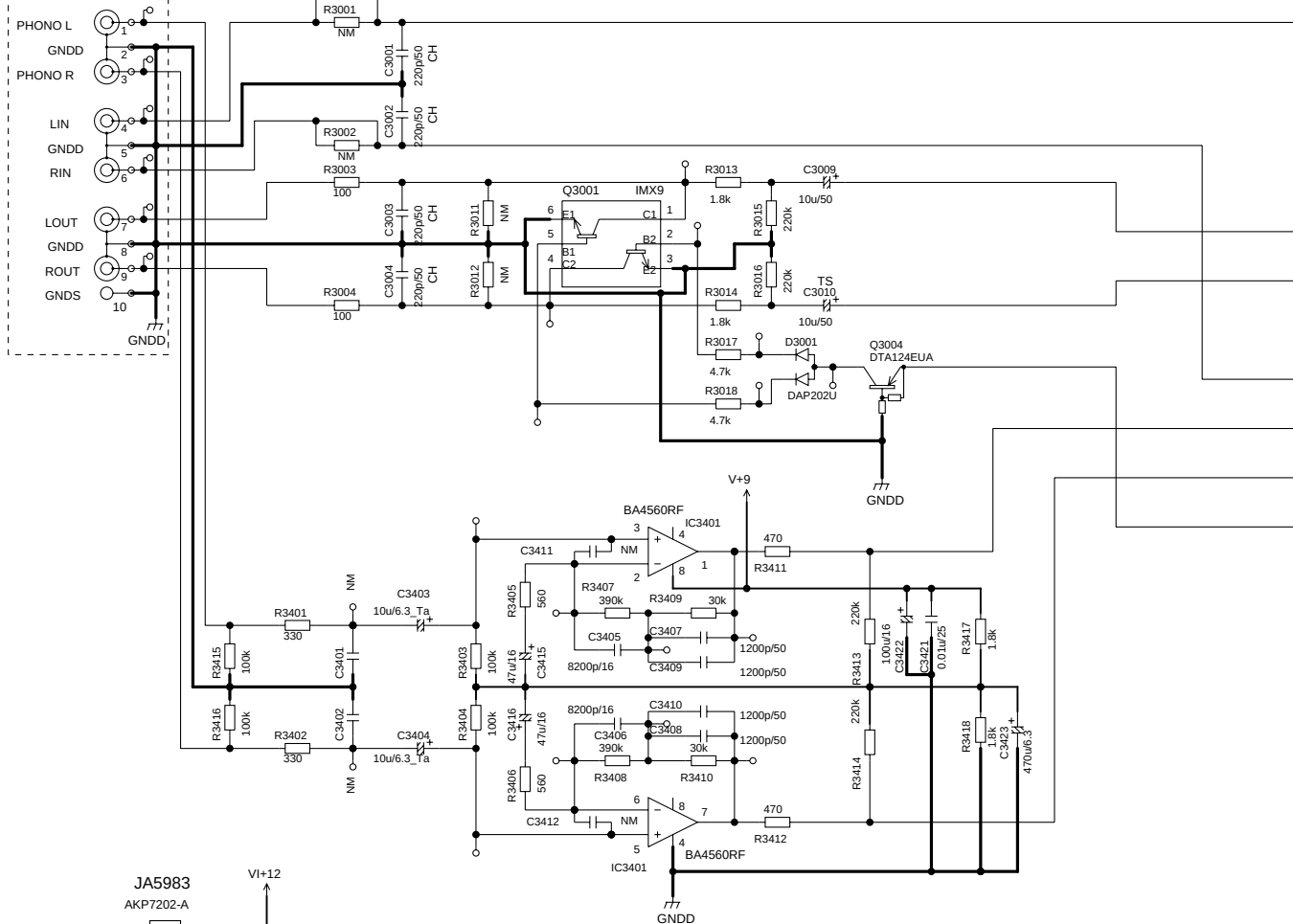
*JA8601



F CONNECTOR ASSY
(AWU8315)

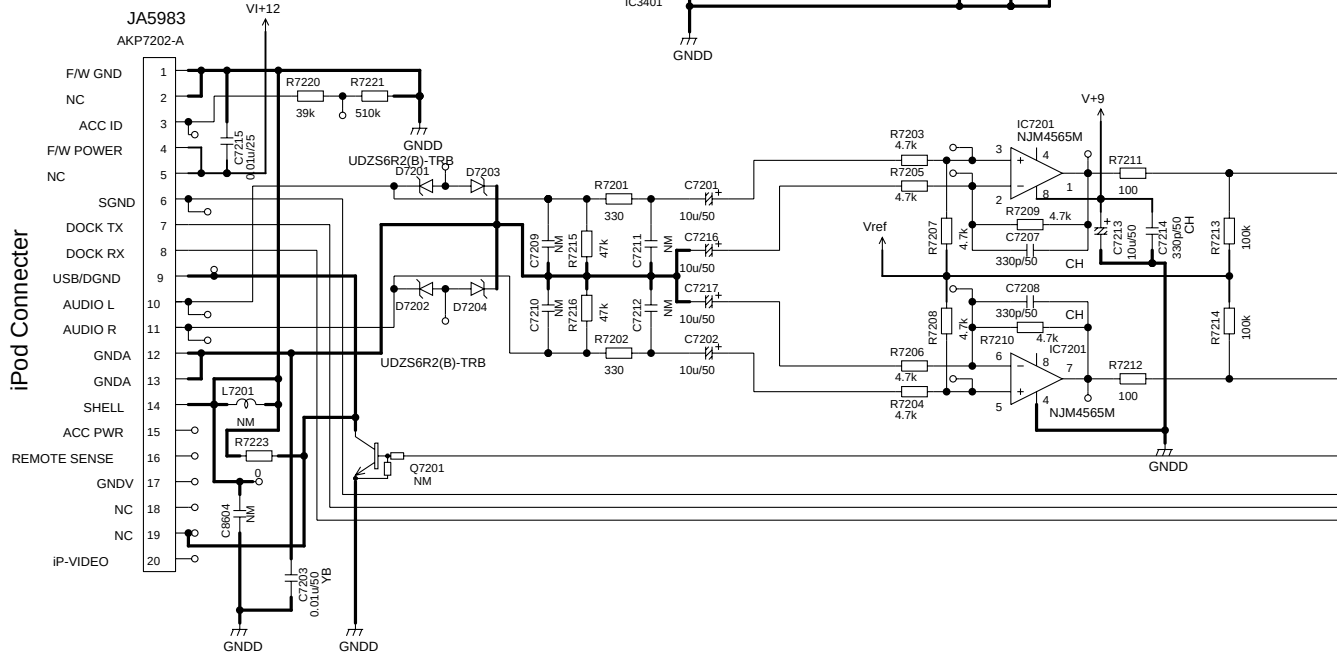
(D)

