

# Pioneer

## Service Manual



XV-DV590

ORDER NO.  
**RRV3950**

DVD/CD RECEIVER

# XV-DV590

## XV-DV585

## XV-DV30FS

## XV-DV595K

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

Model	Type	Power Requirement	Region No.	Remarks
XV-DV590	YXJ5	AC 220 V to 240 V	2	
XV-DV585	YXJ5	AC 220 V to 240 V	2	
XV-DV30FS	YXJ5	AC 220 V to 240 V	2	
XV-DV595K	SXJ5	AC 220 V to 240 V	5	



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

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# 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 !

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.

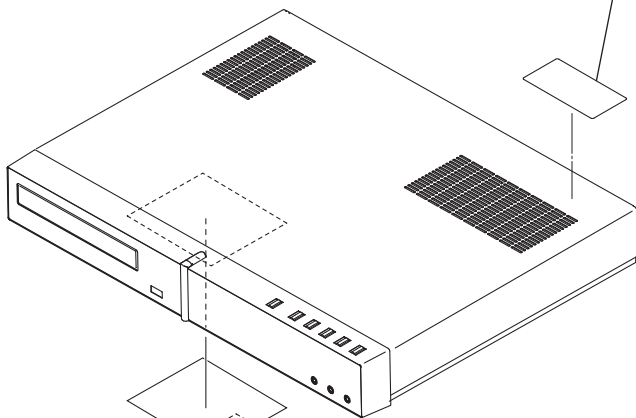
## LASER DIODE CHARACTERISTICS

FOR DVD : MAXIMUM OUTPUT POWER : 5 mW  
WAVELENGTH : 650 nm  
FOR CD : MAXIMUM OUTPUT POWER : 5 mW  
WAVELENGTH : 780 nm

## LABEL CHECK

**CAUTION** CLASS 3B VISIBLE AND INVISIBLE LASER RADIATION. WHEN OPEN, AVOID EXPOSURE TO THE BEAM.  
**ATTENTION** RADIATIONS LASER VISIBLES ET INVISIBLES DE CLASSE 3B QUAND OUVERT. ÉVITEZ TOUT EXPOSITION AU FAISCEAU.  
**ADVARSEL** KLASSE 3B SYNLIG OG USYNLIG LASERSTRÅLING VED ÅBNING. UNDGÅ UDSÆTTELSE FOR STRÅLING.  
**VARNING** KLASSE 3B SYNLIG OCH OSYNLIG LASERSTRÅLING NÄR DENNA DEL ÄR ÖPPNAD. UNDVIK ATT UTSÄTTA DIG FÖR STRÅLEN.  
**VORSICHT** BEI GEÖFFNETER ABDECKUNG IST SICHTBARE UND UNSICHTBARE LASERSTRAHLUNG DER KLASSE 3B IM GERÄTEINNEREN VORHANDEN. NICHT DEM LASERSTRAHLAUSSETZEN!  
**PRECAUCIÓN** CUANDO SE ABRE HAY RADIACIÓN LASER DE CLASE 3B VISIBLE E INVISIBLE. EVITE LA EXPOSICIÓN A LOS RAYOS LASER.  
**VARO!** AVATTAESSA OLET ALTTIINA NÄKYVÄLLE JA NÄKYMÄTTÖMÄLLE LUOKAN 3B LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.

PRW1608



CLASS 1  
LASER PRODUCT

Name label

## Additional Laser Caution

- Laser diode is driving with Q307 (650 nm LD) and Q308 (780 nm LD) on the 08 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.
- When the cover is open, close viewing through the objective lens with the naked eye will cause exposure to the laser beam.

\* : See page 28.

XV-DV590

## [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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# 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:

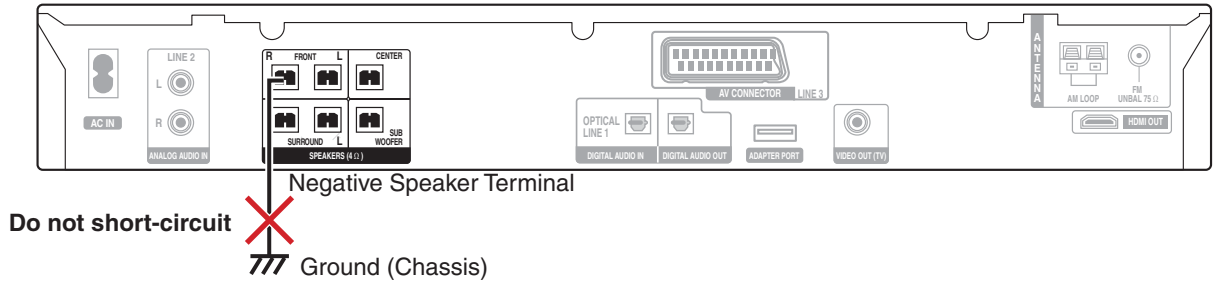
- Parts numbers of lead-free solder:  
GYP1006 1.0 in dia.  
GYP1007 0.6 in dia.  
GYP1008 0.3 in dia.

## 1.2 CAUTION

### 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.**

**Do not short-circuit between the plus speaker terminal and ground, such as the chassis, too.**



### 1.3 WHEN REPLACING DVD DECK

#### [ Removing the DVD MECHA Assy ]

Before removing Pickup PCB and DVD PCB connector, short circuit the position shown in **Fig. 1** using a soldering iron. If you remove the DVD MECHA Assy with no soldering, the Laser may be damaged.

#### [ Installing the DVD MECHA Assy ]

Remove all the soldering on the short circuit position after the connection of Pickup PCB and DVD PCB connector.

#### NOTE

- Be sure to use lead-free solder and a soldering iron.
- When Soldering/Removing of solder, use the draw in equipment over the Pickup Unit to prevent the Flux smoke from it.

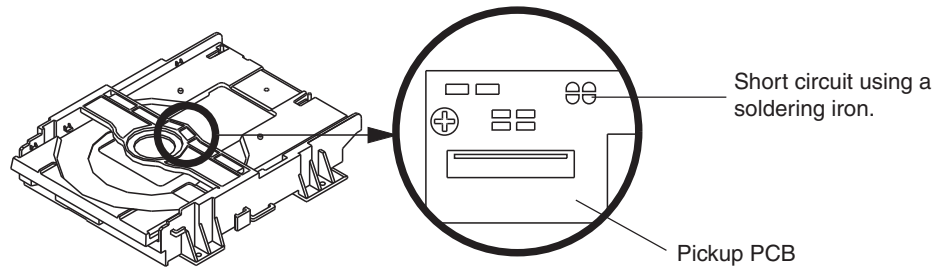


Fig. 1

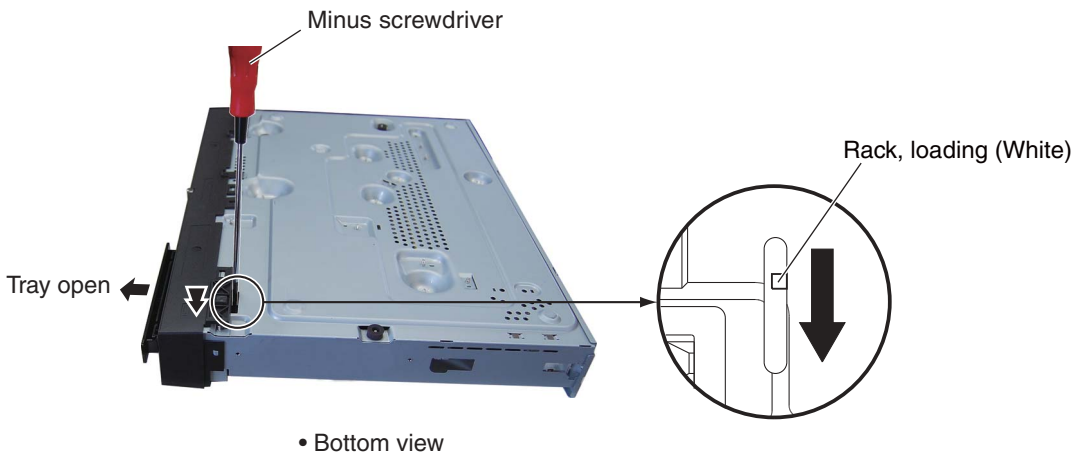
### 1.4 DISC REMOVAL METHOD

#### How to open the tray when the power cannot be on

- (1) Slide the rack, loading (White) toward the arrow direction by using a minus screwdriver to release the lock.
- (2) Manually open the tray.

#### Note:

Please strongly pushing rack, loading (White) to release the lock because the tray doesn't go out easily.



## 2. SPECIFICATIONS

### 2.1 SPECIFICATIONS, DISC/CONTENT FORMAT and ACCESORRIES

#### •Amplifier section

RMS Power Output:

For XV-DV585/590

Front, Center, Surround . . .60 W per channel  
(1 kHz, 10 % T.H.D., 4 Ω)

Subwoofer. . . 60 W (100 Hz, 10 % T.H.D., 4 Ω)

For XV-DV30FS/595K

Front . . . . .100 W per channel  
(1 kHz, 10 % T.H.D., 4 Ω)

Center, Surround (for XV-DV595K only)  
. . . . .60 W per channel  
(1 kHz, 10 % T.H.D., 4 Ω)

Subwoofer. . .100 W (100 Hz, 10 % T.H.D., 4 Ω)

#### •Disc section

Type. . . . .DVD system, Video CD/Super VCD system and Compact Disc digital audio system

#### •FM tuner section

Frequency range . . . . .87.5 MHz to 108 MHz

Antenna . . . . .75 Ω, unbalanced

#### •AM tuner section

Frequency range . . . . .531 kHz to 1602 MHz

Antenna . . . . .Loop antenna

#### •Miscellaneous

Power requirements:

. . . . .AC 220 V to 240 V, 50 Hz/60 Hz

Power consumption:

For XV-DV585/590 . . . . .55 W

For XV-DV30FS. . . . .70 W

For XV-DV595K. . . . .70 W

Power consumption in standby:

KURO LINK ON . . . . .0.73 W

KURO LINK OFF. . . . .0.48 W

Dimensions

. . . . .420 mm (W) x 62 mm (H) x 331 mm (D)

Weight

For XV-DV585/590 . . . . .2.8 kg

For XV-DV30FS. . . . .2.9 kg

For XV-DV595K. . . . .2.9 kg

#### •Accessories (DVD/CD receiver)

Remote control . . . . .1

AA/R6 dry cell batteries . . . . .2

(to confirm system operation)

Video cable (yellow plugs) . . . . .1

AM loop antenna. . . . .1

FM antenna . . . . .1

Microphone (for Auto MCACC setup)1. . . . .1

Power cord . . . . .1

Warranty card . . . . .1

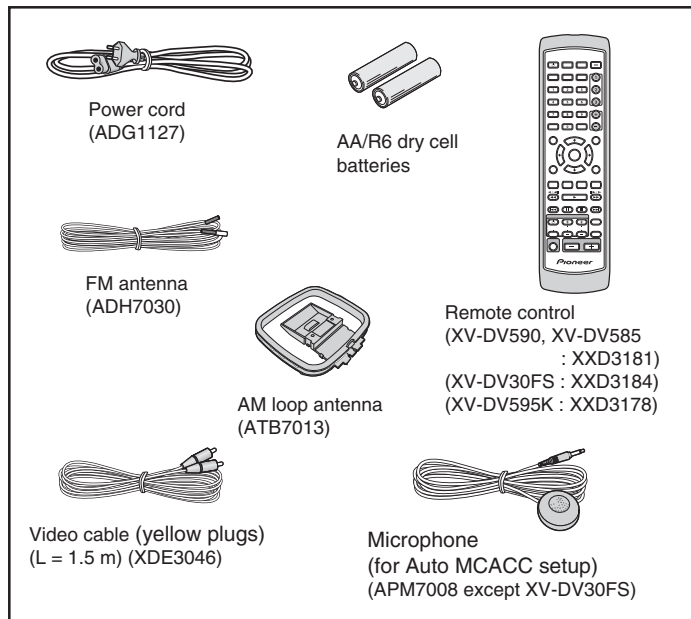
Setup Guide

Operating instructions

#### Note

1 For DCS-585/590 model only.

#### Accessories



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Manufactured under license under U.S. Patent #'s: 5,451,942; 5,956,674; 5,974,380; 5,978,762; 6,487,535 & other U.S. and worldwide patents issued & pending. DTS and DTS Digital Surround are registered trademarks and the DTS logos and Symbol are trademarks of DTS, Inc. © 1996-2008 DTS, Inc. All Rights Reserved.

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4

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A **Disc/content format playback compatibility**

This player is compatible with a wide range of disc types (media) and 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 CD and DVD, may be in an unplayable format.

See the Disc compatibility table below for more information.

B



DVD-Video DVD-R DVD-RW




Audio CD Video CD CD-R CD-RW



Fujicolor CD

C

- This unit will play DVD+R/+RW discs.
-  is a trademark of FUJIFILM Corporation.
- **DVD** is a trademark of DVD Format/Logo Licensing Corporation.
- Also compatible with KODAK Picture CD.

This player supports the IEC's Super VCD standard for superior picture quality, dual soundtracks, and widescreen support.

D



Super Video CD (Super VCD)

E

F

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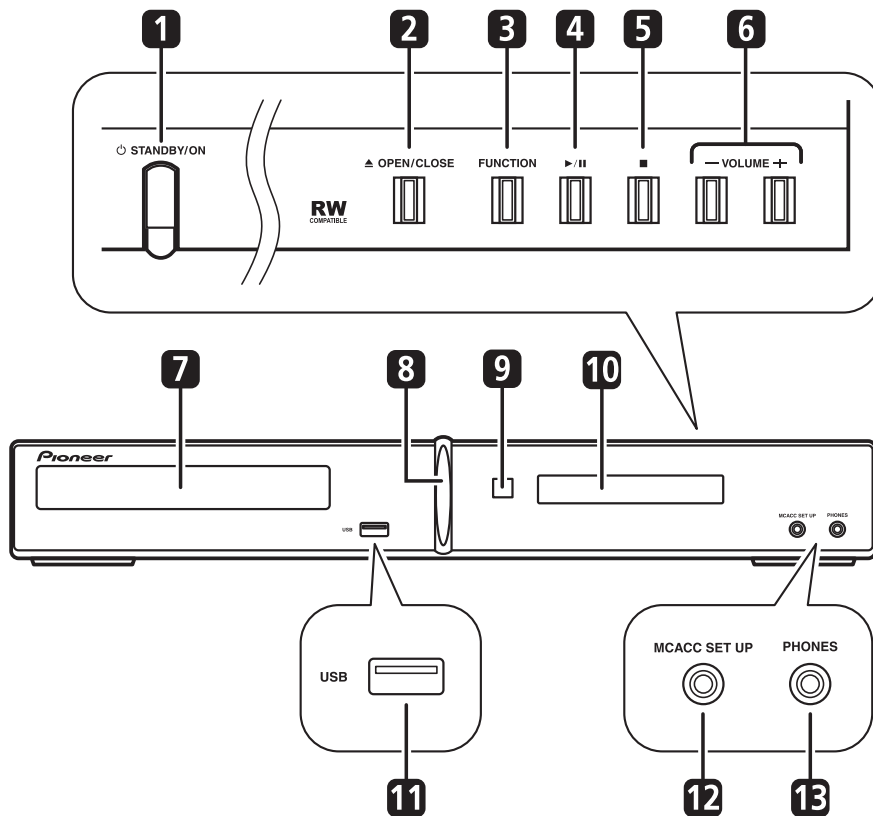
XV-DV590



# 2.2 PANEL FACILITIES

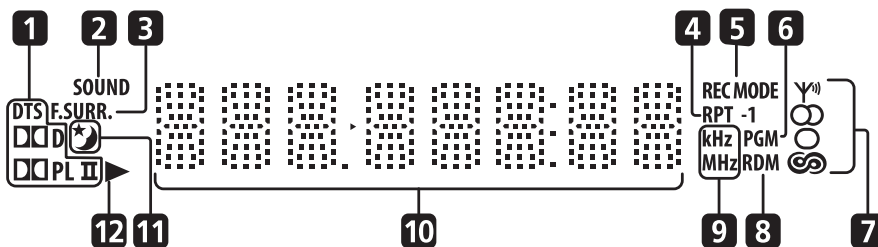
## Front panel

The illustration shows the DCS-585/590.