*JA3001

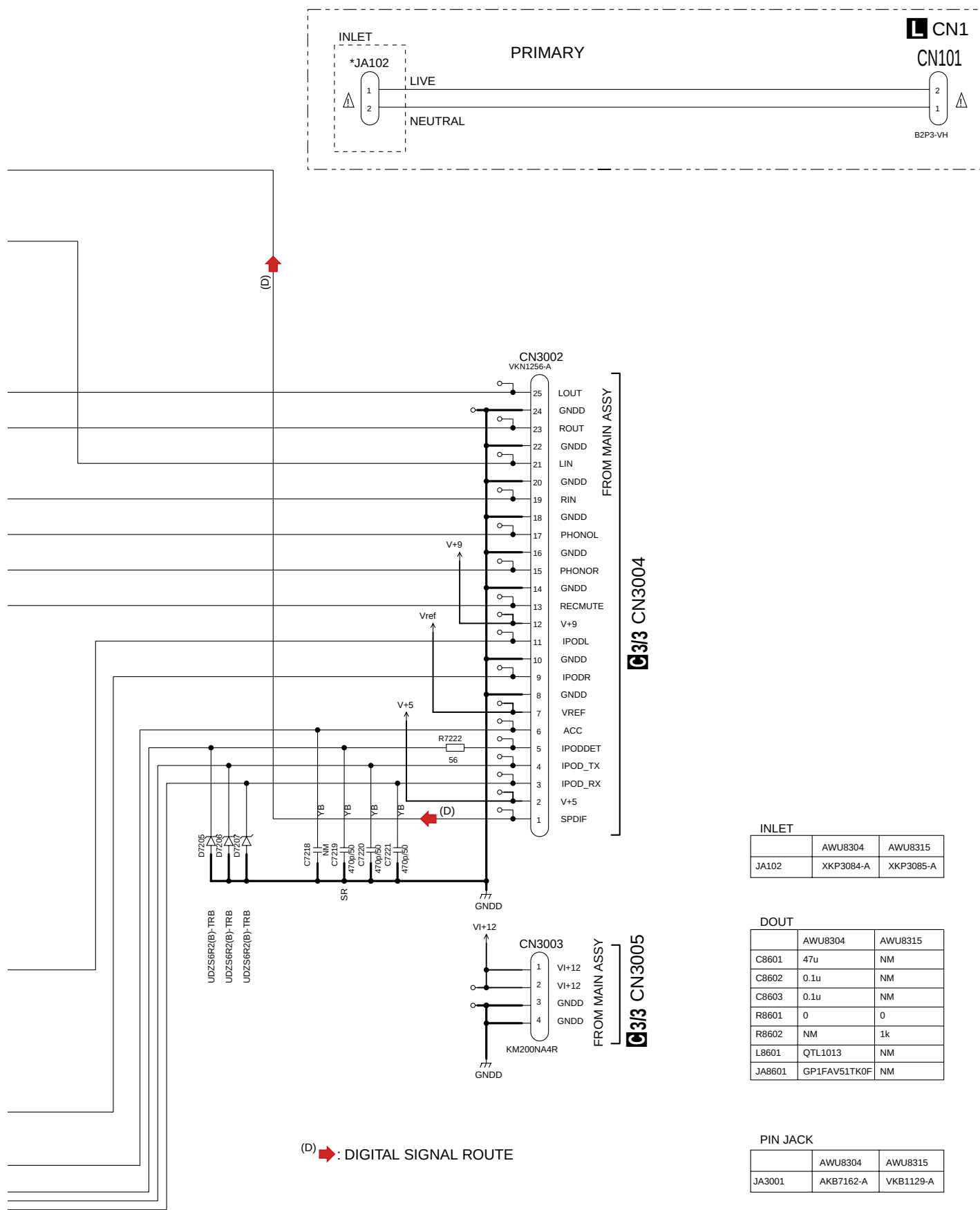


JA5983
AKP7202-A

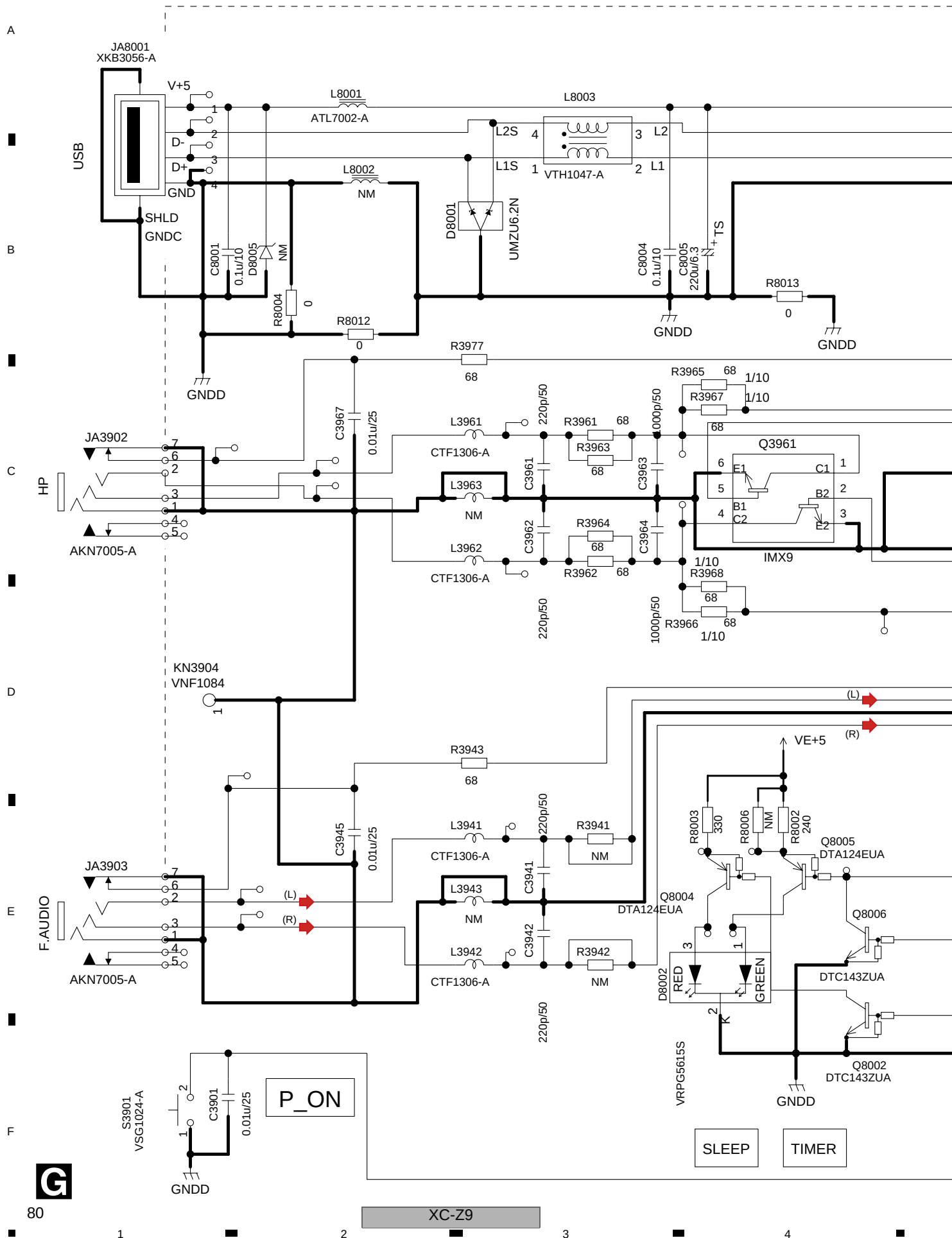
iPod Connector



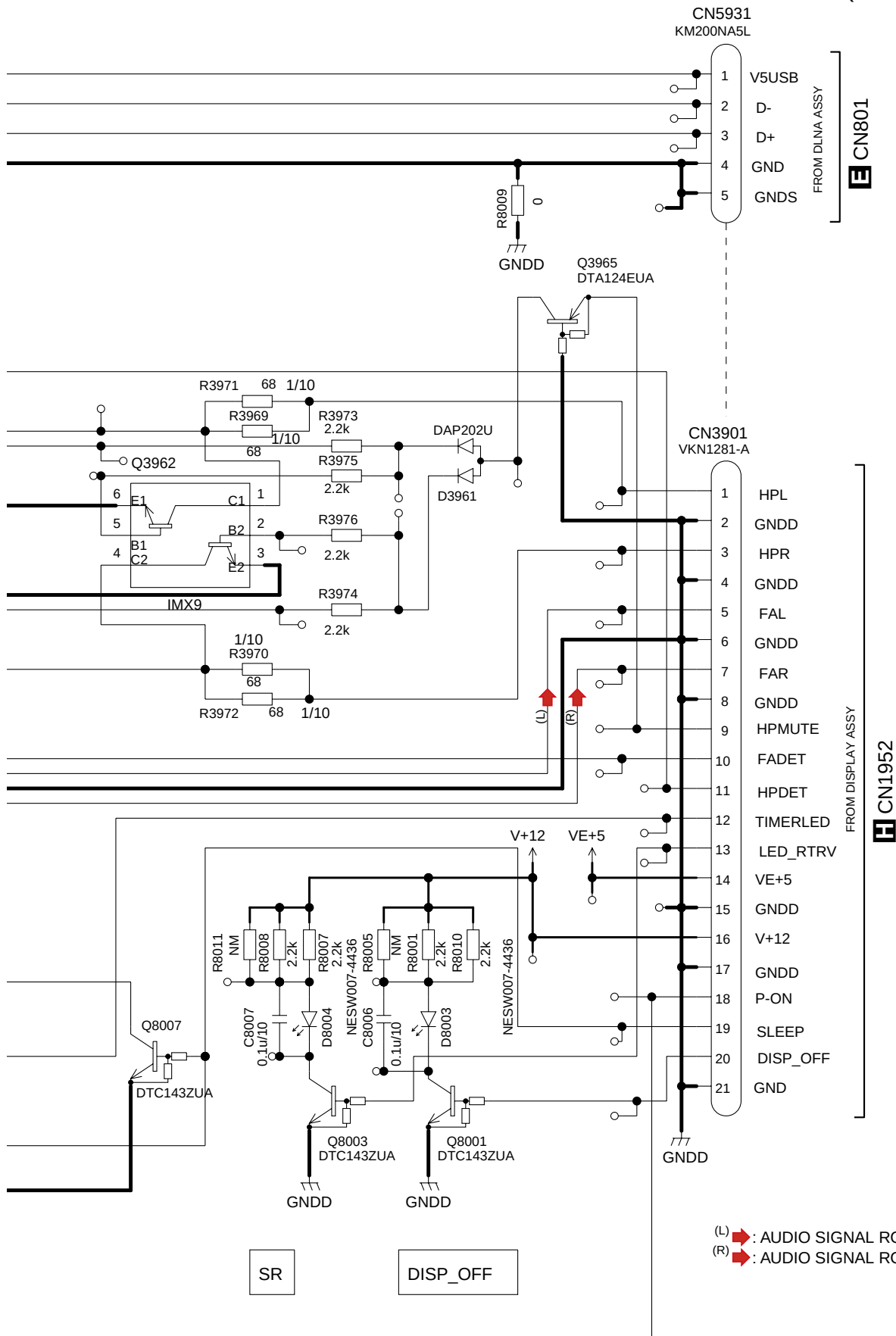
XC-Z9



10.9 FRONT ASSY



FRONT ASSY (AWU8305)



A

B

C

D

E

F

△

B



A



0
0
=
0
0

C

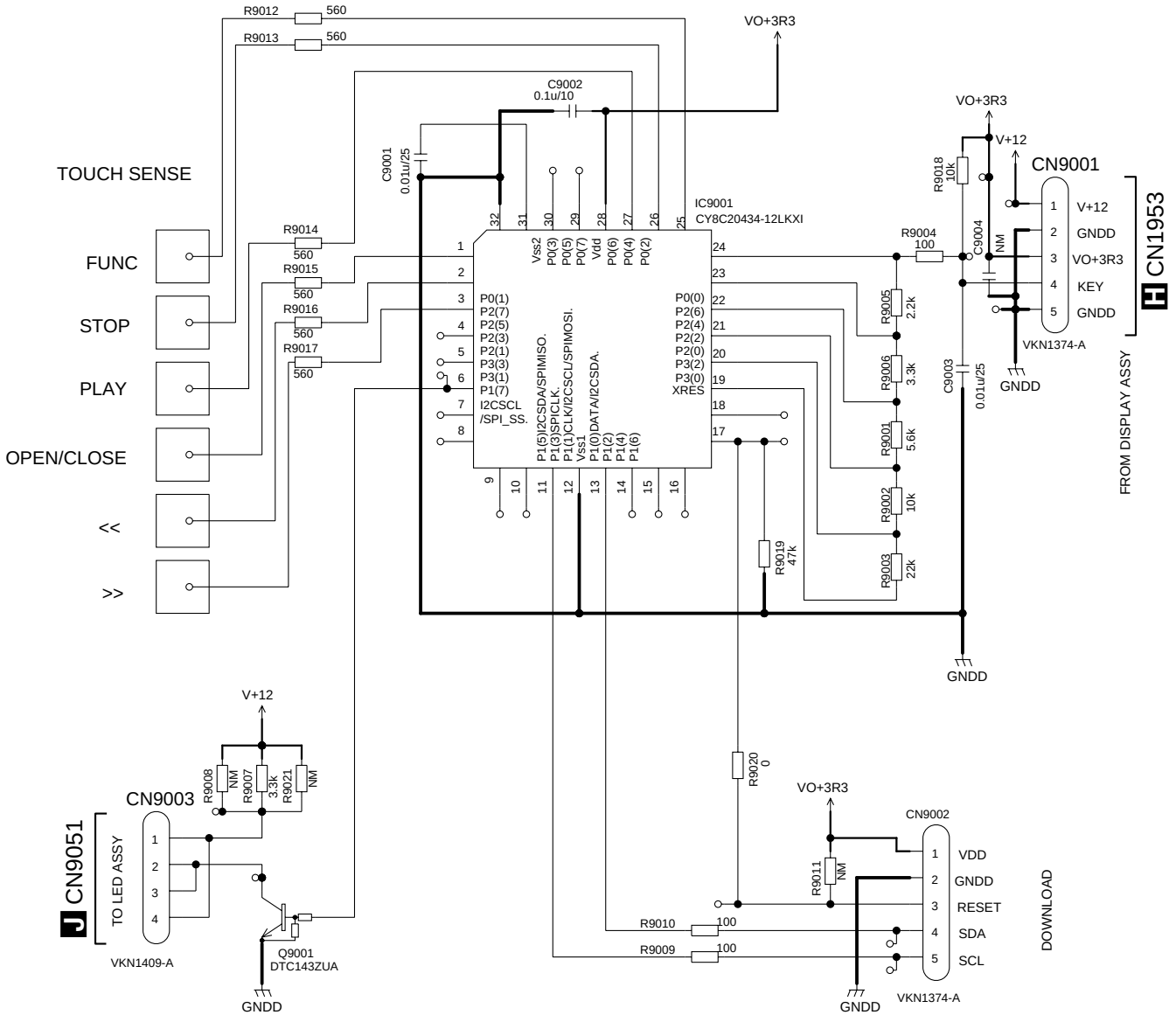
□

E

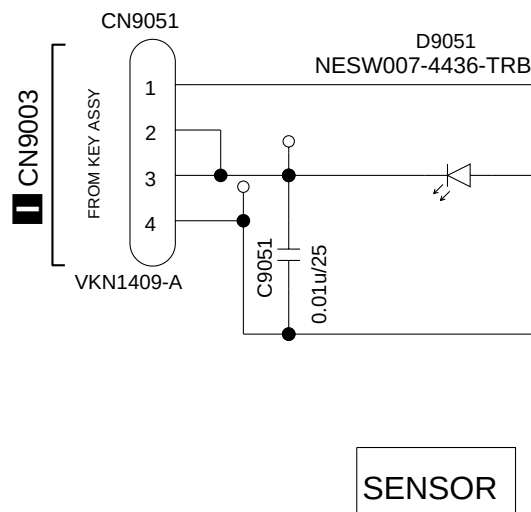
1

10.11 KEY ASSY

KEY ASSY
(AWU8307)



J LED ASSY
(AWU8316)



SENSOR

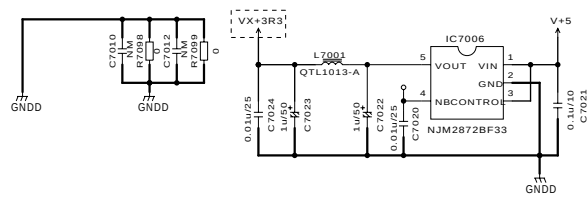
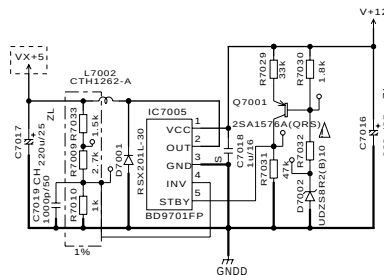
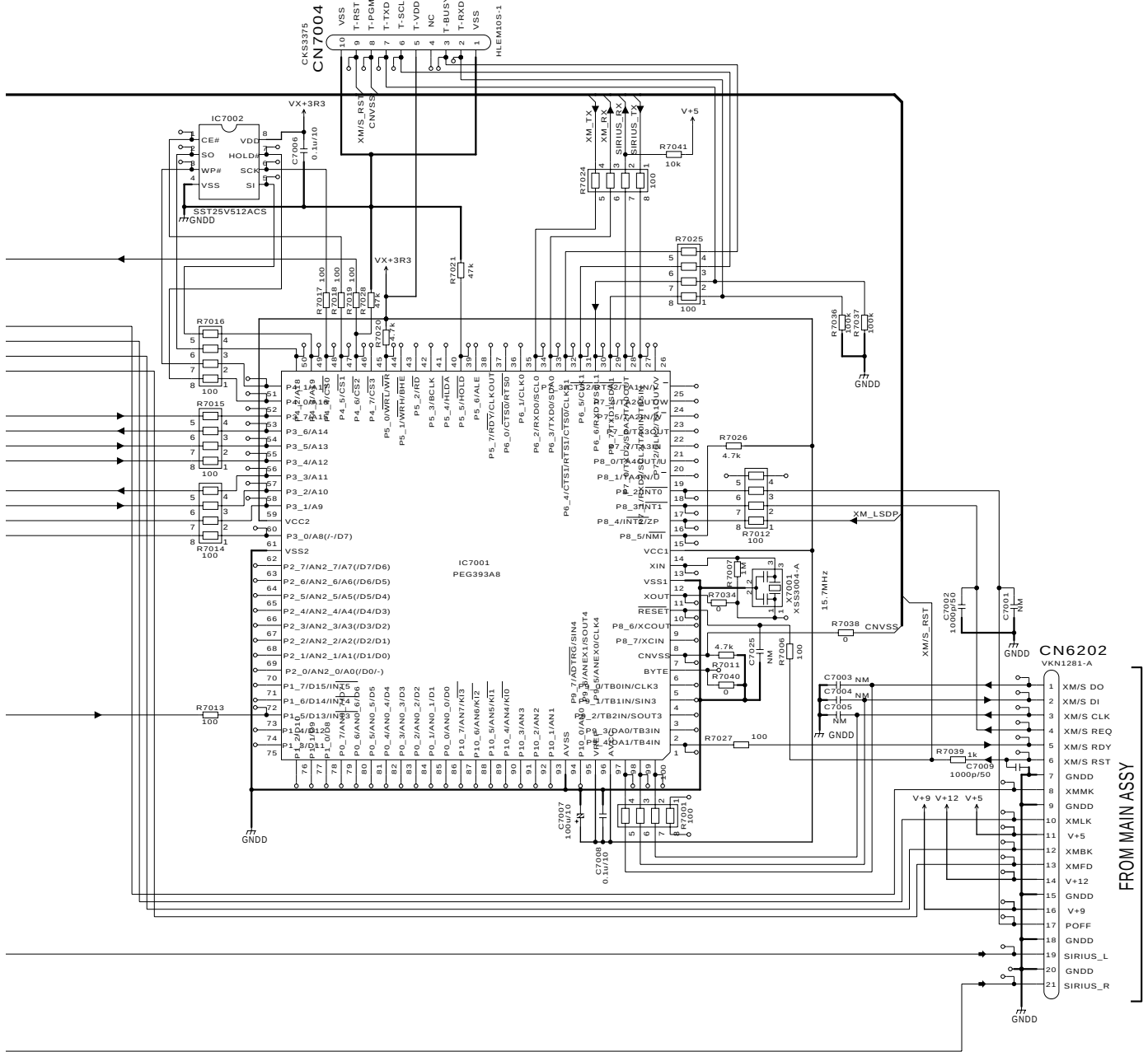
4

F



K XM/SIRIUS ASSY (AWU8309)

FOR DOWNLOAD



10.14 POWER SUPPLY UNIT



MPN5902

A

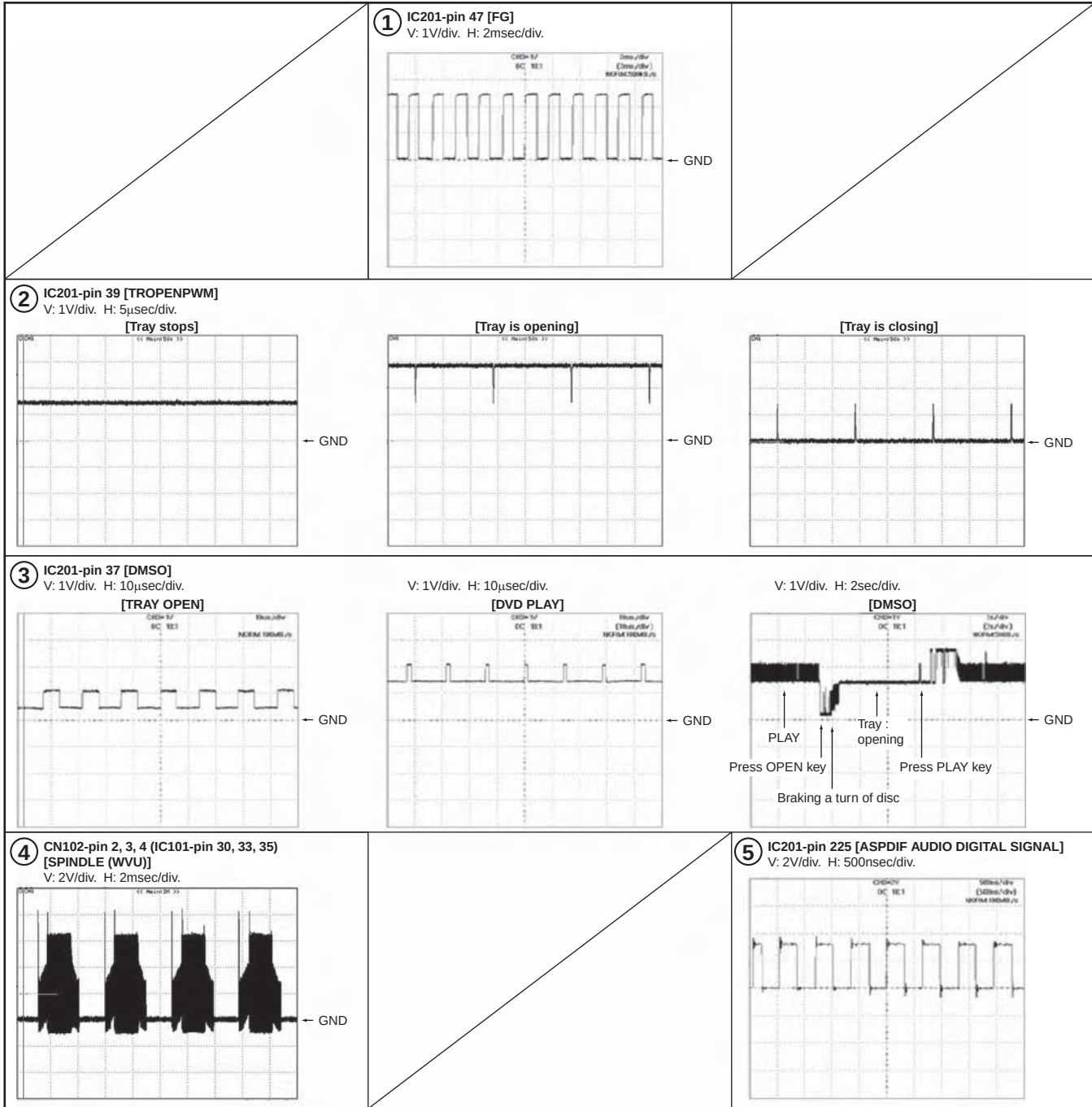


10.15 WAVEFORMS

Note : The encircled numbers denote measuring point in the schematic diagram.

B DVDM ASSY

Measurement condition ; No. 1 to 10 : reference A1 (DVD), T2-chp 19, Color-bar
No. 11 to 14 : reference A1 (DVD), T1



5678

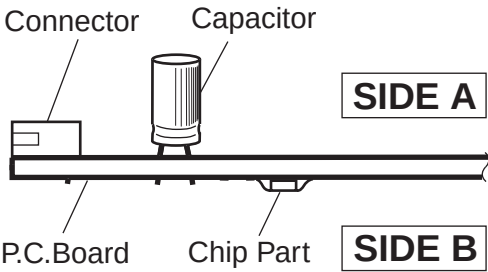
11. PCB CONNECTION DIAGRAM

NOTE FOR PCB DIAGRAMS :

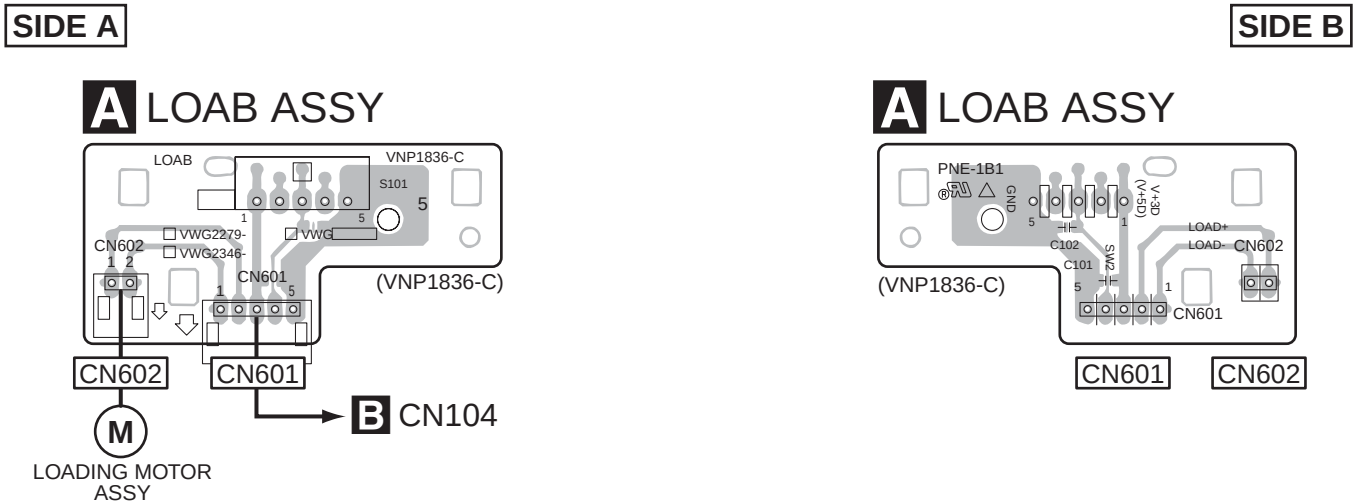
1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

Symbol In PCB Diagrams	Symbol In Schematic Diagrams	Part Name
		Transistor
		Transistor with resistor
		Field effect transistor
		Resistor array
		3-terminal regulator

3. The parts mounted on this PCB include all necessary parts for several destinations.
- For further information for respective destinations, be sure to check with the schematic diagram.
4. View point of PCB diagrams.