- 1 **⏻ STANDBY/ON**  
Switches the system on or into standby.
- 2 **▲ OPEN/CLOSE**  
Opens/closes the disc tray.
- 3 **Function**
- 4 **>/II**
- 5 **■**
- 6 **VOLUME +/-**
- 7 **Disc tray**
- 8 **Power indicator (Blue)**
- 9 **Remote Sensor**
- 10 **Display**
- 11 **USB interface**
- 12 **MCACC jack (DCS-585/590 only)**
- 13 **PHONES jack**

## Display

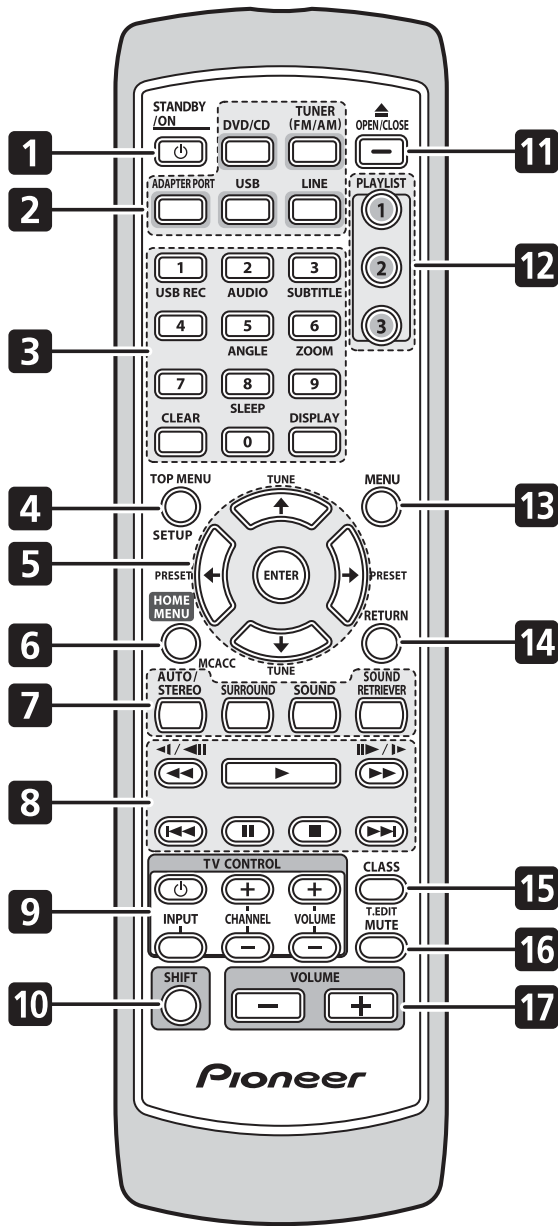


- 1 **Decord indicators**  
DTS lights during playback of a DTS source.  
PLII lights during Dolby Pro Logic II decoding and DDD lights during playback of Dolby Digital sources.
- 2 **SOUND**  
Lights when the Sound Retriever is active.
- 3 **SURR.**  
Lights when one of the Advanced Surround modes or PHONESUR (virtual surround sound for headphones) mode is selected.  
F.SURR.  
Lights when one of the Front Stage Surround Advance mode is selected.
- 4 **RPT and RPT-1**  
RPT lights during repeat play. RPT-1 lights during repeat one-track play.
- 5 **REC MODE**  
Lights when Line out mode is LT/RT.

- 6 **PGM**  
Lights during program play.
- 7 **Tuner indicators**  
Psi Lights when a broadcast is being received,  
Stereo Lights when a stereo FM broadcast is being received, Mono Lights when FM mono reception is selected and RDS Lights when one of the RDS display or search modes is selected.
- 8 **RDM**  
Lights during random play.
- 9 **kHz/MHz**  
Indicates the frequency unit shown in the character display (kHz for AM, MHz for FM).
- 10 **Character display**
- 11 **Sleep timer**  
Lights when sleep timer is active.
- 12 **▶**  
Lights during playback.

### A Remote control

The illustration shows the DCS-585/590.



- 1 **⏻ STANDBY/ON**
- 2 **Function select buttons**
- 3 **Number buttons**  
**CLEAR**  
**DISPLAY**  
**SHIFT+SLEEP**  
**SHIFT+USB REC**  
**SHIFT+AUDIO**  
**SHIFT+SUBTITLE**  
**SHIFT+ANGLE**  
**SHIFT+ZOOM**
- 4 **TOP MENU**  
**SHIFT+SETUP**
- 5 **Cursor buttons**  
**ENTER**  
**TUNE**  
**PRESET**
- 6 **HOME MENU**  
**SHIFT+MCACC (DCS-585/595 only)**
- 7 **Sound controls**  
**AUTO/STEREO**  
**SURROUND**  
**SOUND**  
**SOUND RETRIEVER**
- 8 **Playback controls**
- 9 **TV CONTROL buttons**  
 These control Pioneer flat screen TVs.<sup>1</sup>
- 10 **SHIFT**
- 11 **▲ OPEN/CLOSE**
- 12 **PLAYLIST buttons**
- 13 **MENU**
- 14 **RETURN**
- 15 **Tuner controls**  
**CLASS**  
**SHIFT+T.EDIT**
- 16 **MUTE**
- 17 **VOLUME +/-**

**Note**

<sup>1</sup> Hold down the number button 1 for over three seconds with the **CLEAR** pressed. If the TV refuses to respond, hold down the number button 2. After control is properly switched over, the power to the TV can be operated by directing the **TV CONTROL** ⏻ toward the TV and pressing it.

## 3. BASIC ITEMS FOR SERVICE

### 3.1 CHECK POINTS AFTER SERVICING

#### Items to be checked after servicing / HTZ(XV)

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

No.	Procedures	Check points
1	Confirm the firmware version on Test 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. Video, audio and operations must be normal.
3	Play back a CD. (track search)	Audio and operations must be normal.
4	Play back a DVD. (Menu operation, Title/chapter search)	Video, audio and operations must be normal.
5	Check the tuner (AM and FM) operations.	Audio and operations must be normal.
6	Check the sound from headphone output.	Sound must be normal, without noise.
7	Check the appearance of the product.	No scratches or dirt on its appearance after receiving it for service.

#### Specific Items to be Checked

No.	Procedures	Check points
1	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. (This procedure can determine if the drive is degraded.)

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

Item to be checked regarding video	Item to be checked regarding audio
Block noise	Distortion
Horizontal noise	Noise
Dot noise	Volume too low
Disturbed image (video jumpiness)	Volume too high
Too dark	Volume fluctuating
Too bright	Sound interrupted
Mottled color	

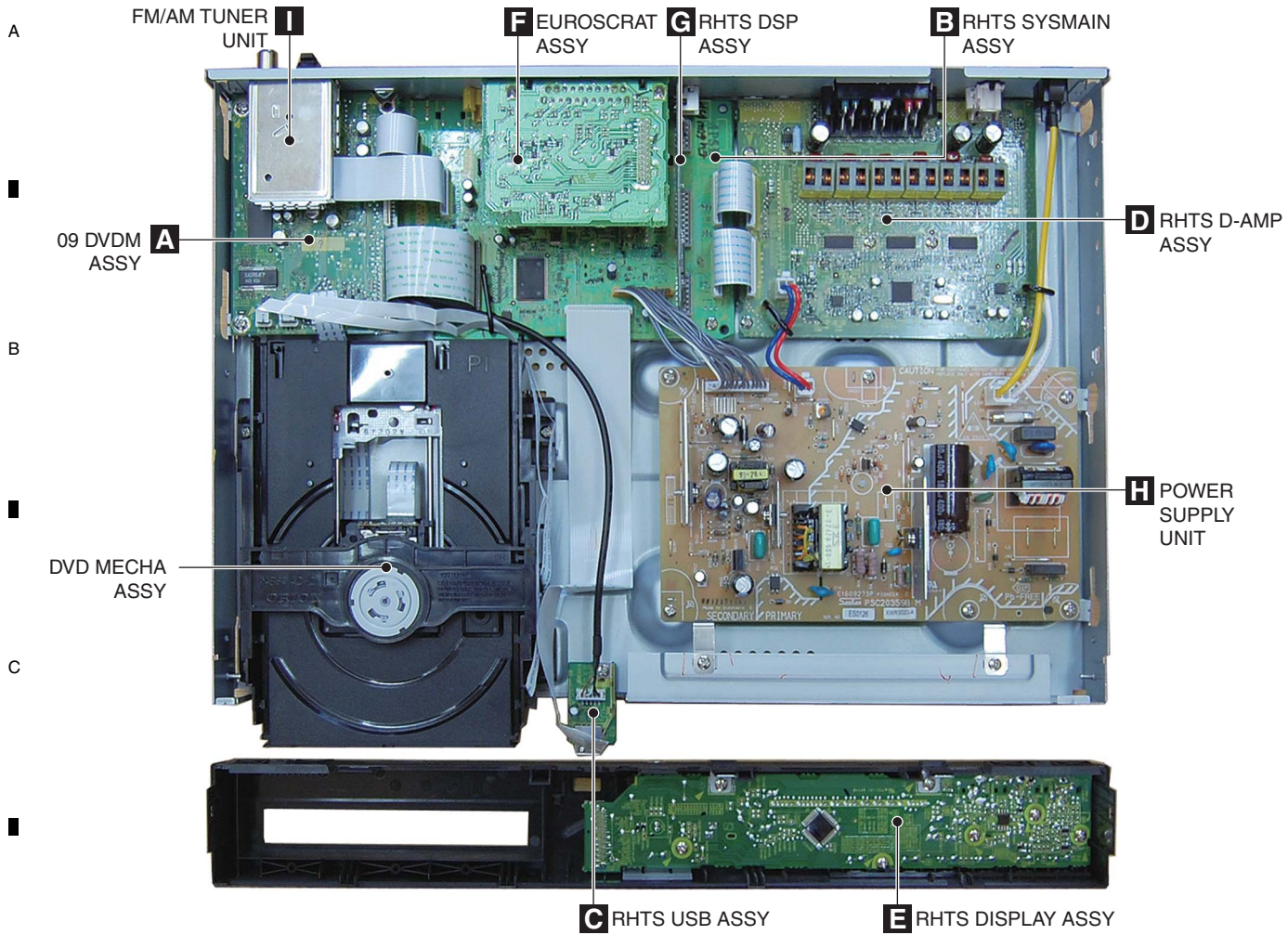
#### Cleaning



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

Position to be cleaned	Name	Part No.	Remarks
Pickup lenses	Cleaning liquid	GEM1004	
	Cleaning paper	GED-008	
Fans	Cleaning paper	GED-008	

## 3.2 PCB LOCATIONS



### LIST OF ASSEMBLIES

Mark	Symbol and Description	XV-DV590/YXJ5	XV-DV585/YXJ5	XV-DV30FS/YXJ5	XV-DV595K/SXJ5
NSP	1..NHTS JACK ASSY	AWM8034	AWM8034	AWM8034	AWM8034
	2..EUROSCART ASSY	AWU8291	AWU8291	AWU8291	AWU8291
E	1..09 DVDM ASSY	AWM8177	AWM8177	AWM8177	AWM8134
	1..RHTS DISPLAY ASSY	XWM3487	XWM3487	XWM3488	XWM3484
	1..RHTS D-AMP ASSY	XWM3489	XWM3489	Not used	Not used
	1..RHTS H-AMP ASSY	Not used	Not used	XWM3495	XWM3494
	1..RHTS DSP ASSY	XWM3493	XWM3493	XWM3493	XWM3493
	1..RHTS MAIN ASSY	XWM3503	XWM3502	XWM3504	XWM3507
	2..RHTS USB ASSY	XWZ4414	XWZ4414	XWZ4414	XWZ4414
	2..RHTS SYSMAIN ASSY	XWZ4432	XWZ4431	XWZ4433	XWZ4436
F	1..POWER SUPPLY UNIT	XWR3020	XWR3020	XWR3021	XWR3021
	1..FM/AM TUNER UNIT	XXX3085	XXX3085	XXX3085	XXX3085

### 3.3 JIGS LIST

#### ■ 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
DVD Data Disc	GGV1344	ID data setting
Speaker Cable with terminal	SDS1174 (FL/WHITE) SDS1175 (FR/RED), SDS1176 (SL/BLUE) SDS1177 (SR/GRAY), SDS6050 (C/GREEN)	For checking audio at the SP terminal

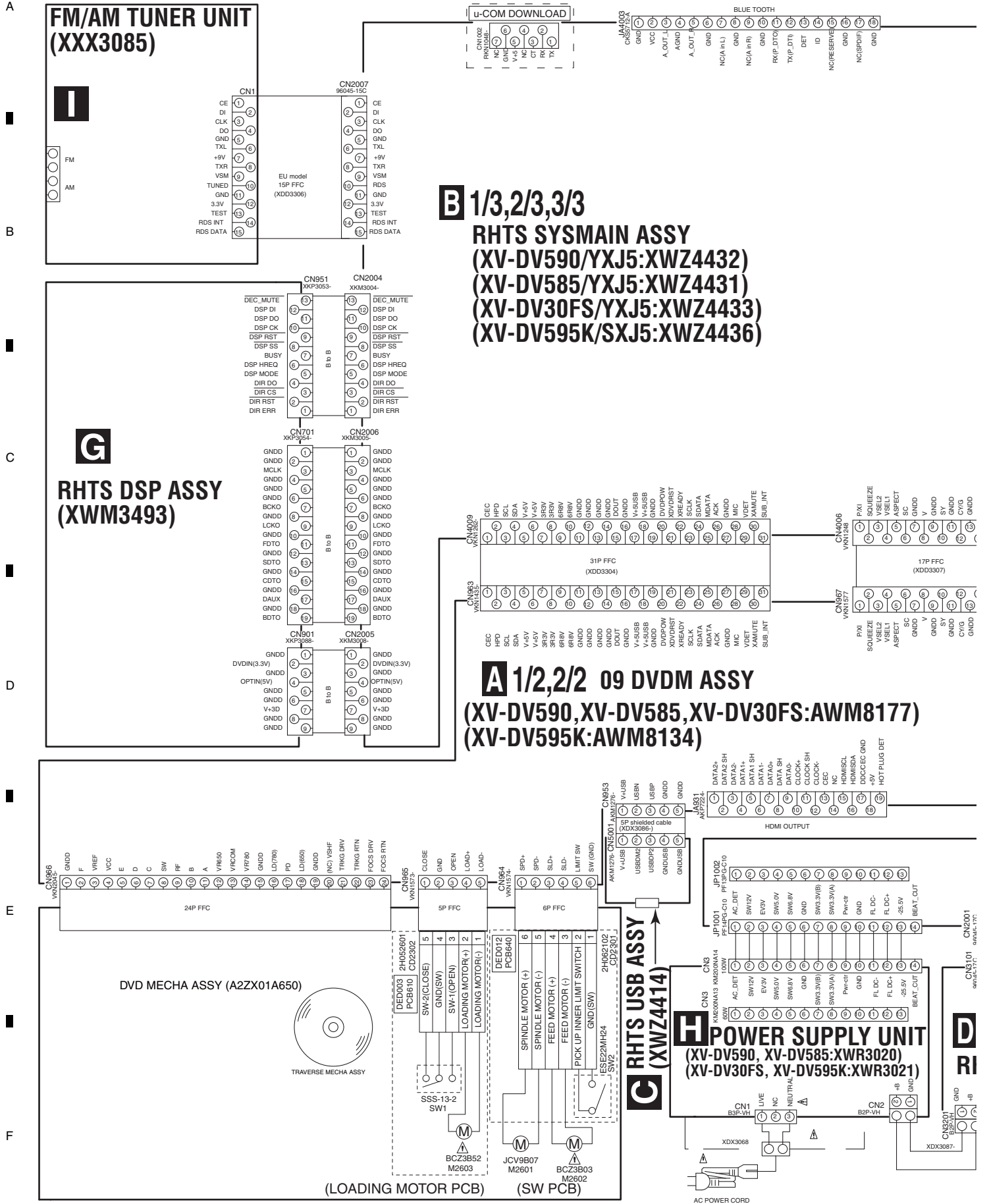
#### ■ Lubricants and Glues list



Name	Lubricants and Glues No.	Remarks
Daifree	GEM1036 (ZLX-ME413A)	Refer to "9.4 DVD MECHA ASSY"
Lubricating oil	GYA1001 (ZLB-PN397B)	Refer to "9.4 DVD MECHA ASSY"
Grease	GEM1018	Refer to "9.4 DVD MECHA ASSY"