11.1 LOAB ASSY

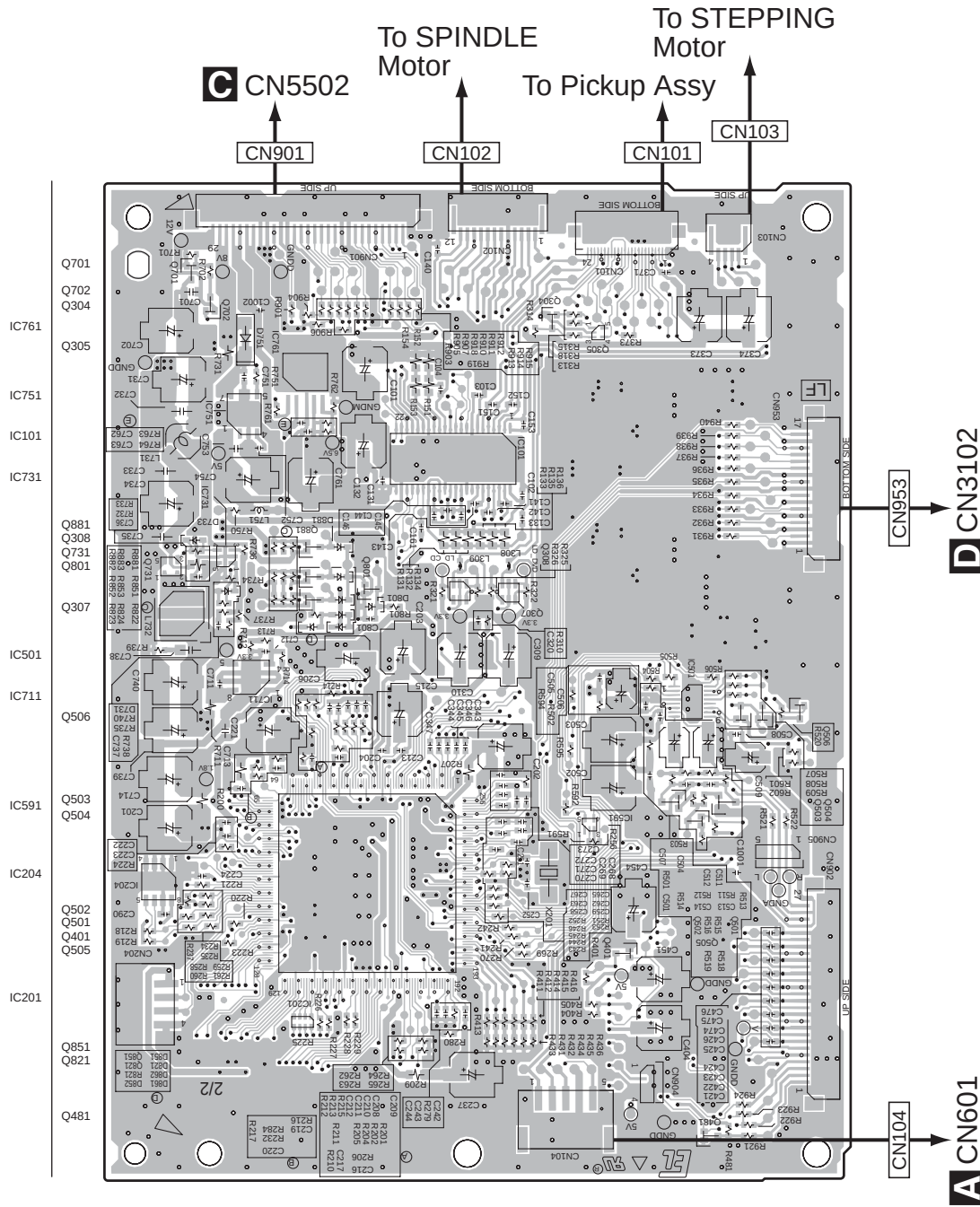


11.2 DVDM ASSY

SIDE A

SIDE A

DVDM ASSY

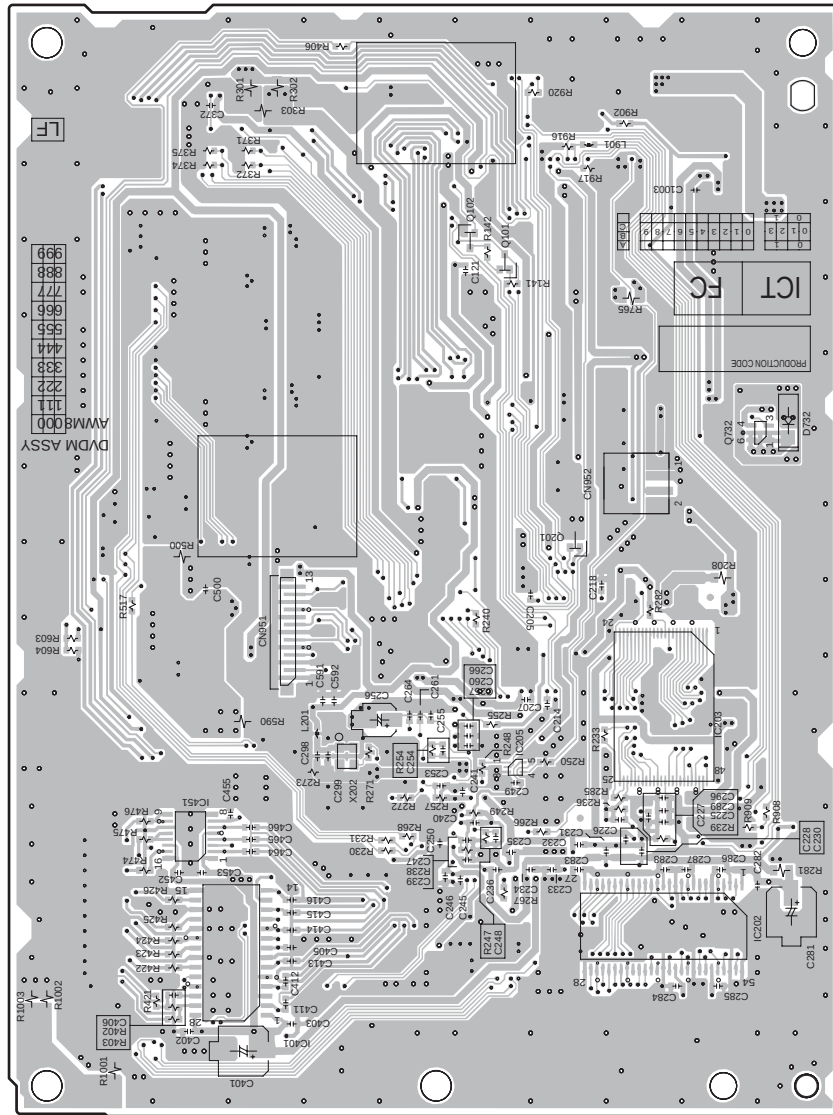


(ANP7583-A)

SIDE B

SIDE B

B DVDM ASSY



(ANP7583-A)

B

B

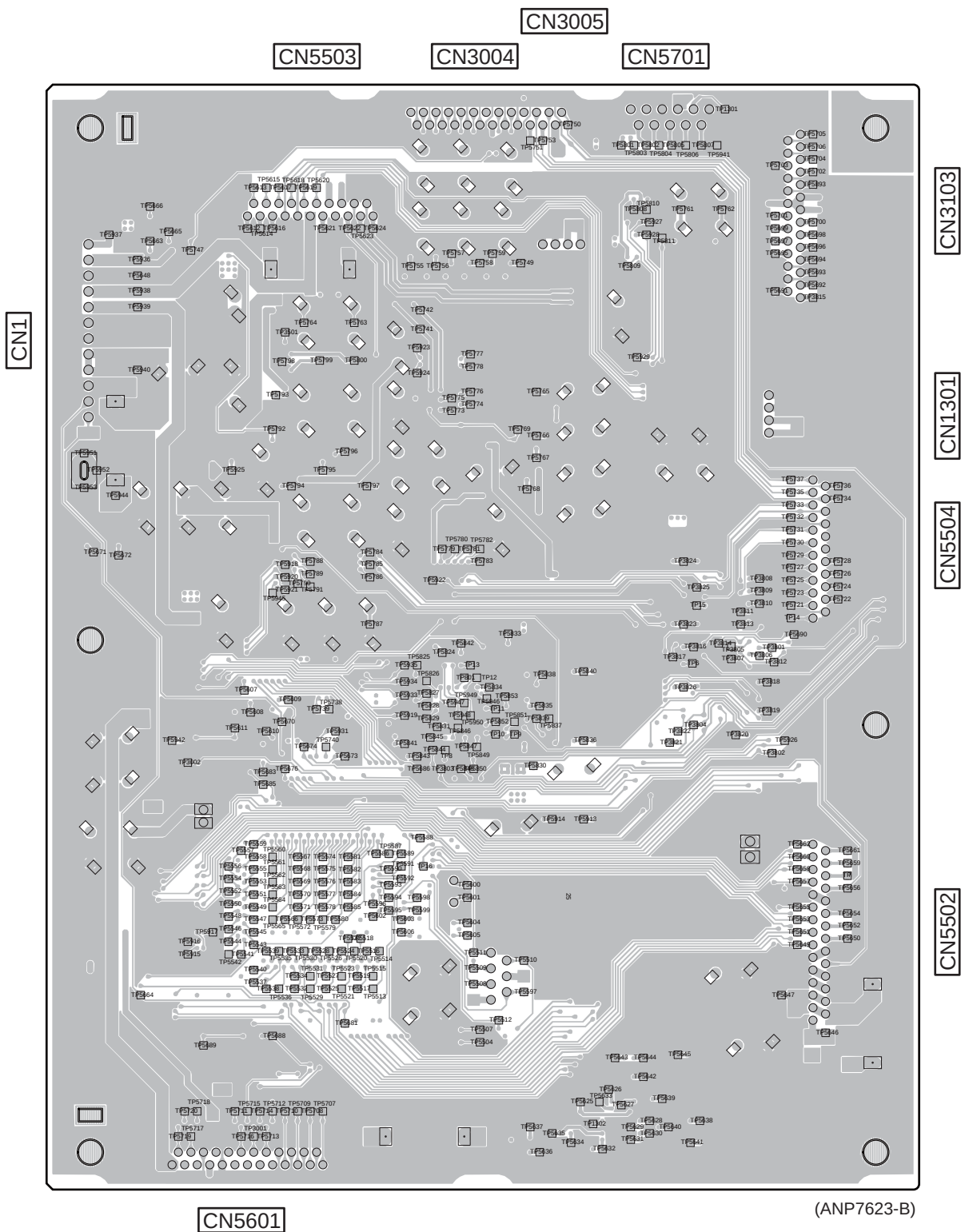
•

4

SIDE B

SIDE B

C MAIN ASSY



(ANP7623-B)

C

C

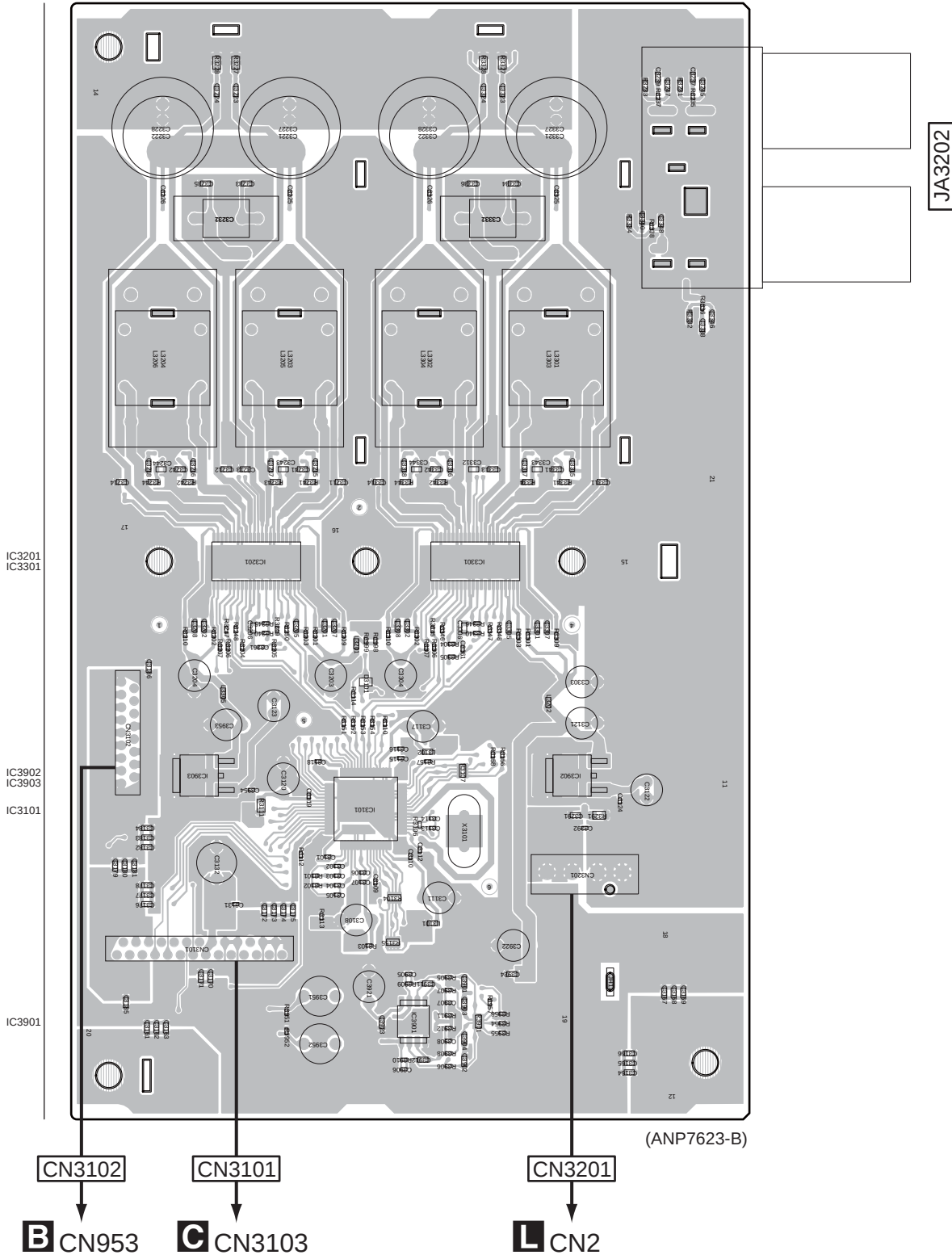
XC-Z9

11.4 AMP ASSY

SIDE A

SIDE A

D AMP ASSY



D

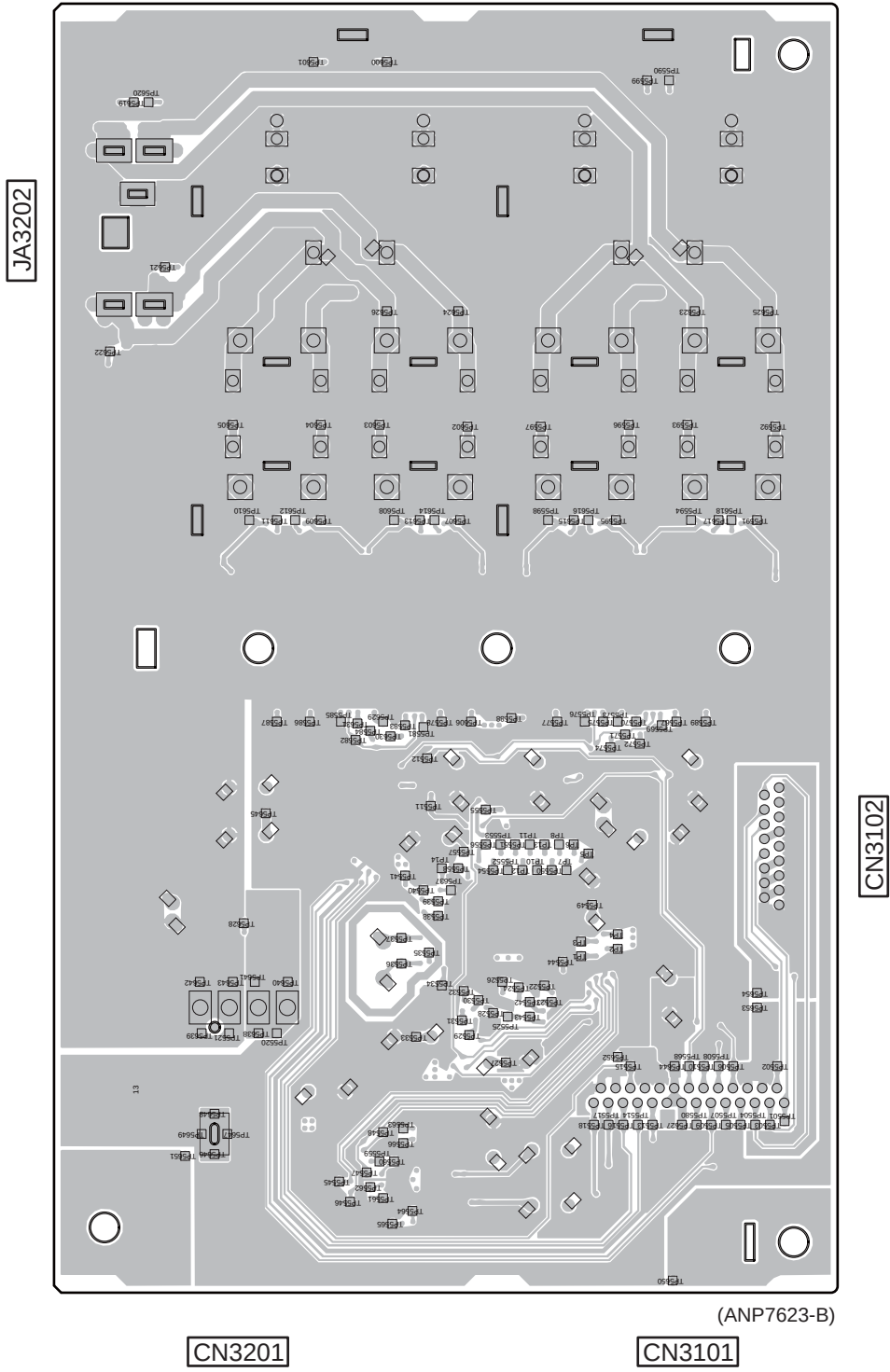
D

XC-Z9

SIDE B

SIDE B

D AMP ASSY



D

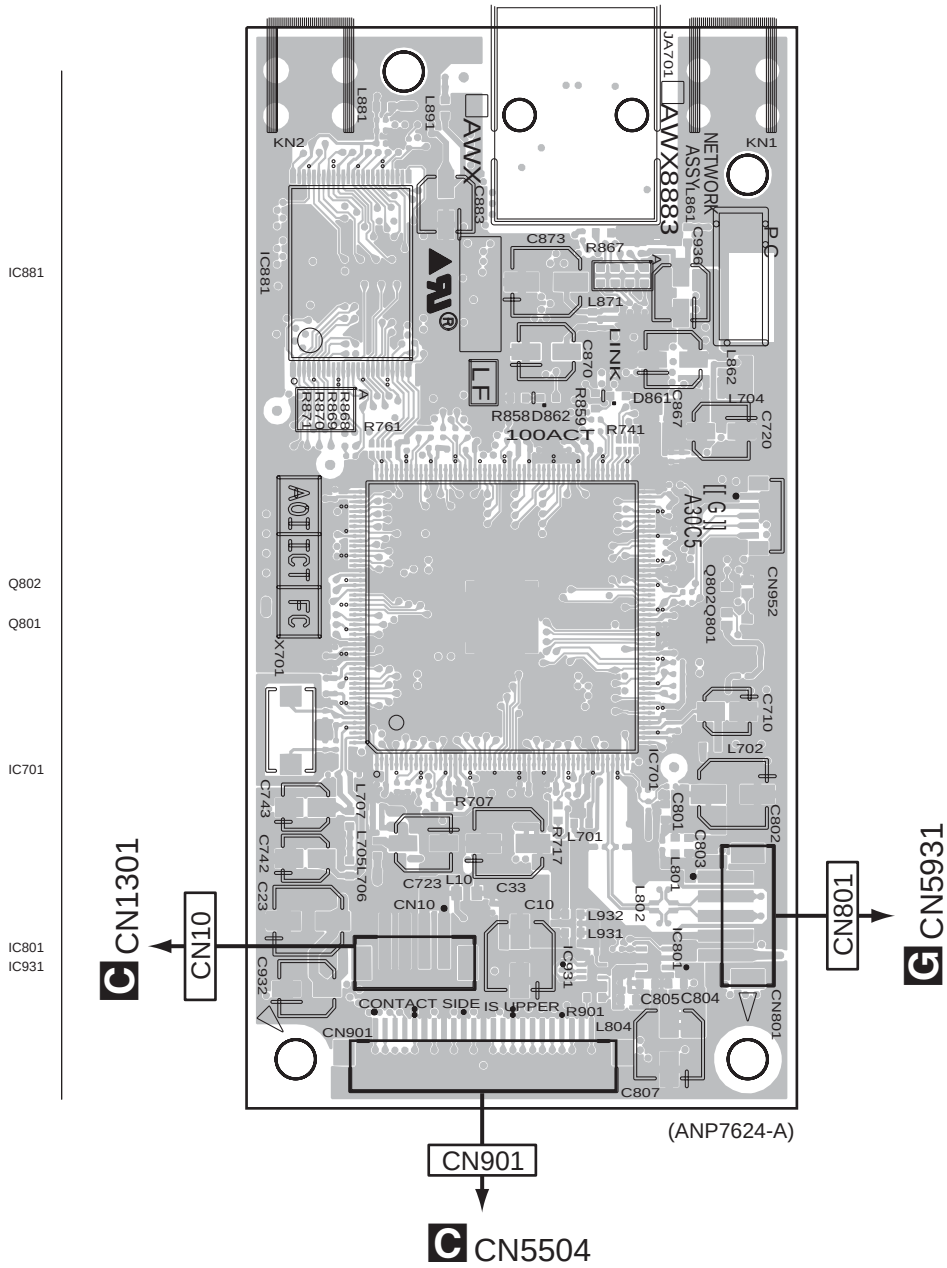
D

11.5 NETWORK ASSY

SIDE A

SIDE A

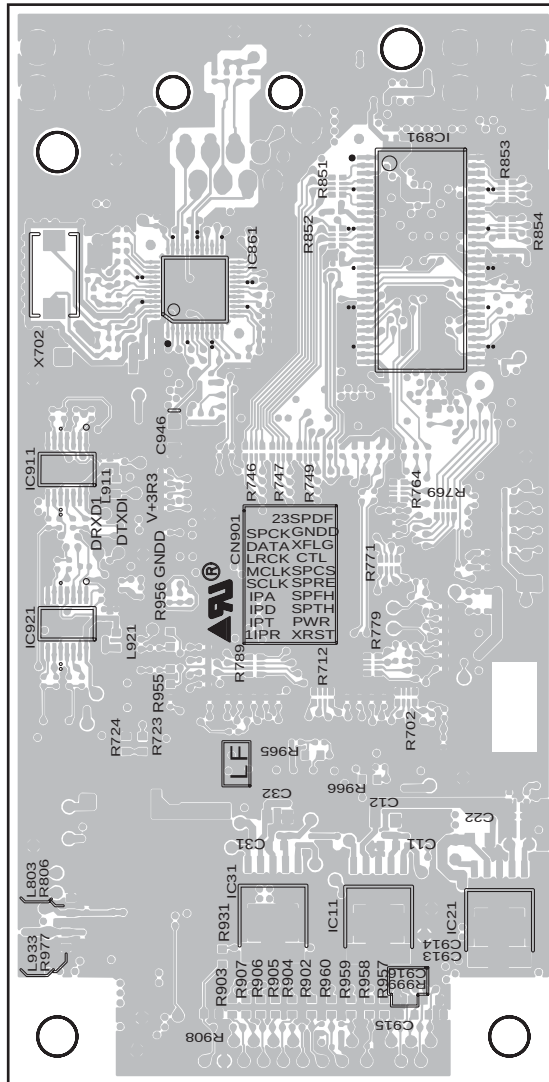
NETWORK ASSY



SIDE B

SIDE B

E NETWORK ASSY



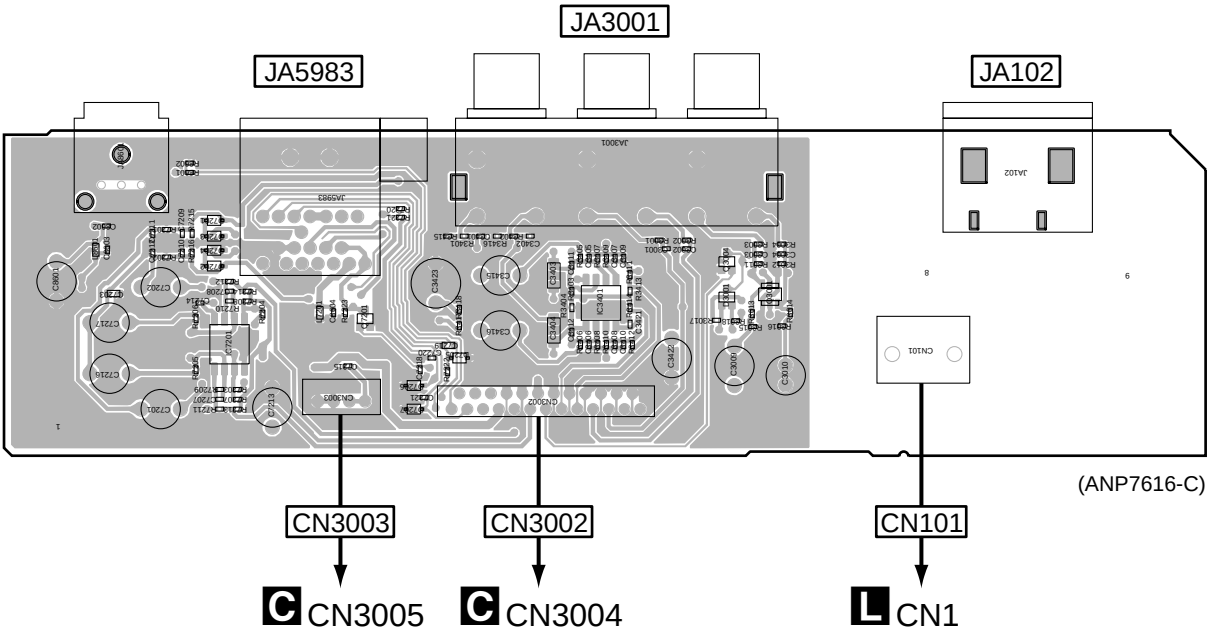
(ANP7624-A)