# 4. BLOCK DIAGRAM

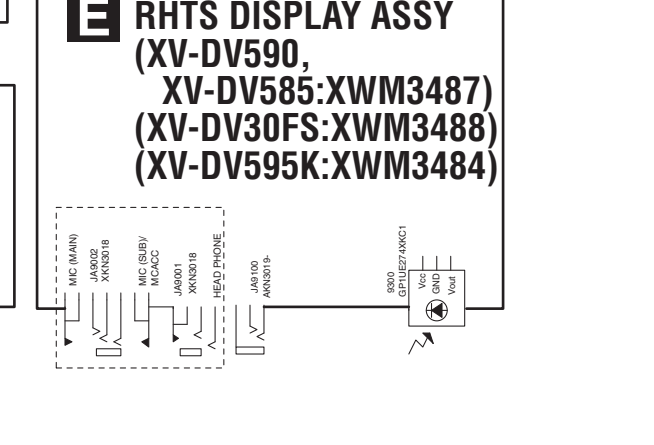
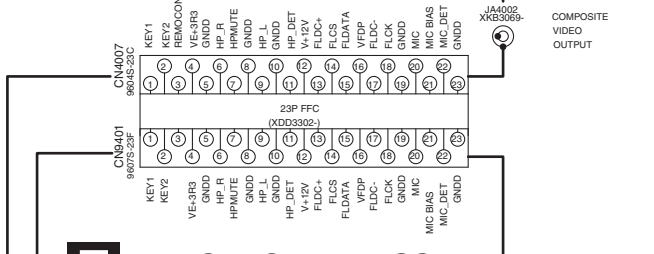
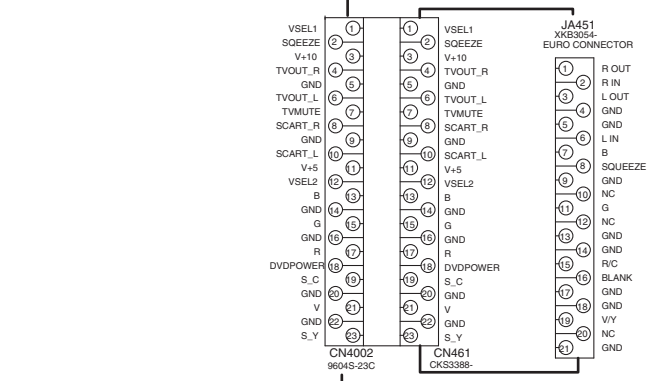
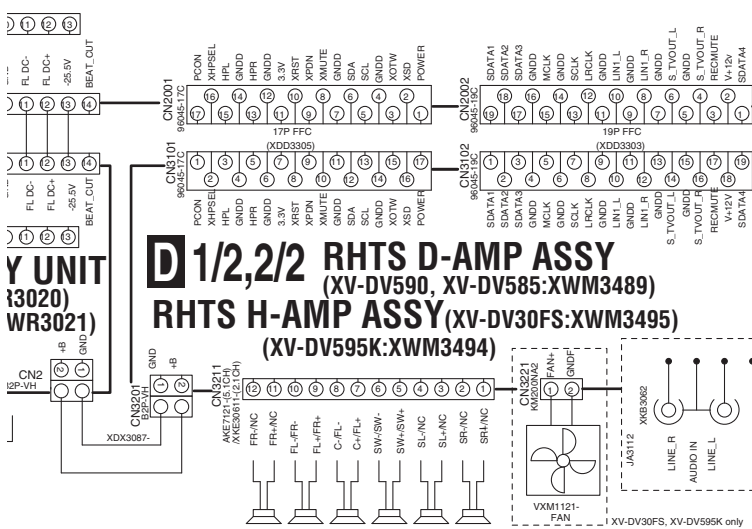
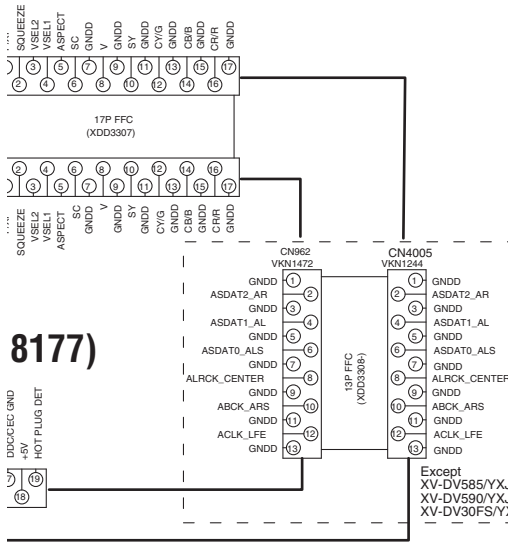
## 4.1 OVERALL WIRING CONNECTION DIAGRAM



A B C D E F



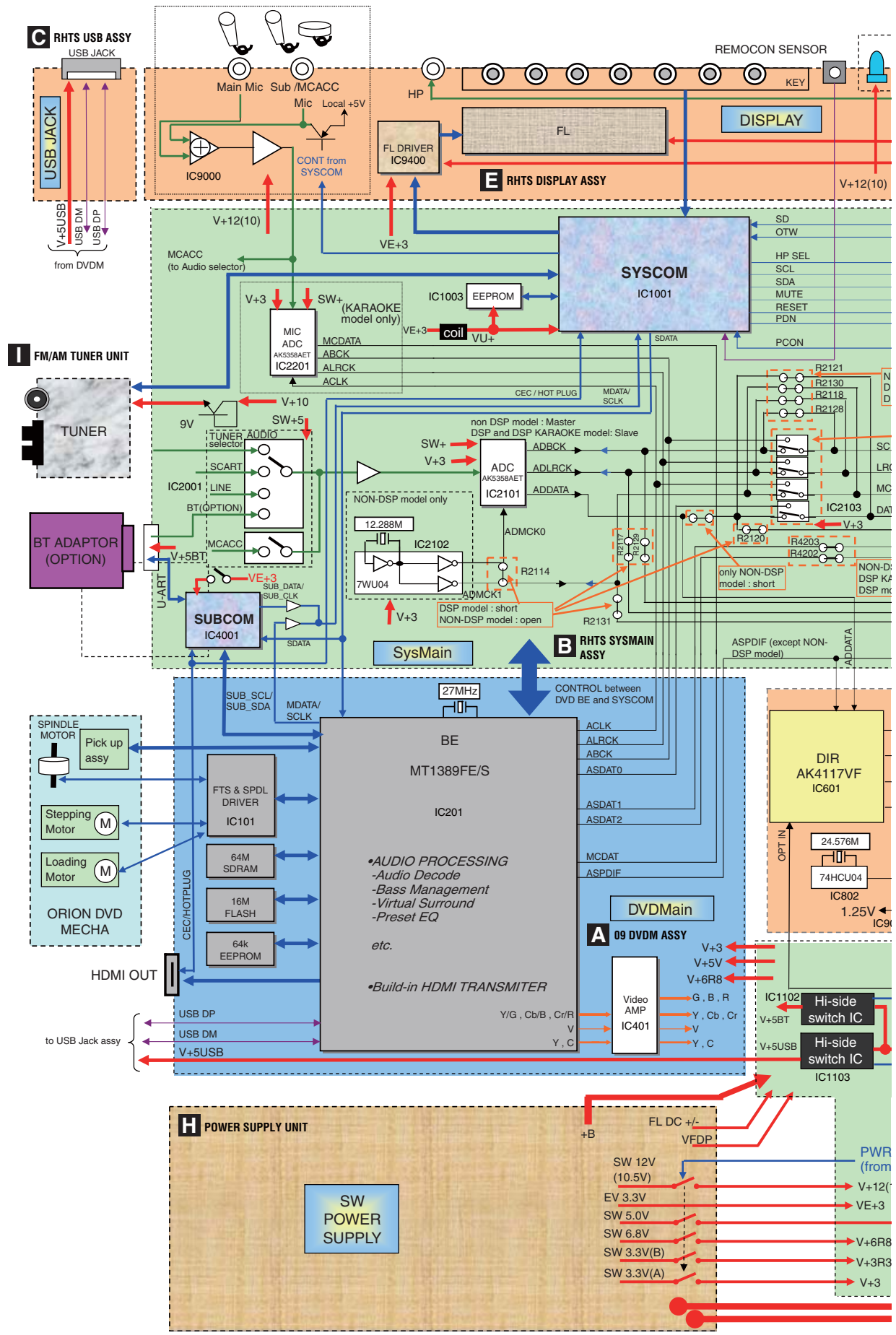
### F EUROSCART ASSY (AWU8291)



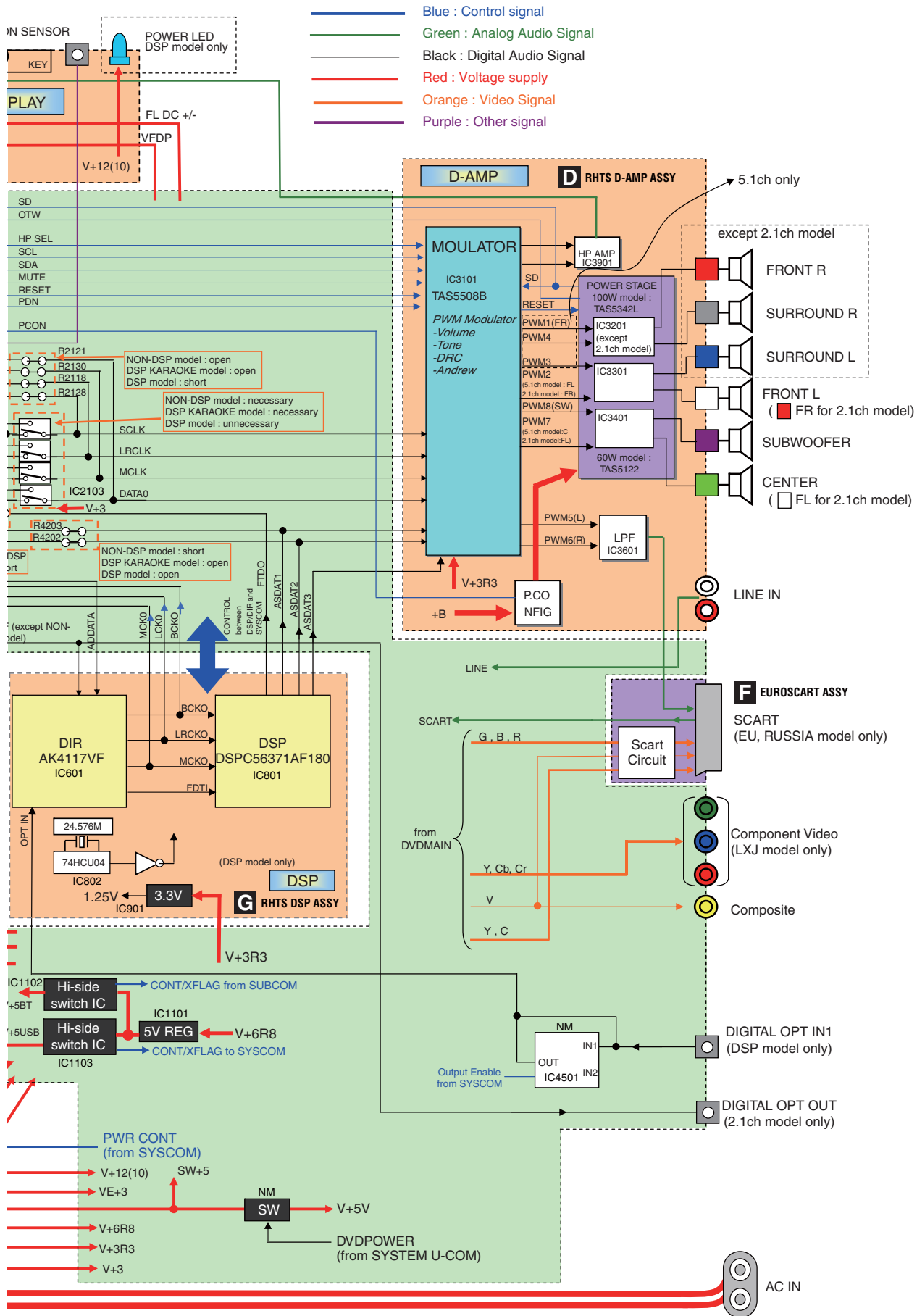
### XV-DV590

# 4.2 OVERALL BLOCK DIAGRAM

A  
B  
C  
D  
E  
F

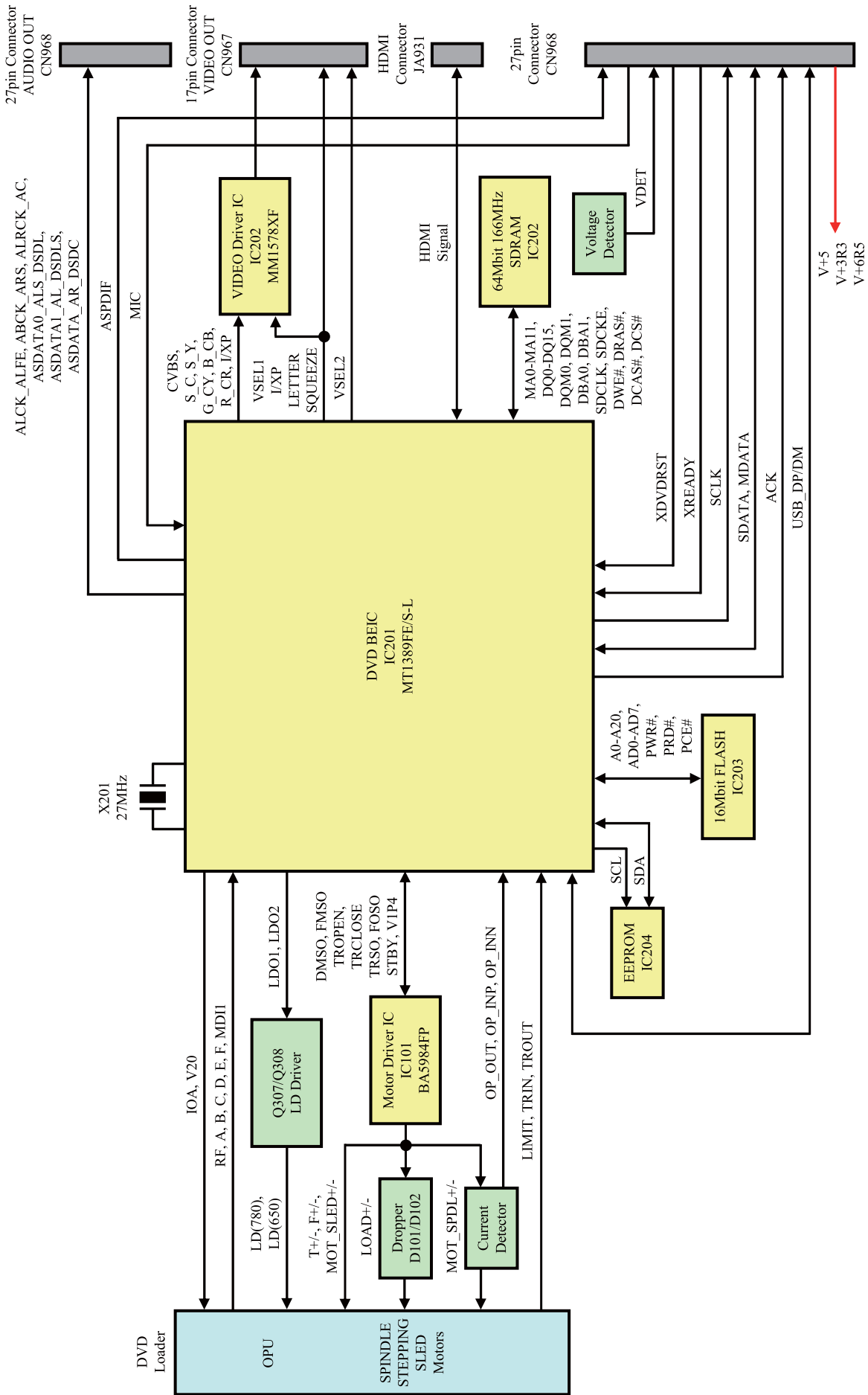






### 4.3 DVD LOADER/DECODER BLOCK DIAGRAM

DVD Loader/Decoder Block Diagram



# 5. DIAGNOSIS

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

### Case when this diagnosis is required :

When playback of any disc, including a test disc (DVD: GGV1025, CD: STD-905), cannot be performed

### How to diagnose

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

#### • No playback of a DVD :

Measure the voltage between the two ends of R322 or R325 on the 09DVDM Assy. If the voltage is 0.4 V or higher, the 650-nm LD is degraded.