11.6 CONNECTOR ASSY

SIDE A

SIDE A

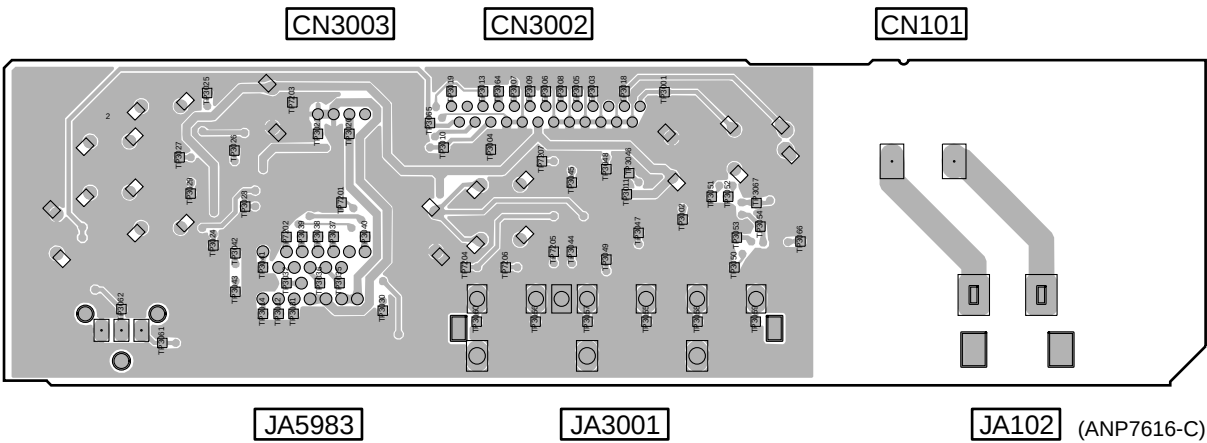
F CONNECTOR ASSY



SIDE B

SIDE B

F CONNECTOR ASSY



F

F

■ 5 ■ 6 ■ 7 ■ 8 ■

A



C



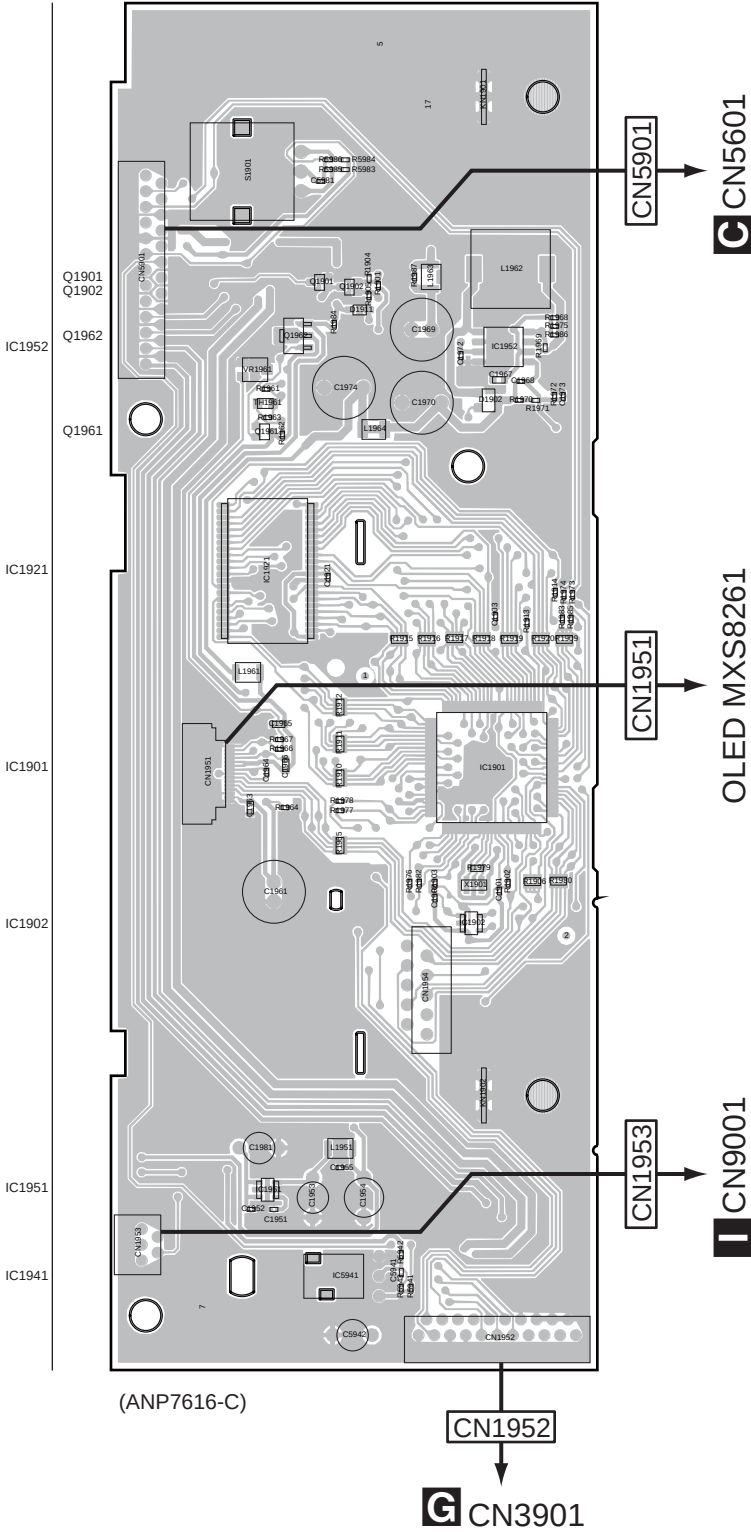
F

11.8 DISPLAY ASSY

SIDE A

SIDE A

H DISPLAY ASSY



H

H

XC-Z9

11.9 KEY and LED ASSYS

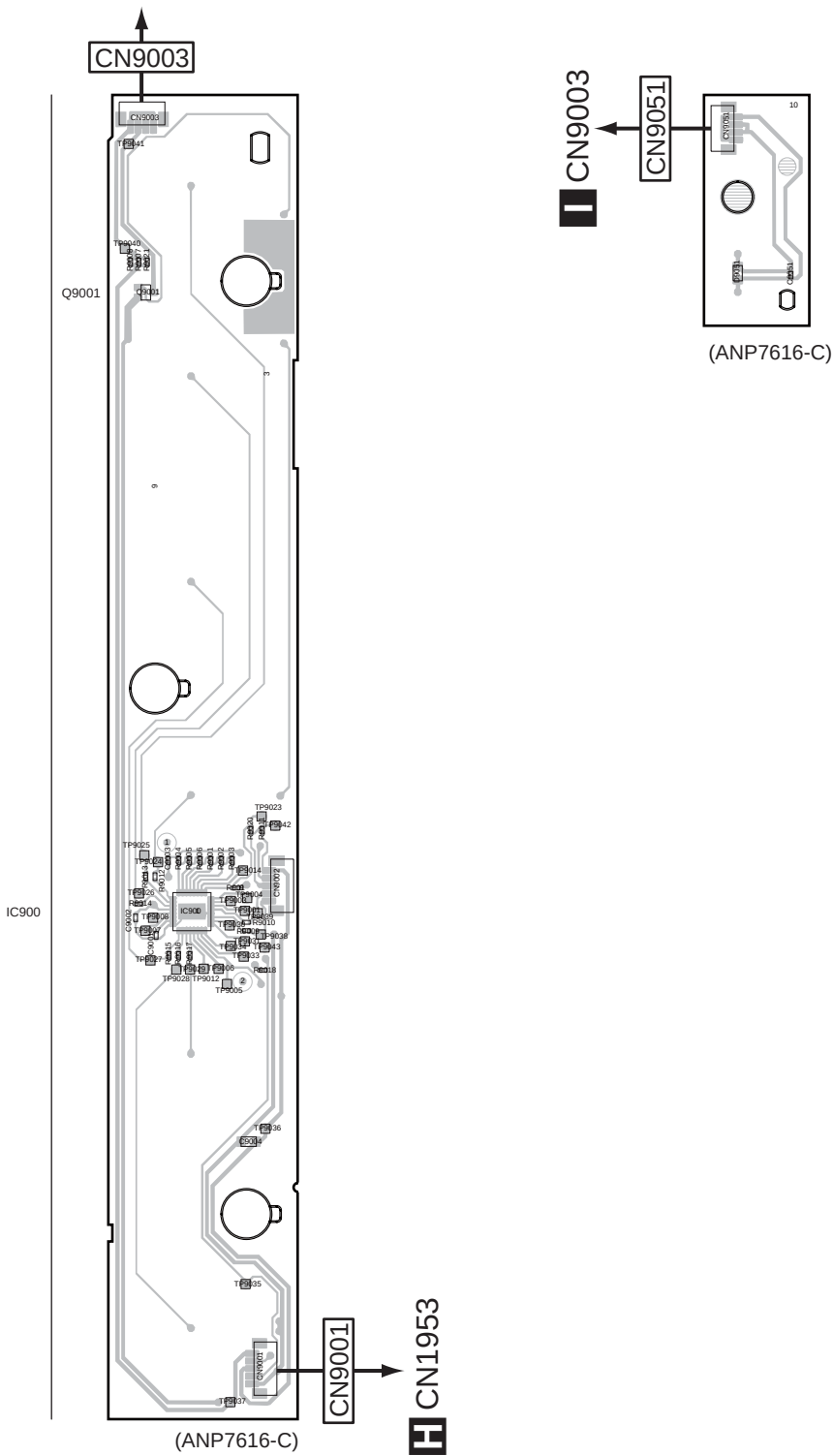
SIDE A

SIDE A

I KEY ASSY

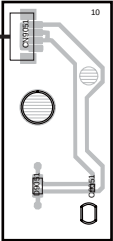
J CN9051

J LED ASSY



I CN9003

CN9051



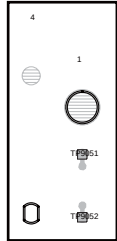
I J

I J

SIDE B

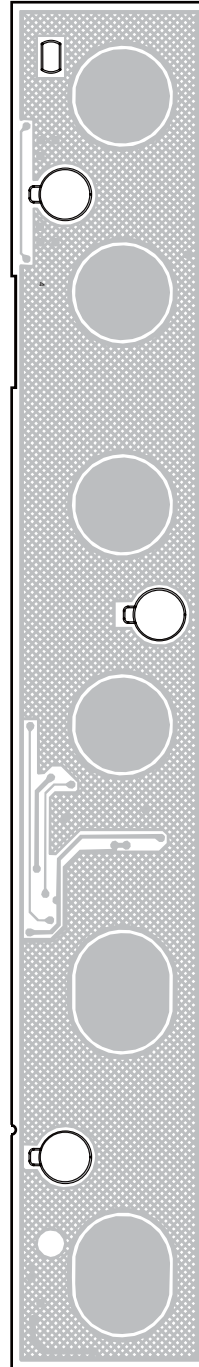
SIDE B

J LED ASSY



(ANP7616-C)

I KEY ASSY



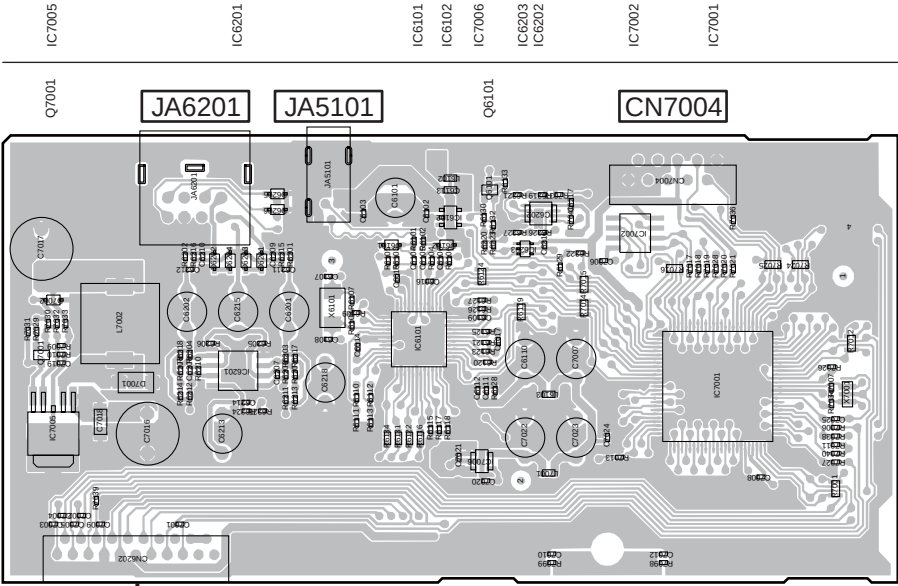
(ANP7616-C)

11.10 XM/SIRIUS ASSY

SIDE A

SIDE A

K XM/SIRIUS ASSY

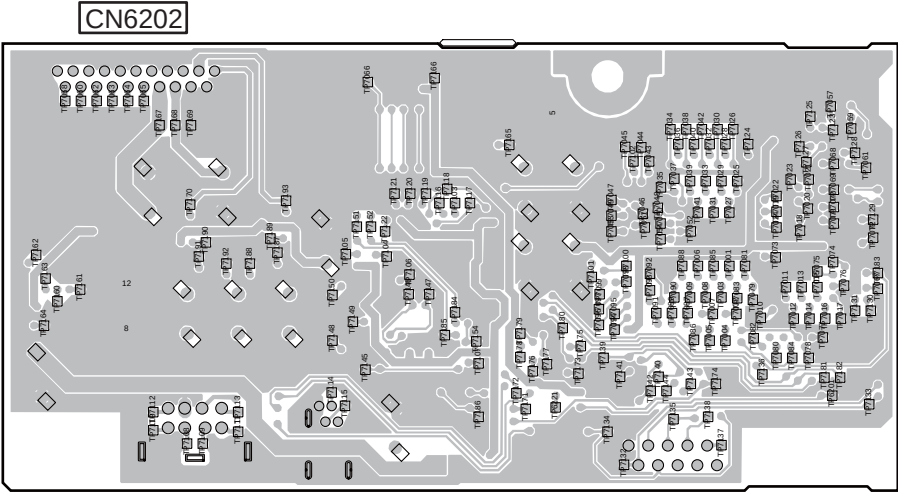


CN6202

C CN5503

SIDE B

SIDE B



CN6202

JA6201

JA5101

CN7004

(ANP7616-C)