#### • No playback of a CD :

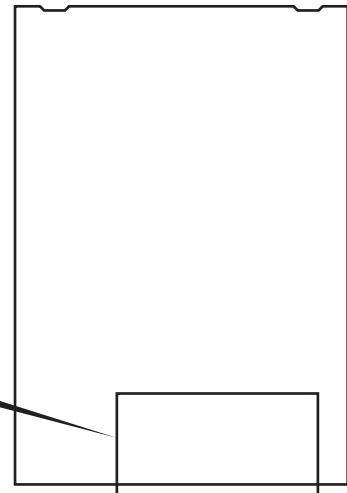
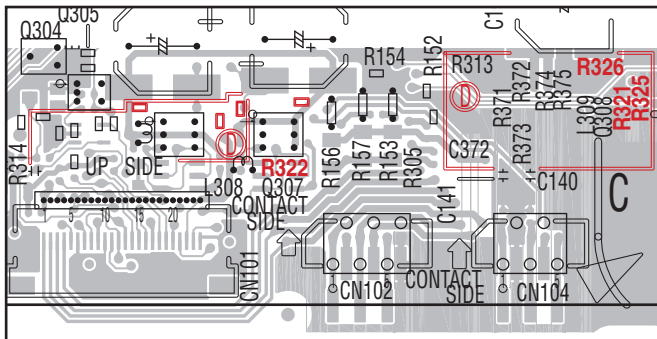
Measure the voltage between the two ends of R321 or R326 on the 09DVDM Assy. If the voltage is 0.4 V or higher, the 780-nm LD is degraded.

If the measurements show degradation of an LD, replace the DVD MECHA Assy.

### How to turn on the LD

Refer to "6.1 TEST MODE".

**A** 09 DVDM ASSY **SIDE A**



## 5.2 DVD TROUBLE SHOOTING

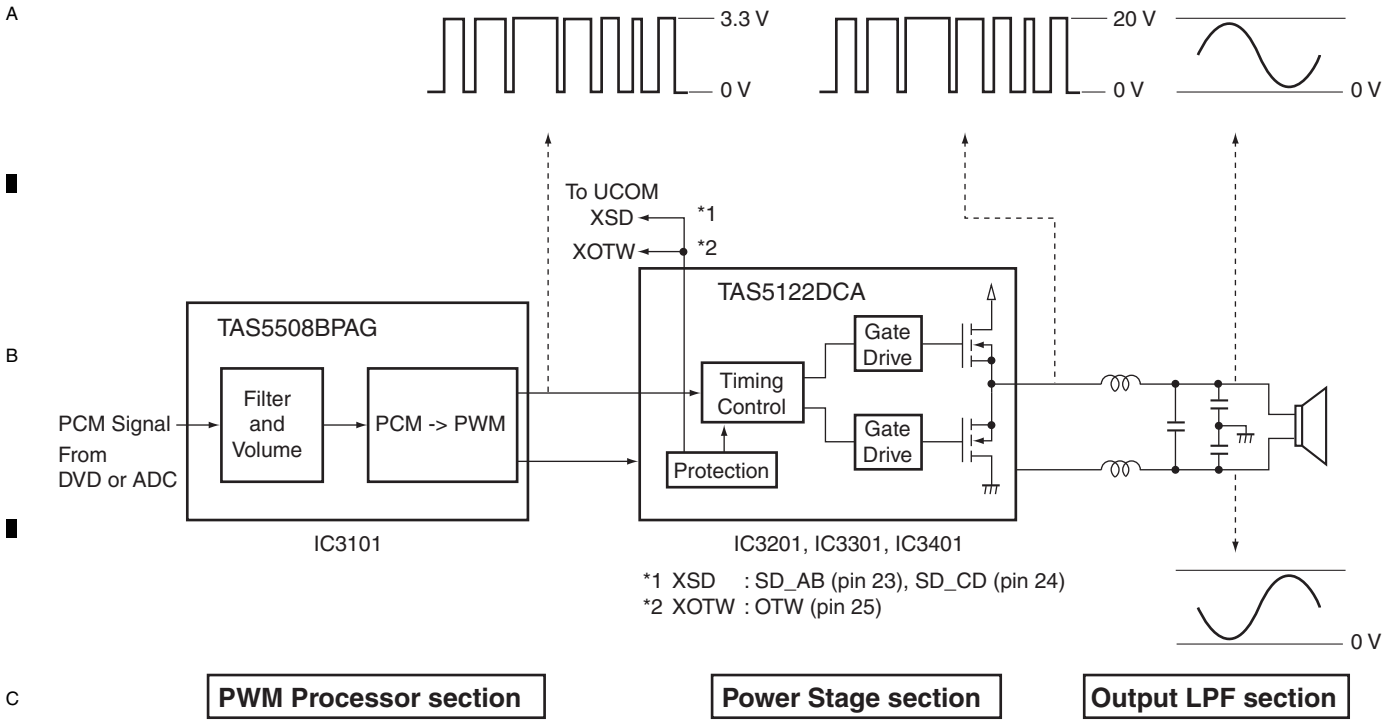
### A ● Symptoms that may occur when any of the following ICs is in failure

IC	Symptoms
<b>EEP ROM</b> (09 DVDM Assy : IC204)	User's data cannot be stored in memory. The ID number is lost.
<b>Flash ROM</b> (09 DVDM Assy : IC203)	The power cannot be turned on. Downloading of the firmware cannot be performed.
<b>DVD IC</b> (09 DVDM Assy : IC201)	Any kind of symptoms (no power, a failure in any of the servo, video and audio systems, USB etc.) may be generated, because the DVD processing is performed by a single chip.
<b>64M SDRAM</b> (09 DVDM Assy : IC202)	No power. Block noise is generated during playback.

No.	Symptoms	Diagnosis Contents	Possible Defective Points
1	The power is not turned on.	Are wires of output connector (POWER SUPPLY Unit) and CN968 (09 DVDM Assy) disconnected or damaged ?	Connector / cable
		Check that the following voltage is output : CN968-pin 24 or pin 25 (09 DVDM Assy): 3.3 V	<b>POWER SUPPLY Unit</b>
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 97 (MDATA) and pin 98 (SCLK) on the 09 DVDM Assy ? (in the range of 0 to 3 V)	<b>09 DVDM Assy</b> DVD IC (IC201)
		Are the signals input into IC1001-pin 85 (MDATA) and pin 86 (SCLK) on the SYSMAN Assy ? (in the range of 0 to 3 V)	<b>SYSMAN Assy</b> UCOM (IC1001)
		Check that the following voltage are output : R1108 (V+5 V) on the SYSMAN Assy: 5 V	<b>POWER SUPPLY Unit /</b> <b>SYSMAN Assy R1108</b>
		Is a resonator (X201: 27 MHz) on the 09 DVDM Assy oscillating ?	<b>09 DVDM Assy</b> Crystal resonator (X201) DVD IC (IC201)
		• Is a signal input into IC203-pin26 (PCE#) on the 09 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 09 DVDM Assy ? (Is a signal fluctuating ?) -> Communication with SDRAM	<b>09 DVDM Assy</b> DVD IC (IC201) Flash ROM (IC203) SDRAM (IC202)
		Is a signal output from IC203-pin 28 (PRD#) on the 09 DVDM Assy? (Is a signal fluctuating for several hundred ms after the power is turned on ?)	<b>09 DVDM Assy</b> Flash ROM (IC203)
		Is a signal input into IC1001-pin 11 (DVD ACK) on the SYSMAN Assy ? (Is a signal fluctuating ?) -> Communication with FL Control IC	<b>09 DVDM Assy</b> DVD IC (IC201) <b>SYSMAN Assy</b> UCOM (IC1001)
		Is a signal output from IC1001-pin 13 (XREADY) on the SYSMAN Assy ? (Is a signal fluctuating in the range of 0 to 3.3 V ?)	<b>SYSMAN Assy</b> UCOM (IC1001)
		Are the signals output from IC1001-pin 84 (SDATA) on the SYSMAN Assy ? (in the range of 0 to 3.3 V)	<b>09 DVDM Assy</b> DVD IC (IC201) <b>SYSMAN Assy</b> UCOM (IC1001)
Are the signals of IC204-pin 5 (SDA) and pin 6 (SCL) on the 09 DVDM Assy fluctuating for one or two seconds after the power is turned?	<b>09 DVDM Assy</b> EEPROM (IC204)		
3	An opening screen is not displayed on the monitor (The FL display lights. The mechanism works.)	Check the video signal path between DVD IC (09 DVDM Assy IC201) and video-out terminal (see the block diagram)	<b>09 DVDM Assy</b> Video circuit after DVD IC (IC201)

No.	Symptoms	Diagnosis Contents	Possible Defective Points
4	A tray cannot be opened. (An opening screen is displayed on the monitor)	<p>Does the voltage of CN965-pin 1 and pin 2 on the 09 DVDM Assy change normally ? Pin 1 (CLOSE (TRIN)): Tray is fully closed: "L" Pin 3 (OPEN (TROUT)): Tray is fully opened: "L"</p> <p>Is the signal input into IC101-pin 1 (TROPEN) on the 09 DVDM Assy? At open: 3.3 V, At close: 0 V</p> <p>Are the signals output from CN965-pin 5 and pin 4 on the 09 DVDM Assy ? Pin 5: Approx. 5 V during opening tray approx. 1 V during closing tray. Pin 4: Approx. 0 V during opening tray approx. 6 V during closing tray.</p> <p>Are wires of CN964 and CN965 on the 09 DVDM Assy disconnected or damaged ?</p> <p>Does the voltage of CN964-pin 5 on the 09 DVDM Assy change to 0 V by pressing the Push switch.</p>	<p>DVD MECHA Assy Switch (SW1)</p> <p>09 DVDM Assy DVD IC (IC201)</p> <p>09 DVDM Assy FTS Driver IC (IC101)</p> <p>Connector / cable</p> <p>Push switch (SW2)</p>
5	Playback impossible (no focusing)	<p>Are the signals output from IC101-pin 16 (F+) and pin 15 (F-) on the 09 DVDM Assy ?</p> <p>Does 650-nm LD emit light ? Does a pickup lens move up / down ? Does an actuator spring bend ?</p> <p>Are plastic parts damaged ? Or is a shaft detached ? Is the turntable detached or tilted ?</p> <p>Is flexible cable of CN965 on the 09 DVDM Assy disconnected or damaged ?</p> <p>Is signal output from IC201-pin 41 (FOSO) on the 09 DVDM Assy ? (Device control of about 1.4 V is output usually. It is fluctuated by about 250 mV with focus up / down.)</p>	<p>09 DVDM Assy FTS Driver IC (IC101)</p> <p>Pickup</p> <p>Mechanism section (motor)</p> <p>Flexible cable / connector</p> <p>09 DVDM Assy DVD IC (IC201)</p>
6	Playback impossible (Spindle does not turn)	<p>Are the signals output from IC101-pin 12 (MOT_SPDL-) and pin 11 (MOT_SPDL+) on the 09 DVDM Assy ? Is pin 21 (STBY) fixed LOW ? (pin 21 is High at playback: 3 V)</p> <p>Is there any part detached from the spindle motor ? Or Is there any foreign object lodged in it ?</p> <p>Are wires of CN964 on the 09 DVDM Assy disconnected or damaged ?</p> <p>Is signal output from IC201-pin 36 (DMSO) on the 09 DVDM Assy ?</p>	<p>09 DVDM Assy FTS Driver IC (IC101)</p> <p>Mechanism section (Spindle motor)</p> <p>Flexible cable / connector</p> <p>09 DVDM Assy DVD IC (IC201)</p>
7	Playback impossible (Playback stops)	<p>Does 650-nm LD deteriorate ? If the voltage at each both ends of R322 and R325 on the 09 DVDM Assy is 0.4 V or more, the 650-nm LD is definitely deteriorated.</p> <p>Does 780-nm LD deteriorate ? If the voltage at each both ends of R321 and R326 on the 09 DVDM Assy is 0.4 V or more, the 780-nm LD is definitely deteriorated.</p> <p>Are there scratches or dirt on the disc ?</p>	<p>650-nm LD deteriorated. (When playback of a DVD is impossible)</p> <p>780-nm LD deteriorated. (When playback of a CD is impossible)</p> <p>Disc</p>
8	Picture disturbance during playback (block noise, freeze, other)	<p>Are there scratches or dirt on the disc ? Is there a problem with the format of the disc ?</p> <p>Check the video signals. Composite video signal (IC401-pin 23) S video signal (IC401-pin 21, pin 26) RGB video signal (IC401-pin 16, pin 18, pin 20)</p>	<p>Disc</p> <p>09 DVDM Assy DVD IC (IC201) Video IC (IC401)</p>
9	No sound (Picture is normal)	<p>Check the waveform (ALCK: IC201-pin 231), (ALRCK: IC201-pin 227), (ABCK : IC201-pin 230), (ASDATA0/1/2: IC201-pin 226/225/223). Check the waveform (ASPDIFF: IC201-pin 215)</p>	<p>09 DVDM Assy DVD IC (IC201)</p>

### 5.3 CIRCUIT DESCRIPTION OF DIGITAL AMP SECTION



#### PWM Processor section

The PCM signals output from the DVD decoder or AD converter 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_AB (pin 23) => L
IC3301	SD_CD (pin 24) => L
IC3401	OTW (pin 25) => 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.

## 5.4 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 23: SD\_AB and pin 24: SD\_CD) and the ports for abnormal-temperature detection (pin 25: /OTW) of the Power Stage ICs (IC3201, IC3301, and IC3401). 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 71: SHUTDOWN

Low voltage at this pin means overcurrent or voltage too low (= V+B27) at a Power Stage IC.