K

K



5



6



7



8



A

B

C

D

E

F



5



6



7



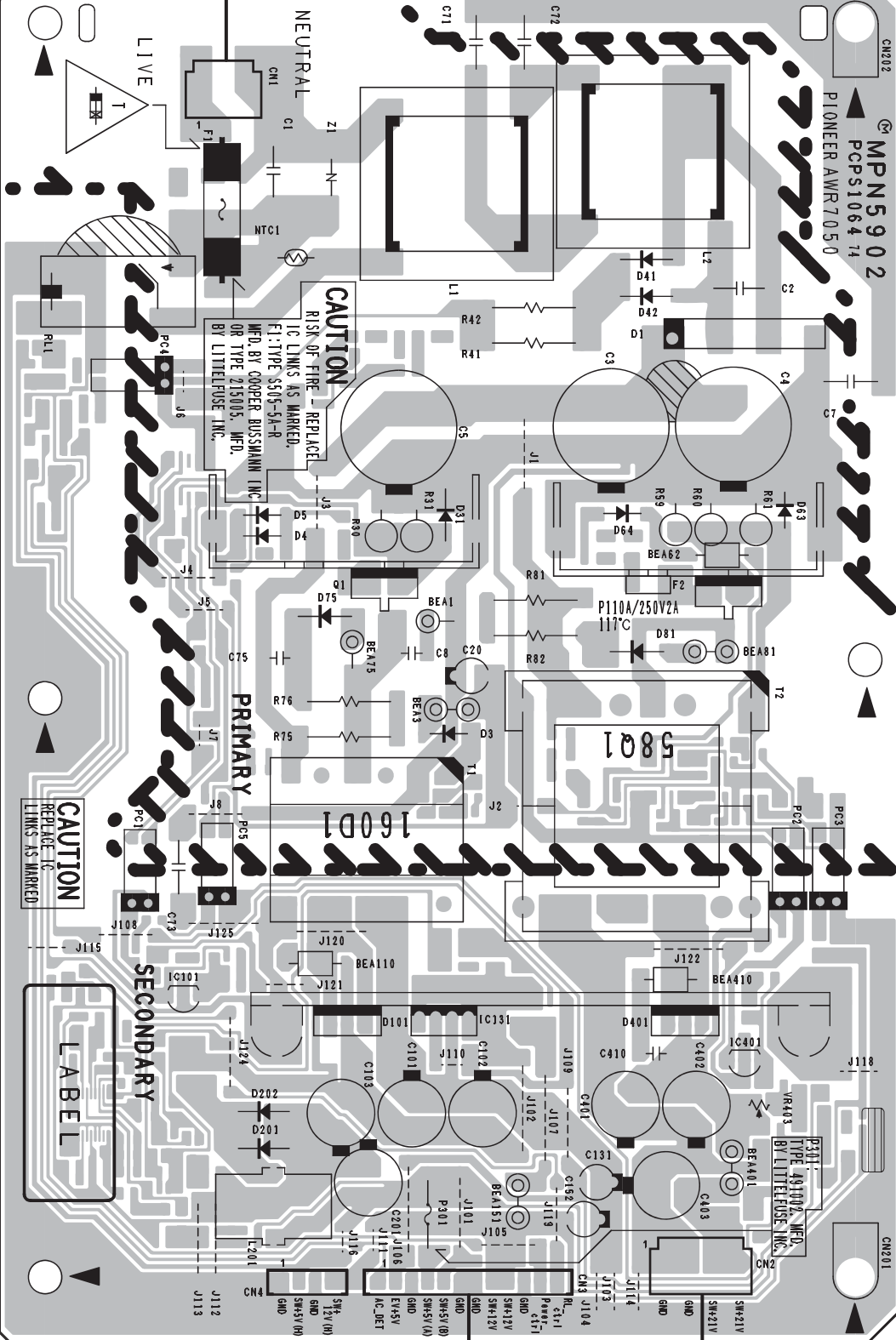
8



XC-Z9

4

L POWER SUPPLY UNIT



D CN3201

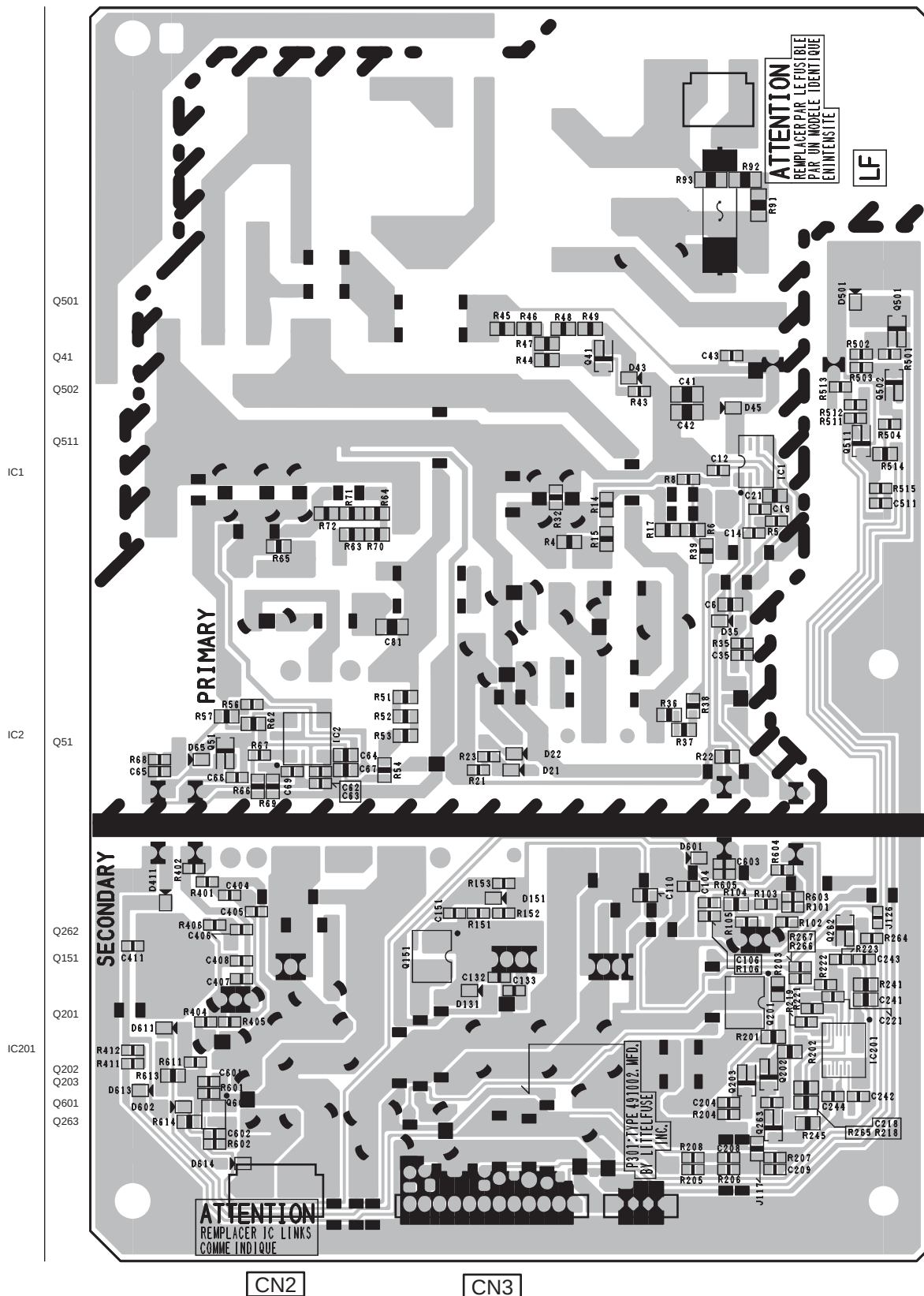
XC-Z9

SIDE B

SIDE B

POWER SUPPLY UNIT

CN1



12. PCB PARTS LIST

NOTES: ●Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
●The ⚠ mark found on some component parts indicates the importance of the safety factor of the part.
Therefore, when replacing, be sure to use parts of identical designation.
●When ordering resistors, first convert resistance values into code form as shown in the following examples.
Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).
560 Ω → 56 x 10¹ → 561 RD1/4PU561J
47k Ω → 47 x 10³ → 473 RD1/4PU473J
0.5 Ω → R50 RN2H50K
1 Ω → 1R0 RS1P1R0K
Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).
5.62k Ω → 562 x 10¹ → 5621 RN1/4PC5621F

LIST OF WHOLE PCB ASSEMBLIES

Mark	Symbol and Description	Part No.
NSP	1..LOAB ASSY	VWG2346
	1..DVDM ASSY	AWM8099
	1..MAIN ASSY	AWM8095
	2..MAIN ASSY	AWU8308
	2..AMP ASSY	AWU8314
	1..NETWORK ASSY	AWX8883

Mark	Symbol and Description	Part No.
⚠	1..COMPLEX ASSY	AWM8091
	2..CONNECTOR ASSY	AWU8315
	2..FRONT ASSY	AWU8305
	2..DISPLAY ASSY	AWU8306
	2..KEY ASSY	AWU8307
	2..LED ASSY	AWU8316
	2..XM/SIRIUS ASSY	AWU8309
	1..POWER SUPPLY UNIT	AWR7050
	1..FM/AM TUNER UNIT	AXX7250

PCB PARTS LIST FOR XC-Z9

Mark No.	Description	Part No.
A LOAB ASSY		
MISCELLANEOUS		
S 101		VSK1011
CN 602	CONNECTOR	S2B-PH-K
CN 601	CONNECTOR	S5B-PH-K

B DVDM ASSY		
SEMICONDUCTORS		
IC 101		BD7995EFS
IC 201		MT1389EE/B2-L
IC 202		K4S641632K-UC75
IC 203		AYW7149
IC 204		S-24CS04AFJ
IC 205		TC7SH08FUS1
⚠ IC 711		MM1661JH
⚠ IC 731		R1224N102H
⚠ IC 751		MM1565AF
Q 101,701,821,881		2SA1576A
Q 102,702,801		DTC124EUA
Q 304		2SC4081
Q 305		UM5K1N
Q 307,308		HN1A01F
Q 506		DTC114YUA
⚠ Q 732		RSQ035P03
D 731,733,821,852		1SS355
D 732		RSX201L-30
D 801		UDZS4R7(B)
D 861,862,881		1SS355

MISCELLANEOUS		
L 731	POWER INDUCTOR(22U)	DTL1099
L 732	POWER INDUCTOR	ATH7011
L 751	INDUCTOR	CTF1395
L 901	INDUCTOR	CTF1334
L 931	INDUCTOR	CTF1384
X 202	CRYSTAL OSCILLATOR (27 MHz)	ASS7075
CN 101	CONNECTOR	CKS5045
CN 102	12P CONNECTOR	AKN7031
CN 103	04P CONNECTOR	RKN1045
CN 104	CONNECTOR	AKM1291
CN 901	29P CONNECTOR	VKN1321
CN 953	CONNECTOR	CKS3885

RESISTORS		
R 131-136		RS1/10S4R7J
R 151,153		RS1/10S1R0J
R 152,154		RS1/10S1R8J
R 200,207-209,217		RS1/10S0R0J
R 225		RAB4C330J
R 279		RS1/16S5600F
R 281,301-303,500		RS1/10S0R0J
R 590,765,1001-1003		RS1/10S0R0J
R 732		RS1/10S100J
R 736		RS1/16S1802F
R 737		RS1/16S2702F
R 738		RS1/16S1502F
Other Resistors		RS1/16S###J

5	6	7	8	
Mark No.	Description	Part No.	Mark No.	Description
CAPACITORS				
C 101,734,739,761	CEVW101M16	Q 1302,3001,3501	2SC4081	
C 102-104,121,140	CKSRYB105K10	⚠ Q 1303	RSR015P03	
C 131,204,205,207	CKSRYB104K25	Q 1304,5503	DTC114YUA	A
C 132	VCH1252	Q 1306	2SC4097	
C 144-146,208,210	CKSRYB222K50	Q 1307	2SA1577	
		⚠ Q 1308	RSS050P03	
C 151-153,226,250	CKSRYB103K50	Q 1402,3505	DTC124EUA	
C 161,230,267,296	CKSRYB102K50			
C 201,202,237,281	CEVW221M4	Q 3503	IMX9	
C 203,206,215	CEVW470M16	Q 3504	2SA1576A	
C 209,213,214,216	CKSRYB104K25	D 1301,1402,3001,3002	1SS352	
		D 1302	UDZS8R2(B)	
C 211,212	CCSRCH560J50	D 1303	RSX201L-30	
C 217,220,222-225	CKSRYB104K25			
C 219	CKSRYB152K50	D 3501	DAP202U	B
C 227	CCSRCH221J50			
C 228,231-236	CKSRYB104K25	MISCELLANEOUS		
		L 801,802 CHIP SOLID INDUCTOR	QTL1013	
C 239-241,244-246	CKSRYB104K25	L 803,804 CHIP SOLID INDUCTOR	ATL7002	
C 243,261,263,282	CKSRYB105K10	L 806 CHIP SOLID INDUCTOR	ATL7002	
C 249,253,257,260	CKSRYB104K25	L 1301 POWER INDUCTOR	ATH7048	
C 254	CCSRCH391J50	L 1302,3501 CHIP SOLID INDUCTOR	QTL1013	
C 255	CKSRYB474K10			
		L 3801-3803 CHIP SOLID INDUCTOR	QTL1013	
C 256	CEVW100M16	X 801 CRYSTAL RESONATOR (24.576MHz)	XSS3003	
C 258,259	CKSRYB473K50	X 5501 CRYSTAL RESONATOR (32 KHz)	VSS1197	
C 262,264,266,268	CKSRYB104K25	X 5502 CERAMIC RESONATOR (20M)	VSS1186	
C 265	CCSRCH220J50	CN 1301 PLUG(4P)	KM200NA4	C
C 269	CKSRYB333K16			
		CN 3004 25P CONNECTOR	VKN1285	
C 271-273,283-288	CKSRYB104K25	CN 3005 PLUG(4P)	KM200NA4R	
C 289,298,343-347	CKSRYB105K10	CN 3103 27P CONNECTOR	VKN1258	
C 290,371,372,736	CKSRYB104K25	CN 5502 29P CONNECTOR	VKN1260	
C 299	CKSRYB102K50	CN 5503 21P CONNECTOR	VKN1252	
C 309,310,373,374	VCH1260			
		CN 5504 23P CONNECTOR	VKN1254	
C 701	CKSQYB105K16	CN 5506 CONNECTOR	CKS3372	
C 711,751	CKSRYB105K10	CN 5601 25P CONNECTOR	VKN1256	
C 712,752	CCSRCH471J50	CN 5701 CONNECTOR	CKS3376	
C 713,753	CKSQYB225K10	JH 1 PCB BINDER	VEF1040	
C 732,733,735,738	DCH1165			
		⚠ P 1301,1303 PROTECTOR(1A)	AEK7064	D
C 737	CCSRCH121J50	⚠ P 1302 PROTECTOR(750MA)	AEK7062	
C 801	CKSRYB104K25			
MAIN ASSY SEMICONDUCTORS				
IC 801	DSPB56374AE			
IC 802	TC7WU04FU	R 821	RAB4C470J	
IC 804	BD00KA5WFP	R 829	RS1/16SS3302F	
IC 1301	BA90BC0FP	R 830	RS1/16SS2202F	
IC 1302	NJM2845DL1-33	R 1314	RS1/16SS4701F	
		R 1315	RS1/16SS2201F	
IC 1303	NJM2872BF33			
IC 1304	BD9300FV	R 1321	RS1/16SS1802F	
IC 3001	BD3841FS	R 1322,1323	RS1/8SQ561J	
IC 3051	AK5358AET	R 5501,5503,5505-5507	RAB4CQ101J	E
IC 3072	NJM78M05DL1A	R 5511-5514,5518-5523	RAB4CQ101J	
		R 5527,5529,5530	RAB4CQ101J	
IC 3501	PCM1742KE	Other Resistors	RS1/16SS###J	
IC 3502	NJM4565M			
IC 3801-3803	TC74VHC157FTS1	CAPACITORS		
IC 5501	AYW7195	C 801-806,814,816	CCSSCH471J16	
IC 5502	PST3228	C 807-813,815,817	CKSSYB104K10	
		C 818,821,823	CCSSCH471J16	
IC 5503	S-93C46BD0I-J8T1	C 819,820	CCSSCH8R0D50	
IC 5702	TC74VHC08FTS1	C 822,824,1307,1313	CKSSYB104K10	
Q 1301,1305,1401,3502	2SA1576A			
		C 825,826	ACH7278	F
		C 827,828,1319	CKSRYB105K16	
		C 829,832	CKSRYB103K50	
		C 831,3095,5715	CKSRYB102K50	

Mark No. Description**Part No.****Mark No. Description****Part No.**

C 833

CKSRYB104K50

R 3328

RS1/10S3R3J

Other Resistors

RS1/16SS###J

C 1301,3007,3008,3019

CEAT100M50

C 1302,3086

CEAT470M16

C 1304

CEHAZL100M50

C 1305

CKSRYB104K25

C 1308,1311,1401,3022

CKSSYB103K25

C 1309,1310,3085,5505

CEAT1R0M50

C 1312,1314

CKSRYB104K16

C 1315,1324

CKSSYB224K6R3

C 1318

CCSRCH331J50

C 1321,1322

CEHAZL471M16

C 1325

CKSRYB334K10

C 1326

CKSRYB474K16

C 1327,3133,5501,5518

CKSSYB102K50

C 3020,3051,3053,3055

CEAT100M50

C 3023

CEAT471M10

C 3052,3054,3056,3501

CKSSYB104K10

C 3057,3058,3089-3092

CEAT100M50

C 3099

CEHAZL221M35

C 3502,3521,5520

CEAT101M10

C 3503,3509,3510

CEAT100M50

C 3505,3506

CCSRCH102J50

C 3511,3512,5502

CCSSCH221J50

C 3513,3514,5701,5704

CCSSCH101J50

C 3515-3519,6251,6252

CEAT100M50

C 3520,3523,3804-3806

CKSSYB104K10

C 3522,3801-3803,5506

CKSSYB103K25

C 5503,5504

CCSSCH100D50

C 5508,5712

CKSSYB104K10

C 5509,5513-5517,5521

CKSSYB103K25

C 5519

CKSSYB102K50

C 5522

CKSSYB103K25

CAPACITORS

C 3101,3103,3104,3106

CKSSYB104K10

C 3102,3105

CKSSYB103K25

C 3107,3110,3112,3115

CKSSYB104K10

C 3108,3203,3204,3303

ACH7280

C 3109,3124,3225,3226

CKSSYB102K50

C 3111,3117,3120,3121

CEHAZL220M50

C 3113,3114

CCSSCH180J50

C 3116,3118,3119

CKSSYB104K10

C 3161,3164,3172,3179

CKSRYB102K50

C 3162,3165,3173,3180

CKSRYB103K50

C 3163,3166,3174,3181

CKSRYB104K50

C 3186

CKSRYB102K50

C 3201,3202,3205,3207

CKSRYB104K50

C 3206,3306,3924

CKSRYB104K16

C 3208,3211-3214,3223

CKSRYB104K50

C 3215-3218,3315-3318

CKSRYB333K25

C 3224,3245,3247,3301

CKSRYB104K50

C 3227,3228,3327,3328

ACH7277

C 3231,3332

ACH7281

C 3233,3235,3237,3239

CKSRYB103K50

C 3241-3244,3341-3344

CCSRCH331J50

C 3291,3334,3336,3338

CKSRYB103K50

C 3292,3325,3326,3954

CKSSYB102K50

C 3302,3305,3307,3308

CKSRYB104K50

C 3304

ACH7280

C 3311-3314,3323,3324

CKSRYB104K50

C 3340

CKSRYB103K50

C 3346,3348,3923

CKSRYB104K50

C 3901-3904

CCSRCH681J50

C 3905-3908

CCSSCH181J50

C 3951,3952

CEAT221M16

C 3953

CEHAZL220M50

**D AMP ASSY
SEMICONDUCTORS**

IC 3101

TAS5504APAG

IC 3201,3301

TAS5142DDV

IC 3901

NJM2068MD

IC 3902,3903

NJM78M12DL1A

D 3101

DAP202U

**E NETWORK ASSY
SEMICONDUCTORS**

⚠ IC 11

NJM2846DL3-33

⚠ IC 21

NJM2846DL3-18

⚠ IC 31

NJM2886DL3-33

IC 701

DM850E

IC 801

AAT4618IGV-0.5-1

IC 861

RTL8201CP-LF

IC 881

AYW7194

IC 891

HY57V641620FTP-6

IC 911

TC74VHC08FTS1

Q 801

DTA143EUA

Q 802

DTC143EUA

D 861

SML-310YT

D 862

SML-310PT

MISCELLANEOUS

L 10 CHIP BEEDS FILTER

BTX1040

L 701,702,861,862 INDUCTOR

CTF1357

L 704-707 CHIP FERRITE BEADS

ATF1211

L 801,803 CHIP FERRITE BEADS

VTL1169

L 802 COIL

VTH1043

L 871,881,891,911 INDUCTOR

CTF1357

MISCELLANEOUS

L 3101,3102 CHIP SOLID INDUCTOR

QTL1013

L 3205,3206,3303,3304 INDUCTOR

ATH7046

JA 3202 SPEAKER TERMINAL 4-P

AKE7089

X 3101 CRYSTAL RESONATOR (13.5 MHz)

ASS7062

CN 3101 27P CONNECTOR

VKN1258

CN 3102 17P CONNECTOR

VKN1248

CN 3201 BOADIN LEAD WIRE

ADX7588

O SEPARATOR HQ

ANG7598

JH 11 PCB BINDER

VEF1040

RESISTORS

R 3104

RAB4CQ101J

R 3107

RAB4CQ470J

R 3111

RS1/10S220J

R 3155,3901

RAB4CQ472J

R 3227,3228,3291,3327

RS1/10S3R3J

R 3231,3233,3332,3334

RS1/10SR472J

R 3241-3244,3341-3344

RS1/16S180J

113

Mark No. Description

C 8005

Part No.

CEAT221M6R3

Mark No. Description

Q 9001

Part No.

DTC143ZUA

A

**H DISPLAY ASSY
SEMICONDUCTORS**IC 1901
IC 1902
IC 1921
IC 1951
IC 1952PEG394A
PST3228
PD8175A
NJM2872BF33
NJM2374AMIC 5941
Q 1901
Q 1902
Q 1961
Q 1962GP1UE27XK
DTC124EUA
2SA1576A
2SC4081
2SD1664

B

D 1902
D 1911
TH 1961RB411D
1SS352
CCX1037**MISCELLANEOUS**L 1951,1961 INDUCTOR
L 1962 POWER INDUCTOR
KN 1901,1902 WRAPPING TERMINAL
S 1901 ROTARY ENCODER
X 1901 CERAMIC OSCILLATOR (16.000MHz)CTF1617
ATH7053
VNF1084
ASX7048
CSS1616

C

CN 1951 CONNECTOR
CN 1952 CONNECTOR
CN 1953 5P CONNECTOR
CN 1954 CONNECTOR
CN 5901 25P CONNECTORCKS5545
VKN1281
VKN1265
HLEM10S-1
VKN12850 HOLDER HQ
0 DOUBLE SIDED TAPE
0 HOLDER MOULD HQ
0 OEL UNITANG7606
CNM8673
AMR7535
MXS8261**RESISTORS**R 1909
R 1910-1912,1915-1920
R 1965,1980
R 1966
R 1967RAB4CQ473J
RAB4CQ101J
RAB4CQ101J
RS1/16SS3001D
RS1/16SS2201DR 1979
Other ResistorsRS1/16S105J
RS1/16SS###J**CAPACITORS**C 1901,1903,1921,1951
C 1902,1952,1964,5941
C 1953
C 1954
C 1955CKSSYB103K25
CKSSYB104K10
CEJQ4R7M50
CEJQ101M6R3
CKSSYB103K25C 1961,1969
C 1963
C 1965-1967
C 1970
C 1972CEAL101M16
CKSRYB104K16
CKSRYB104K50
CEHAZL330M50
CCSSCH221J50C 1981,5942
C 5981CEJQ470M6R3
CKSSYB223K16

F

**I KEY ASSY
SEMICONDUCTORS**

IC 9001

CY8C20434-12LKXI

MISCELLANEOUSCN 9001,9002 5P CONNECTOR
CN 9003 4P CONNECTORVKN1374
VKN1409**RESISTORS**

All Resistors

RS1/16SS###J

CAPACITORSC 9001,9003
C 9002CKSSYB103K25
CKSSYB104K10**J LED ASSY****SEMICONDUCTORS**

D 9051

NESW007-4436

MISCELLANEOUS

CN 9051 4P CONNECTOR

VKN1409

CAPACITORS

C 9051

CKSSYB103K25

**K XM/SIRIUS ASSY
SEMICONDUCTORS**IC 6101
IC 6102
IC 6202
IC 6203
IC 7001F2621E-01
AAT4618IGV-0.5-1
TC7W08FU
TC7SH08FUS1
PEG393A8IC 7002
IC 7005
IC 7006
Q 6101
Q 7001SST25V512ACS
BD9701FP
NJM2872BF33
DTA143EUA
2SA1576AD 6101,6102
D 6201-6204
D 7001
D 7002UDZS5R6(B)
UDZS6R2(B)
RSX201L-30
UDZS8R2(B)**MISCELLANEOUS**L 6102 CHIP SOLID INDUCTOR
L 6103,7001 CHIP SOLID INDUCTOR
L 7002 INDUCTOR
JA 5101 4P SOCKET
JA 6201 SOCKETATL7002
QTL1013
CTH1262
AKP7201
BKP1127X 6101 CRYSTAL RESONATOR (45.1584MHz)
X 7001 CERAMIC RESONATOR (15.7MHz)
CN 6202 CONNECTOR
CN 7004 CONNECTORASS7065
XSS3004
VKN1281
HLEM10S-1**RESISTORS**R 6116
R 6119,6124,7001,7012
R 6122,6131,6134
R 7009
R 7010RS1/16S470J
RAB4CQ101J
RS1/16S101J
RS1/16SS2701F
RS1/16SS1001FR 7014-7016,7024,7025
R 7033
Other ResistorsRAB4CQ101J
RS1/16SS1501F
RS1/16SS###J

Mark No. Description

Part No.

CAPACITORS

C 6014-6017,6102	CKSSYB104K10
C 6101	CEJQ470M16
C 6104-6106,6111,6216	CKSSYB104K10
C 6107,6108	CCSSCH100D50
C 6110	CEAT470M16
C 6112	CKSSYB471K50
C 6113	CKSRYB105K16
C 6214,7002,7009,7019	CKSSYB102K50
C 6217,7006,7008,7021	CKSSYB104K10
C 7007	CEAT101M10
C 7016,7017	CEHAZL221M25
C 7018	CKSYB105K16
C 7020,7024	CKSSYB103K25
C 7022,7023	CEAT100M50



POWER SUPPLY UNIT

POWER SUPPLY UNIT has no service part.

FM/AM TUNER UNIT

FM/AM TUNER UNIT has no service part.