Pin 78: XOTW

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

**Note:** As one Power Stage IC is provided with two channels, three Power Stage ICs (in total 6 channels) are mounted in this unit. For abnormality detection, the unit implements a logical OR operation regarding these three ICs. Therefore, which IC is abnormal cannot be known directly. To find which IC is abnormal, it is required to check the PWM outputs (pins 35, 38, 47, 50) of the each power stage ICs (IC3201, IC3301, IC3401).

### 3. Detection timing

**Start :** Detection starts 500 ms after the PWRCONT port (pin 34) of the system microcomputer becomes active by your pressing the STANDBY/ON key.

**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 1: Indication on the FL display: OC ERR 1

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

Overcurrent detection 2: Indication on the FL display: OC ERR 2

Conditions: The PCONFIG ports (pin 58), which are monitored every 30 ms, become more than 2 Vrms more than 45 % in one minute.

Abnormal temperature detection 1: Indication on the FL display: OVERTEMP

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

Abnormal temperature detection 2: Indication on the FL display: OVERTEMP

(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.

# 5.5 ERROR AND WARNING MESSAGE

A

## USB related warning



USB over current detect error (over 500 mA)

B

## HDMI related warning



HDCP authentication failed after HDMI cable was connected.  
If the set has no HDCP key, it causes this error.

C

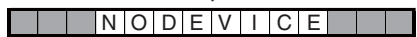
## BT ADAPTER related warning



Power consumption by Bluetooth ADAPTER is too high to supply the power.  
Reconnect the Bluetooth ADAPTER.



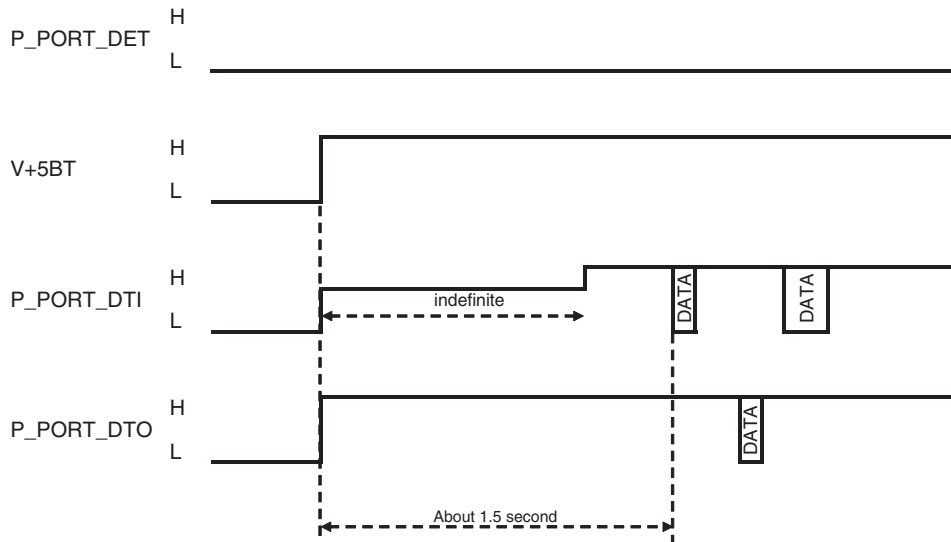
Source change to BT from source other than BT.



When cannot detect a device at BT function

D

ADAPTER PORT terminal sequence in BT AUDIO function



ADP\_DET logic

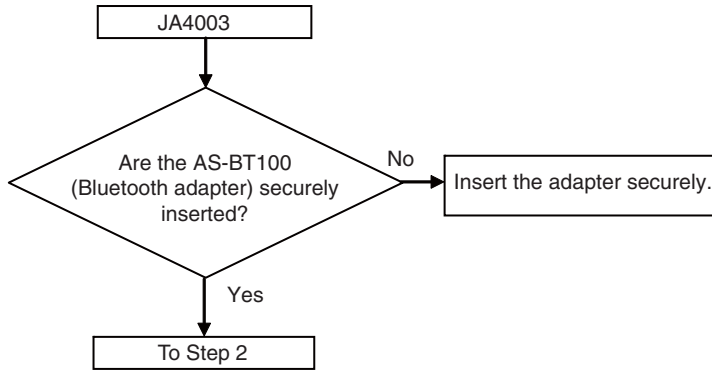
ADAPTER PORT	In non-connection	In connection
P_PORT_DET	H	L
P_PORT_ID	H	0.6 V(0.28 - 0.8 V)

F

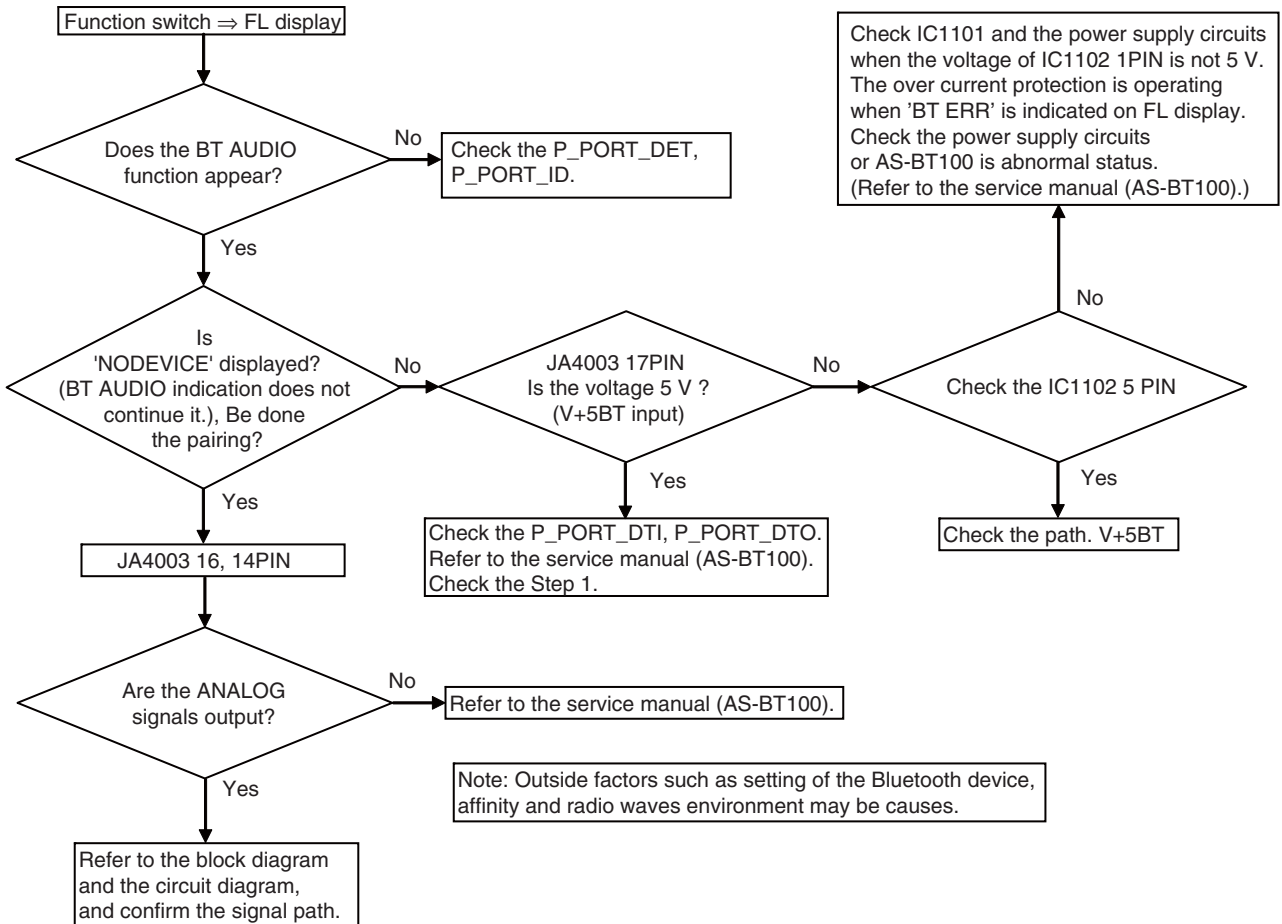


## 5.6 ADAPTER PORT TROUBLESHOOTING

### Step 1: Connect AS-BT100 (Bluetooth adapter)



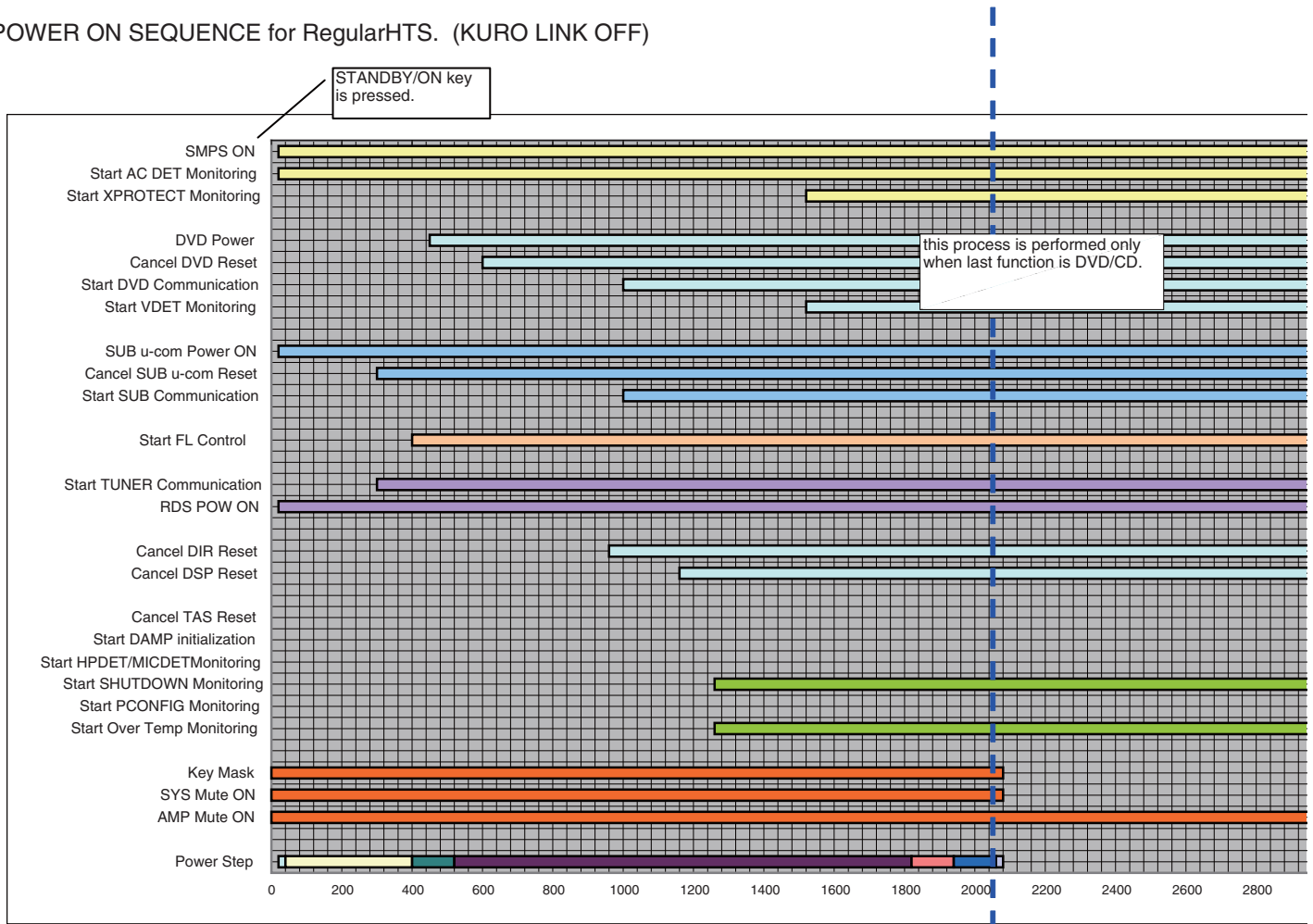
### Step 2: Playback check



# 5.7 POWER ON SEQUENCE

POWER ON SEQUENCE for RegularHTS. (KURO LINK OFF)

A



B

C

D

Items	Signal name on SYSCOM	start	end
SMPS ON	PWRCONT (34pin)	20	6000
Start AC DET Monitoring	ACDET (81pin)	20	6000
Start XPROTECT Monitoring	XPROTECT (54pin)	1520	6000
DVD Power	DVDPOWER (15pin)	450	6000
Cancel DVD Reset	XDVDRST (14pin)	600	6000
Start DVD Communication	SDATA /MDATA /SCLK (84,85,86pin)	1000	6000
Start VDET Monitoring	VDET (53pin)	1520	6000
SUB u-com Power ON	SUBPOWER (17pin)	20	6000
Cancel SUB u-com Reset	SUB_RESET (16pin)	300	6000
Start SUB Communication	SDATA /MDATA /SCLK (84,85,86pin)	1000	6000
Start FL Control	XFLCS / FLDATA / FLCLK (38, 39, 40pin)	400	6000
Start TUNER Communication	TXIDATA /TXCLK /TXODATA /TXCE (3, 5, 6, 19pin)	300	6000
RDS POW ON	RDS POW (9pin)	20	6000
Cancel DIR Reset	XDIRRST (68pin)	960	6000
Cancel DSP Reset	XDSPRST (64pin)	1160	6000
Cancel TAS Reset	XDARST (76pin)	3360	6000
Start DAMP initialization	DASCK,DASDA (1, 2pin)	3560	6000
Start HPDET/MICDETMonitoring	HPDET /MIC DET (49,60pin)	3760	6000
Start SHUTDOWN Monitoring	XSHUTDWN (71pin)	1260	6000
Start PCONFIG Monitoring	PCONFIG (58pin)	3560	6000
Start Over Temp Monitoring	XOTW (78pin)	1260	6000
Key Mask	-	0	2080
SYS Mute ON	DMUTECHECK (22pin)	0	2080
AMP Mute ON	DSPMUTE (70pin)	0	5860
Power Step		20	

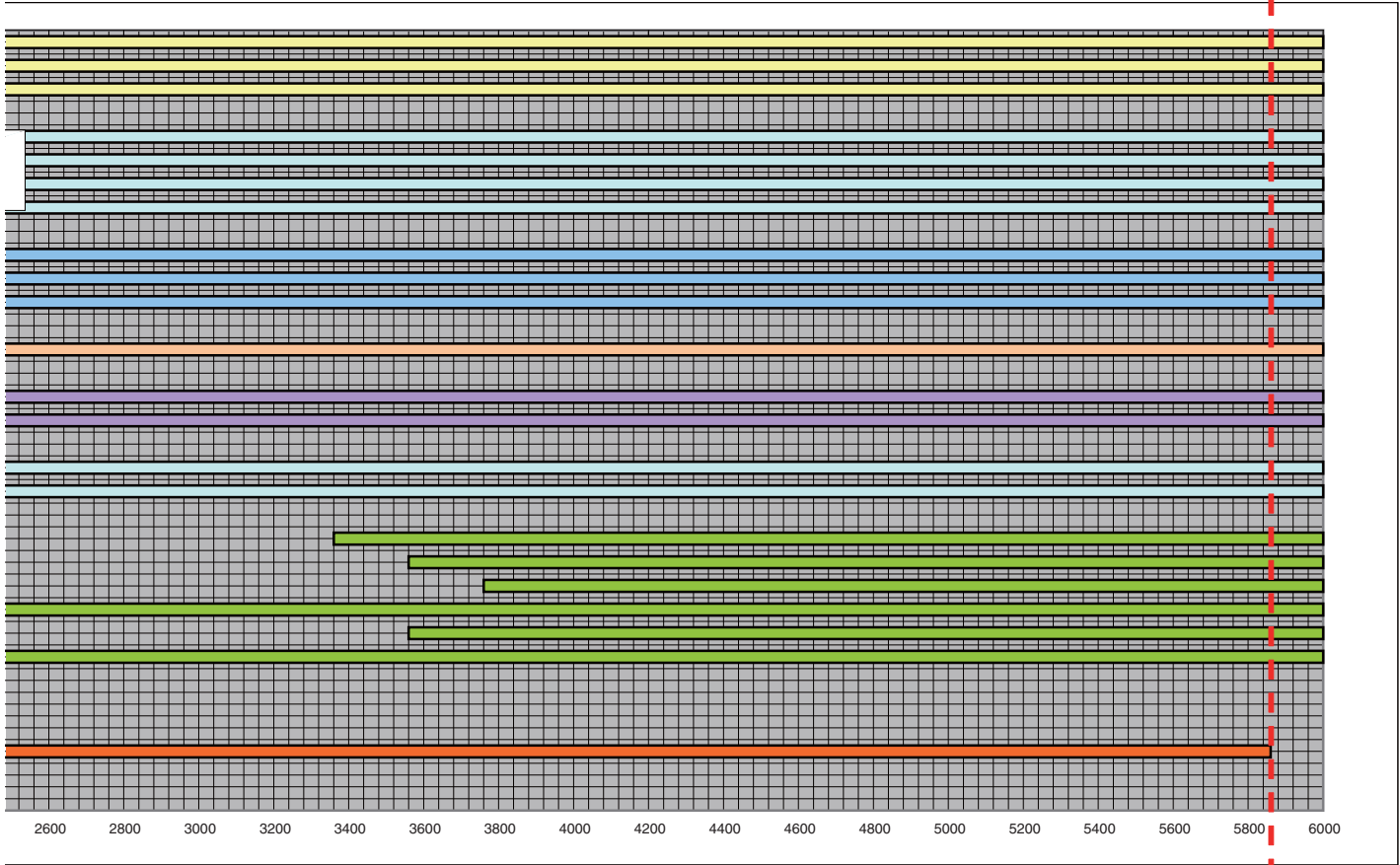
Power ON (User operation is admitted)

\* I specify the shortest case in power on co

E

F

20	20	360	120	1300	120	120	20
STEP0^1	STEP1^2	STEP2^3	STEP3^4	STEP4^5	STEP5^6	STEP6^7	STEP7^8
	40	400	520	1820	1940	2060	2080



ON  
tion is  
d)

st case in power on completion time.

# 6. SERVICE MODE

## 6.1 TEST MODE

### A ■ Test Mode Functional Specification

#### ① Test mode entry

In the power ON state, press the [ESC] key and [TEST] key in order of the Test mode remote control unit.

- OSD displays test mode.

#### ② LD ON

Enter the test mode.

DVD : Press the [TEST] and [1] keys in order, and turn on the laser diode (650 nm).

CD : Press the [TEST] and [4] keys in order, and turn on the laser diode (780 nm).

B

#### ③ Release the Test mode

- Turn off the power.
- Press the [ESC] key of the remote control unit and reset it.

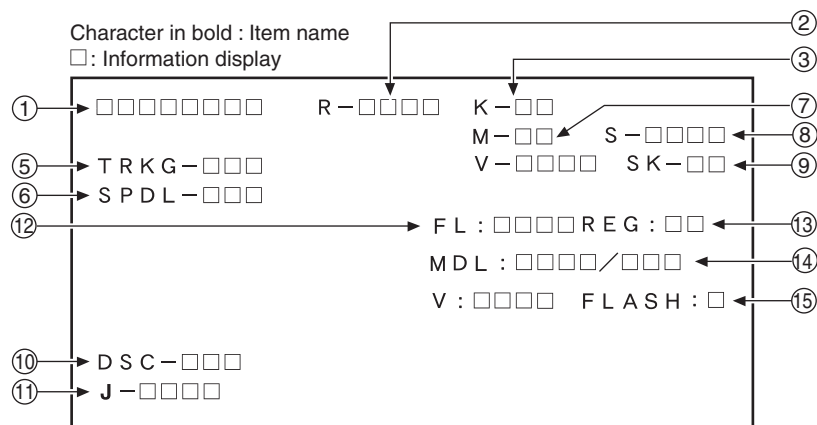
C

D

E

F

## 6.2 DISPLAY SPECIFICATION OF THE TEST MODE



### ① Address indication

The address being traced is displayed in number.  
(as for the DVD, indication of decimal number is possible.)  
DVD : ID indication (hexadecimal number, 8 digits)

CD : ID indication [\*\*\*\*\*]

### ② Code indication of remote control unit [R - \*\*\*\*]

In case of double code, display a 2nd code.

### ③ Main unit keycode indication [K - \*\*]

### ⑤ Tracking status [TRKG - \*\*\*\*]

Tracking on : [ON]  
Tracking off : [OFF]

### ⑥ Spindle status [SPDL - \*\*\*\*]

CLV : [CLV]  
Off : [OFF]

### ⑦ Mechanism (loading) position value [M - \*\*]

Unknown : [01] or [41]  
Open state : [04]  
Close state : [08]  
During opening : [12]  
During closing : [22]

### ⑧ Slider position [S - \*\*\*\*]

In Side Switch ON : [01]  
In Side Switch OFF: [00]

### ⑨ Output video system [V - \*\*\*\*]

NTSC system : [NTSC]  
PAL system : [PAL]  
Automatic setting: [AUTO]

### Scart terminal output [SK - \*\*]

(Display only the WY model which can do the output setting of scart terminal.)

VIDEO : [00]  
S-VIDEO : [01]  
RGB : [02]

### ⑩ Disc sensing [DSC - \*\*\*\*]

The type of discs loaded is displayed.  
[DVD], [CD]

### ⑪ Jitter value [J - \*\*\*\*]

Note: Don't use it.

### ⑫ Version of the FL controller [FL: \*\*\*\*]

Note: Don't use it.

### ⑬ Region setting of the player [REG: \*]

Setting value : [1] to [6]

### ⑭ Destination setting of the FL controller [MDL: \*\*\*\* / \*\*\*\*]

Four characters in the front represent code 01.  
Three characters in the back represent the destination code.

J: Japan, K: North America, R: General Area,  
LB: Taiwan, WY: Europe, TH: Thai, RAM: China

### ⑮ Version of the flash ROM [V: \*\*. \*\*]

Flash ROM size [FLASH = \*\*]

## 6.3 FUNCTIONAL SPECIFICATION OF THE SHORTCUT KEY

A Only during normal playback, the following shortcut keys can be assigned by pressing a required key after pressing the ESC key of the remote control unit. To quit, press the ESC key

Command Contents	Conditions	Remote Control Key Name
Memory clear and region / revision indication		CLEAR (*1)
Average value measurement of DVD error rate		5 (*1)
CD error rate measurement		5 (*1)
Scart terminal output : VIDEO	Models equipped with Scart terminal	AUDIO
Scart terminal output : S-VIDEO		SUBTITLE
Scart terminal output : RGB		ANGLE
Progressive OFF	Only for progressive models	R_SKIP
Progressive ON		F_SKIP
HDMI Resolution : 1920 x 1080p	Only for HDMI models	PROGRAM
FL indication of ID number		STEREO (*1)
ZOOM ON (x4)		ZOOM
Service mode indication (error rate indication, etc.)		CHP/TIM (*1)
Model information indication		CHAP (*1)
Title search Input mode IN Title No. input Search execution		SIDE A (*1) Numbers (*1) PLAY (*1)
Region confirmation mode		A.MON (*1) Numbers (*1)

\*1 : Test mode remote control unit

### • Service mode indication (ESC + CHP/TIM keys)

ID Address

The error rate is always displayed in exponential notation, e.g.,  $*** e - *$ , for both DVDs and CDs.

EDC/ID/AV 1 error history (ID Address, EDC/ID Error, last eight errors)

### • Calculation of the average error rate (ESC + "5" [Test mode remote control unit] keys)

The average of the last eight error rates is calculated and indicated in exponential notation. After the calculation is completed, "OK" or "NG" is displayed. If "NG" is displayed, the disc tray will open (for both DVDs and CDs)

For DVDs: OK with  $5.0e-4$  or less, for CDs: OK with  $7.6e-3$  or less

### • Indication of model information (ESC + CHAP keys)

For details, see 6.4.

### • Region confirmation mode (ESC + A.MON [Test mode remote control unit] + "1"- "6" [Test mode remote control unit] keys)

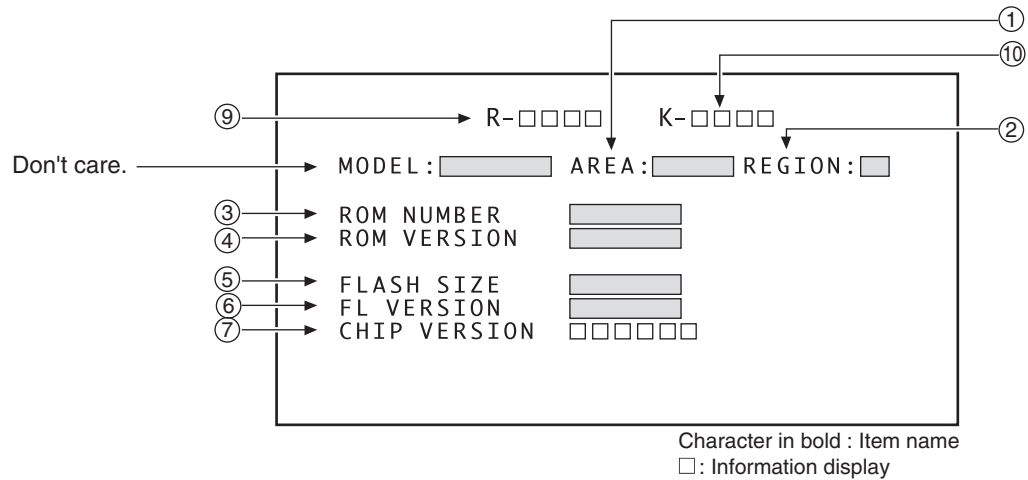
After you press the A.MON key while holding the ESC key pressed and then input the region number, if the number is different from that set in the unit, an error message is displayed, and the tray opens.

## 6.4 SPECIFICATION OF MODEL INFORMATION DISPLAY

To display model information : Press the ESC key then the CHAP key.

To close the model information display : Press the ESC key.

### • Display contents



① **Destination indication**

Display it according to model information set from the FL controller.

② **Region No.**

③ **Part number**

④ **ROM version**

⑤ **Flash size**

⑥ **FL controller version**

⑦ **CHIP VERSION**

⑨ **Remote control code**

⑩ **Key code of Main unit**

# 6.5 FUNCTIONAL SPECIFICATION OF THE SERVICE MODE

## • Display during Service Mode

To enter Service Mode, press the CHP/TIM key while holding the ESC key pressed.  
To quit, press the ESC key.

### Service mode display

- ① ID Address
- ② Error rate (always displayed), in exponential notation

```
ERROR RATE : * * * * *
            ( * * * * )
```

↑  
Number of error

## • Calculation of the average error rate

For DVDs: OK with 5.0e-4 or less, for CDs: OK with 7.6e-3 or less

ex) For DVDs

### • Step 1

△△e - □

△△e -6 : OK

△△e -5 : OK

△△e -4 : Refer to Step 2

△△e -3 : NG

△△e -2 : NG

### • Step 2

△△e -4

3.0e -4 : OK

4.0e -4 : OK

5.0e -4 : OK

6.0e -4 : NG

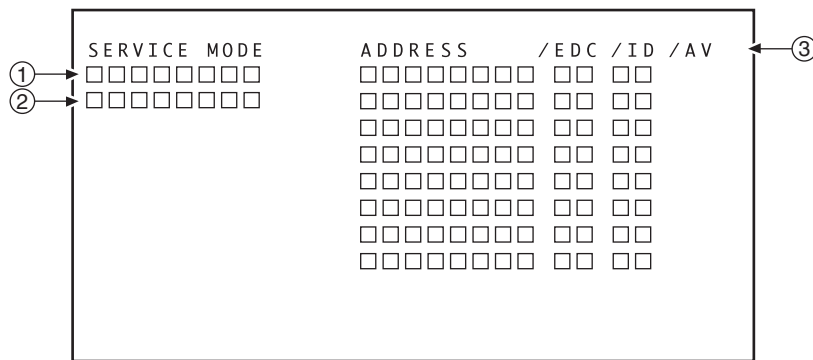
7.0e -4 : NG

## ③ EDC/ID error history (ID Address, EDC/ID errors, last eight errors)

Note:

\* Error of AV1 is not supported in this player.

Indication plan contents



Character in bold : Item name  
□ : Information display



# 6.6 SERVICE TEST MODE

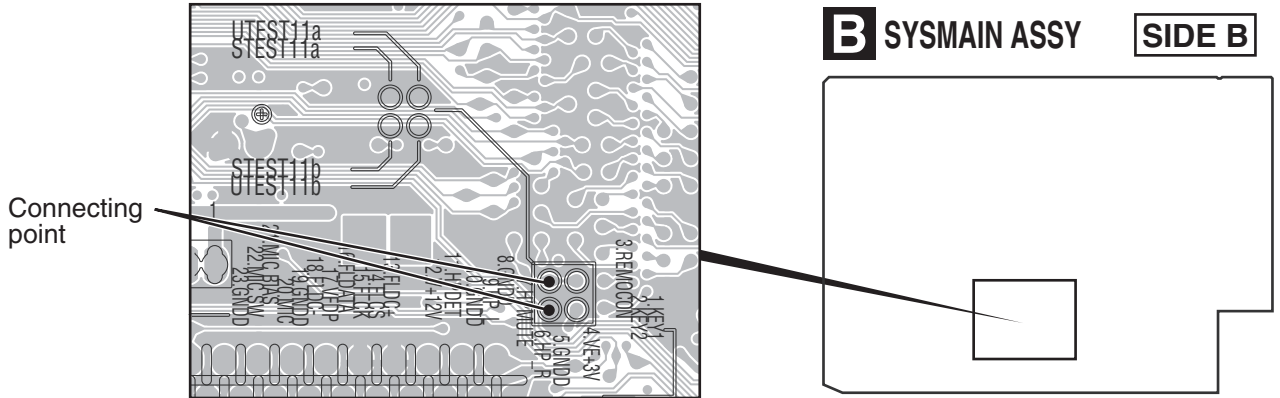
## 1. Configuration and conditions during checking

- Emergency shut down will not happen even if breakdown happens in the Service Test mode. (Just ignore it)
- POWER ON in test mode can be done in less than 1 minute even when emergency shut down happens when error is detected.
- Total power on time can be checked.

## 2. How to enter the Test Mode

- Test mode can also be entered in either of the following ways:
  1. Connect the power cord to the wall outlet with the STEST port (microcomputer terminal IC1001: pin 59) at GND. (See "Service Test Mode connecting point".)
  2. When power is on and VOL 0, Continually pressing the FUNCTION key and POWER key on the front panel for more than 8 seconds.
    - \*In case of method 2, "5. Error" is not displayed and the unit will be shut down for an emergency till enter Test mode.

### ■ Service Test Mode connecting point



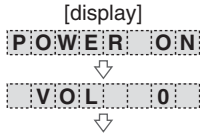
## 3. Indications on the FL display when Test mode is entered

Initial function is HDMI1.

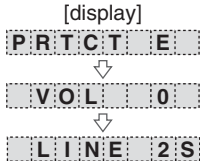
The set will automatically power on and the following display will appear.

- The FL display during TEST MODE entry is different depending on whether NORMAL POWER OFF occurred before entering the TEST MODE or EMERGENCY SHUT DOWN occurred due to error detection.
- Listening mode will become Ext.Stereo (5ch Stereo) mode so that multichannel output can be obtained.
- Even if Display Mode is Auto Display setting, FL display is displayed during test modes.

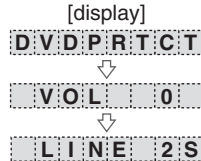
### [After NORMAL POWER OFF]



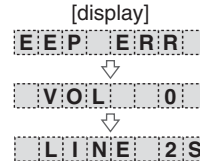
### [After AMP error]



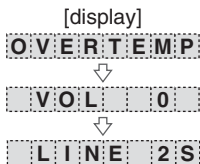
### [After DVD error]



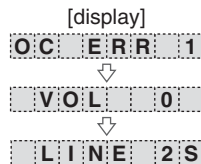
### [After EEPROM error]



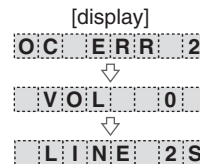
### [After ABNORMAL TEMP. DETECTION]



### [After OVERCURRENT DETECTION1]



### [After OVERCURRENT DETECTION2]



\* POWER OFF to get out from TEST MODE.

\* When the TEST MODE is released, only the RAM which stores the error status will be initialized. (RAM that can be set by the user will not initialized.)

## A 4. Operation

- Basically, operation is the same as the NORMAL MODE.  
However, the following display will be indicated when function is changed to show that the TEST MODE is in operation.

[Function]	[display]
DVD/CD	D V D / C D S
USB	U S B S
USB	B T A D U I S
TUNER	T U N E R S

B

	< DSP model >	< NonDSP model >	< NonDSP model > [MY,RUS model only]
LINE1 (OPT IN)	L I N E 1 S		
LINE2 (RCA IN)	L I N E 2 S	L I N E S	L I N E 1 S
	[MY,RUS model only]		
LINE3 (SCART IN)	L I N E 3 S		L I N E 2 S

### [Only for models without DSP]

- When function is switched to LINE, SURROUND mode will switch to X-STEREO (5CH STEREO) just for the TEST MODE. (NORMAL MODE: 2CH STEREO)

At this point, sound checking can't be done using HP.

(HP operation cannot be guaranteed for X-STEREO (5CH STEREO))

C

All functions, other than LINE can be used for sound checking using HP.

### [Models with DSP]

- Change the SURROUND mode to X-STEREO (5 ch STEREO) mode for multi CH output.

## 5. Errors

- BREAKDOWN CATEGORY: Depends on the error displayed during POWER ON.

P R T C T E

### Protect circuit is operating.

D

1. Depending on the different power supply abnormalities, V+12, V+3SUB, V+3R3, V+6R8, SW+5 short-circuit occurred or V+12, V+3SUB, V+3R3, V+6R8, SW+5 has exceeded the stipulated standardized values.
2. In the system microP (AYW7271, AYW7270) somewhere, the XPROTECT(54Pin) line has either shorted to ground or has been disconnected.

D V D P R T C T

### Abnormal DVD.

1. Depending on the power supply abnormalities, V+6R5, V+5V, V+3R3 short-circuit occurred or V+6R8, V+5V, V+3 has exceeded the stipulated standardized values.
2. In the system microP (AYW7271, AYW7270) somewhere, the VDET line has either short to ground or disconnected.

E

E E P E R R

1. Communication line to the EEPROM could either be disconnected or short.
2. The EEPROM IC itself could be faulty.

O C E R R 1

O C E R R 2

F

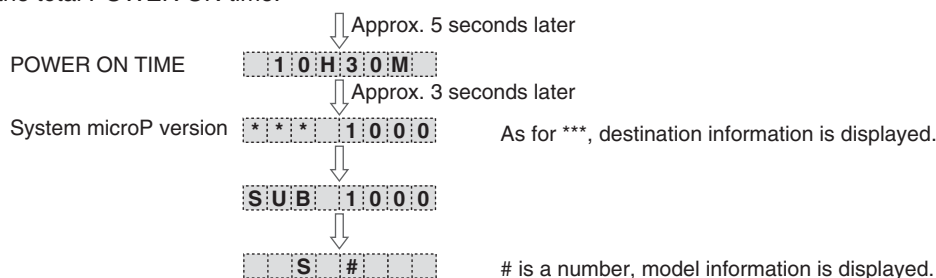
- If error display does not come on again when POWER ON in the NORMAL MODE, this could mean that the speaker terminal is short.
- If error display comes on, the following conditions are some possibilities:
  1. In the AMP ASSY, either one or more of the digital amp IC has broken down.
  2. Short-circuit occurred somewhere between the faulty IC(s) and speaker terminal.
  3. The XSD SHUTDOWN (71Pin) line has either short to ground or disconnected somewhere between the faulty digital amp IC and system microP (AYW7271, AYW7270).

**O:V:E:R:T:E:M:P**

- No abnormality if "OVERTEMP" display does not come on when POWER ON in the NORMAL MODE again. (The TEMP could have just gone up temporarily. Try reducing the volume)
- When the "OVERTEMP" display comes on again, the following conditions are some possibilities:
  1. In the AMP ASSY, either one or more of the digital amp IC has broken down.
  2. The XOTW(78 Pin) line has either short to ground or disconnected somewhere between the faulty digital amp IC(s) and system microP (AYW7271, AYW7270).

**6. Total Power on Time Display**

- If FUNCTION key is pushed continuously for 5 sec during POWER ON, the system microP version display will come on after the total POWER ON time.



## ◆ Destination information

MY: Europe  
 KU: North America  
 DD: general  
 JJ: Japan  
 CN: China  
 LA: South and Central America  
 RUS: Russia  
 AU: Australia  
 THA: Thailand  
 DBD: Taiwan  
 MDX: the Middle and Near East

## ● Model information

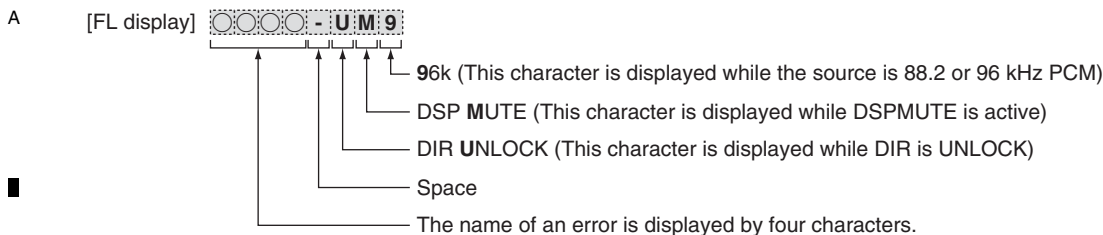
1: BASE  
 2: BASE\_ST  
 3: TALL  
 4: UPPER\_ST  
 5: UPPER (TALL)  
 6: LCD match (2.1ch)  
 MODELERR:DUMMY

- Power-on time is always counted while the power is on, regardless of unit's functions and operations. However, it is not counted during Standby mode.
- The maximum countable power-on time is 255H59M (255 hours 59 minutes.) The indication will not advance beyond that.
- The accumulated power-on time basically cannot be cleared.



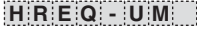




**7. DSP Error Display (for models with DSP only)**

- During POWER ON, you can switch between DSP error display <=> Normal display when the SOUND key on the remote control is pressed.

## 6.7 DISPLAY SPECIFICATIONS OF DSP ERROR



### [Example]

- B
- ERR.0  Cannot receive data from the DIR  
--> Probably due to faulty DIR or bad connection
- ERR.1  Cannot receive data from the DSP  
--> Faulty communication between DIR and DSP  
--> Probably due to faulty DSP or connection on the circuit board
- ERR.2  No HREQ return value  
--> Probably due to faulty DSP
- ERR.3  DSP error message  
--> Faulty communication between the DIR and DSP  
--> Probably due to faulty DSP
- C
- ERR.4  DECMUTE on all the time  
--> Faulty communication between the DIR and DSP  
--> Probably due to faulty DSP
- NO ERR  96 kHz source play  
(the source is 88.2/96 kHz.)
- NO ERR  No abnormality  
(the source is not 88.2/96 kHz.)

D

### DSP error message mode

Press "SOUND" button in service test mode to show DSP error message displays.

Press "SOUND" again to select normal service test mode.

This means that the usual function of "SOUND" is not effective in the service test mode.

E

F

5

6

7

8

# 7. DISASSEMBLY

**Note 1:** Do NOT look directly into the pickup lens. The laser beam may cause eye injury.

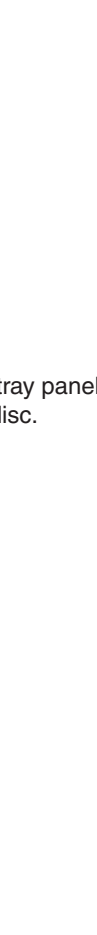
**Note 2:** Even if the unit shown in the photos and illustrations in this manual may differ from your product, the procedures described here are common.

## Disassembly

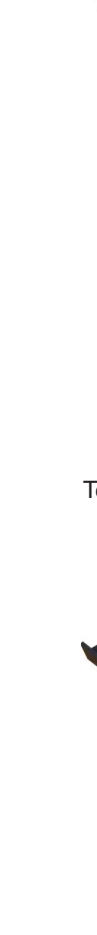
### [1] Bonnet, Tray Panel

Remove the bonnet by removing the nine screws.

(1) Press the  STANDBY/ON button to turn on the power.





(2) Press the  OPEN/CLOSE button to open the tray.




(3) Remove the tray panel.

(4) Set the test disc.



Test disc

Tray panel



XV-DV590

5

6

7

8

37

A  
 (5) Press the ▲ OPEN/CLOSE button to close the tray. (Test disc is clamped.)



B  
 (6) Press the ⏻ STANDBY/ON button to turn off the power.  
 (7) Pull out the power cord.



C

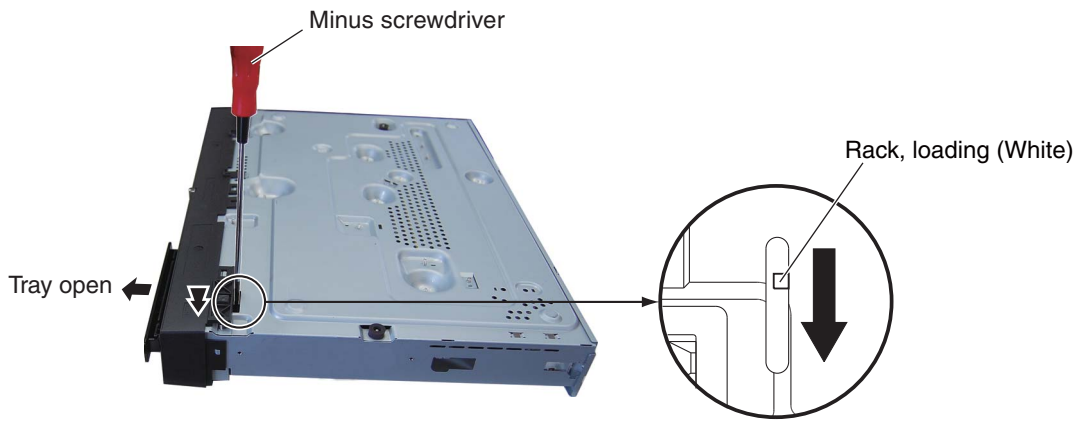
D

**How to open the tray when the power cannot be on**

- (1) Slide the rack, loading (White) toward the arrow direction by using a minus screwdriver to release the lock.
- (2) Manually open the tray.

**Note:**

Please strongly pushing rack, loading (White) to release the lock because the tray doesn't go out easily.



• Bottom view

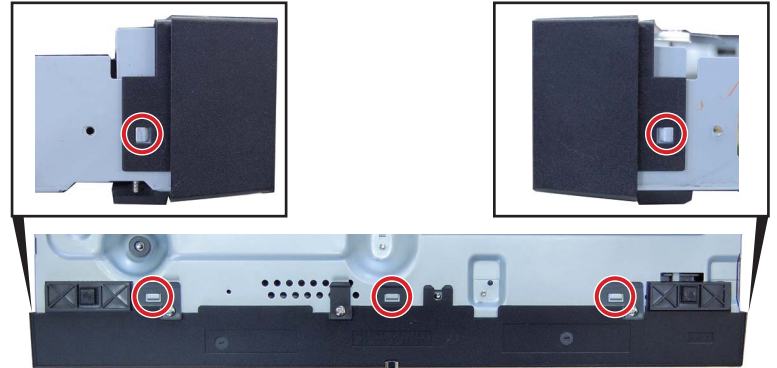
## [2] Front Panel Section

(1) Remove the three screws. (BBZ30P080FNI)



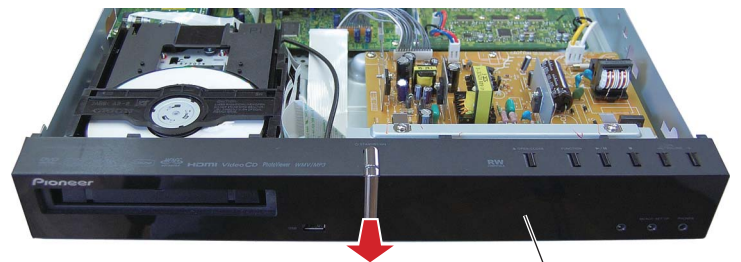
• Bottom view

(2) Unhook the five hooks.



• Bottom view

(3) Remove the front panel section.



Front panel section

**Note** Ⓐ:

Do not use an electric screwdriver.

If the screw is over-tightened, the screw threads may be damaged.



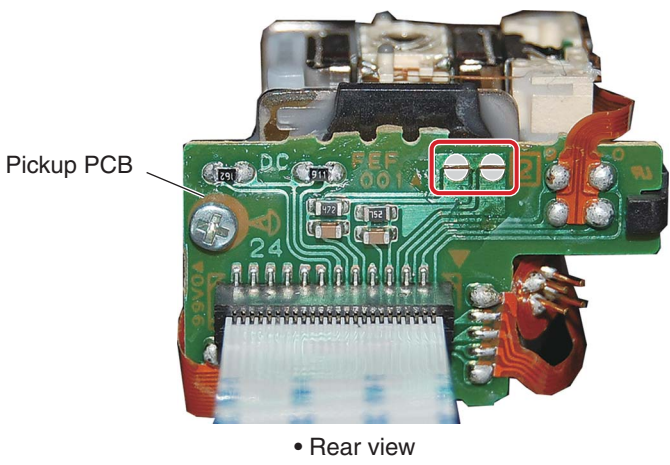
• Bottom view

Ⓐ

### A [3] DVD MECHA Assy

(1) Short-circuit two positions soldering.

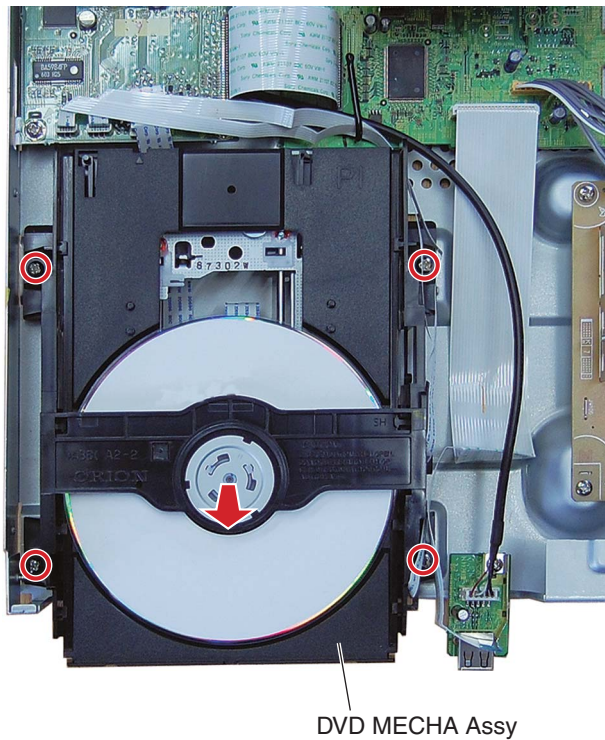
**Note:**  
After replacement, connect the flexible cable, then remove the soldered joint (open).



C (2) Disconnect the three flexible cables.

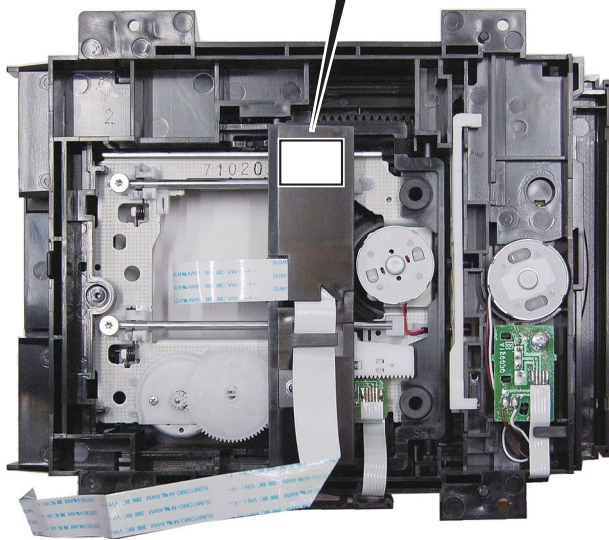
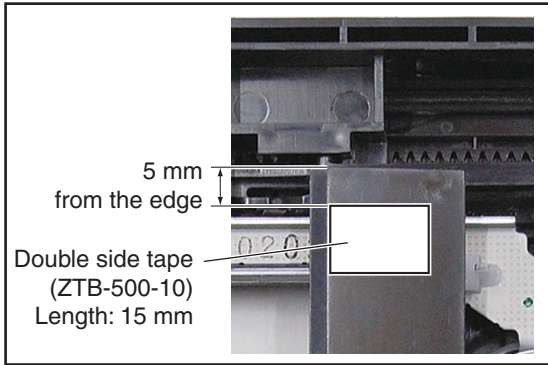


D (3) Remove the four screws. (BBZ30P080FNI)  
E (4) Remove the DVD MECHA Assy.

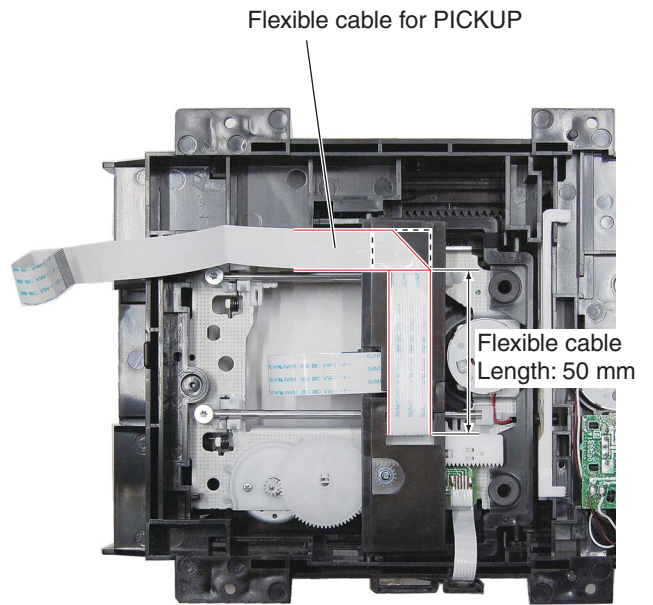




# Arrangement of The Flexible Cables



• Bottom view



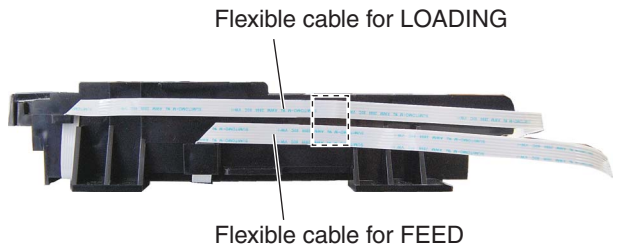
• Bottom view



Double side tape (ZTB-500-10)  
Length: 20 mm



• Right view



• Right view

## A Removal of DVD MECHA Assy Parts

### NOTE

Disassemble only the DVD MECHA Assy parts listed here. Minute adjustments are needed if the disassembly is done. If the repair is needed except listed parts, replace the DVD MECHA Assy.

### 1: TRAY (Refer to Fig. 1-A)

1. Set the Tray opened. (Refer to the **DISC REMOVAL METHOD AT NO POWER SUPPLY**)
2. Unlock the 2 supports ① and draw it while sagging the Tray.

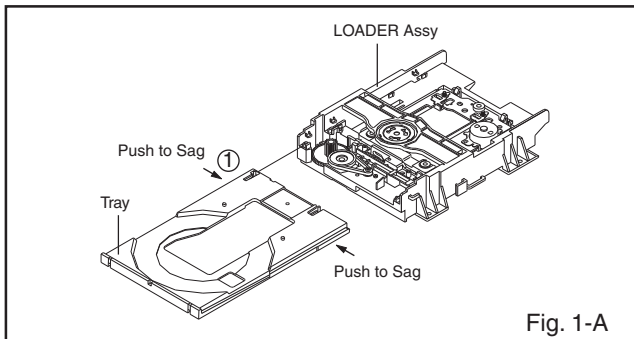


Fig. 1-A

### NOTE

1. In case of the Tray installation, install them as the circled section of Fig. 1-B so that the each markers are met.

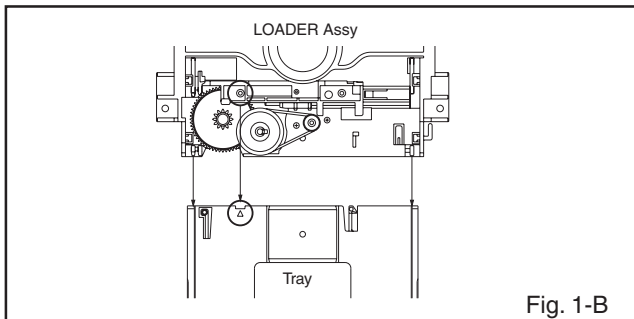


Fig. 1-B

### 2: TRAVERSE ASSY (Refer to Fig. 2-A)

1. Remove the screw ①.
2. Unlock the 2 supports ②.
3. Remove the Insulator (R) from the LOADER SUB Assy.
4. Remove the TRAVERSE Assy.

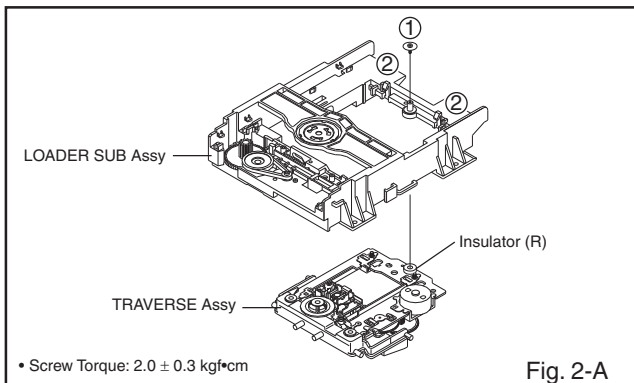


Fig. 2-A

### NOTE

1. In case of the TRAVERSE Assy, install it from (1) to (4) in order. (Refer to Fig. 2-B)
2. In case of the TRAVERSE Assy installation, hook the wire on the LOADER Assy as shown Fig. 2-C.

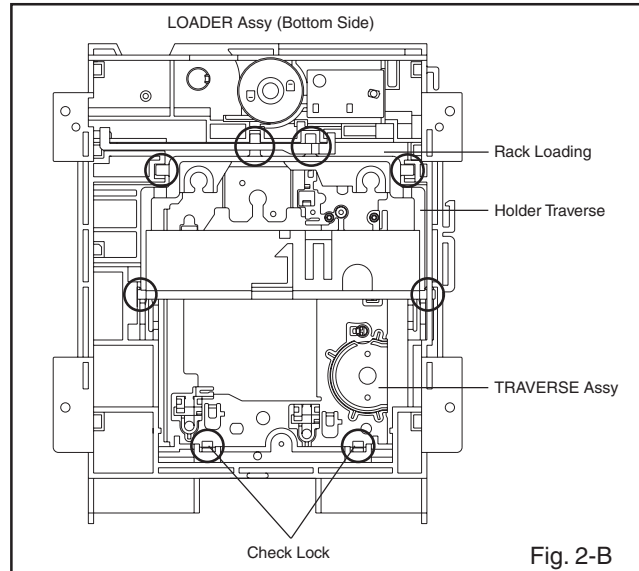


Fig. 2-B

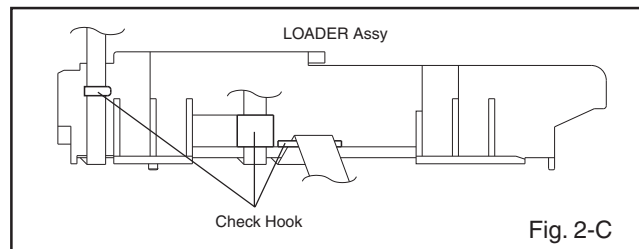


Fig. 2-C

### 3: LOADING MOTOR PCB Assy / LOADING BELT (Refer to Fig. 3-A)

1. Remove the Loading Belt.
2. Remove the screw ①.
3. Remove the LOADING MOTOR PCB Assy.
4. Remove the 2 screws ②.
5. Remove the Loading Motor.
6. Remove the Gear Pulley.

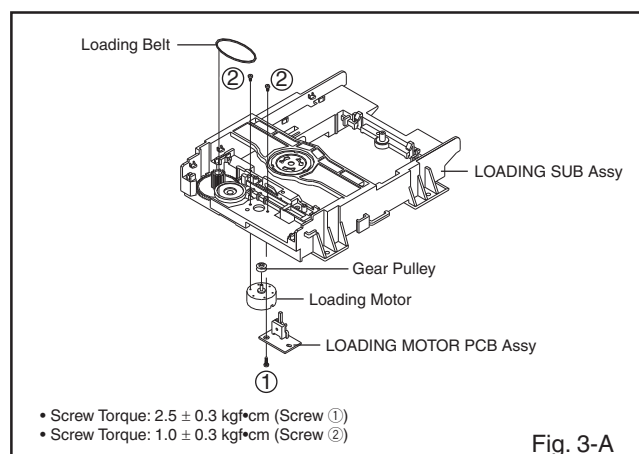
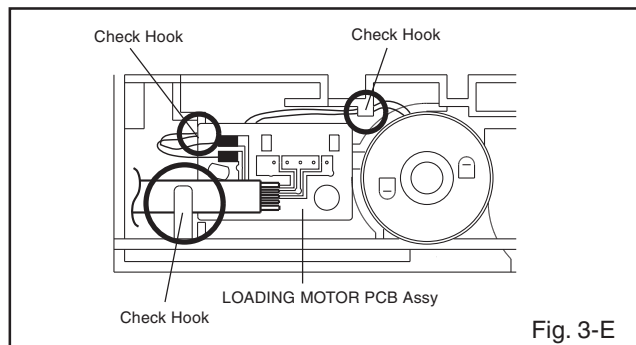
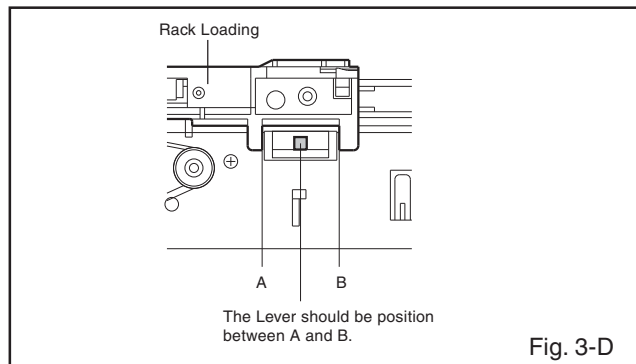
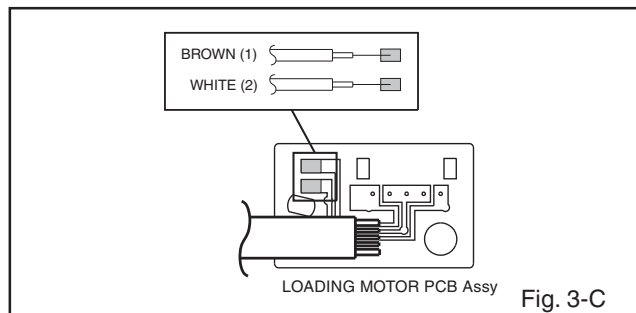
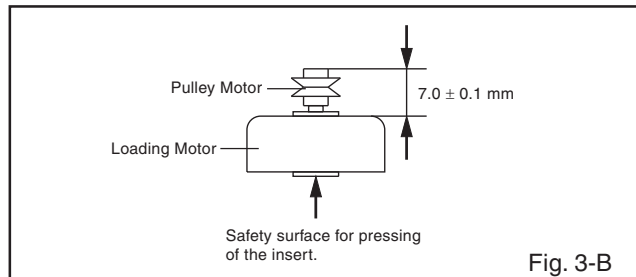


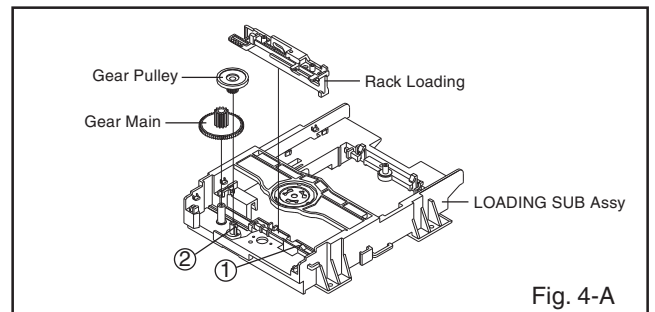
Fig. 3-A

**NOTE**

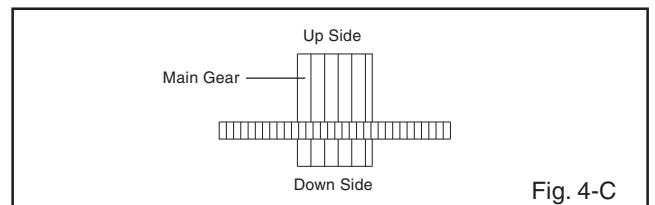
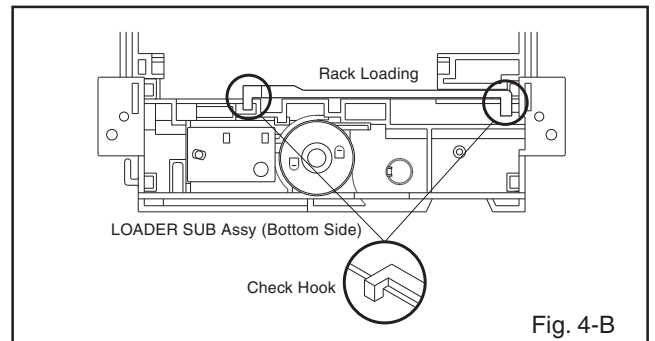
1. In case of the Pulley Motor installation, check if the value of the Fig. 3-B is correct.
2. When installing the wire of the LOADING MOTOR PCB Assy, install it correctly as Fig. 3-C.  
Manual soldering conditions
  - Soldering temperature:  $320 \pm 20$  °C
  - Soldering time: Within 3 seconds
  - Soldering combination: Sn - 3.0 Ag - 0.5 Cu
3. When installing the LOADING MOTOR PCB Assy, install it correctly as Fig. 3-D.
4. In case of the LOADING MOTOR PCB Assy installation, hook the wire on the LOADER SUB Assy as shown Fig. 3-E.

**4: RACK LOADING / MAIN GEAR / PULLEY GEAR**  
(Refer to Fig. 4-A)

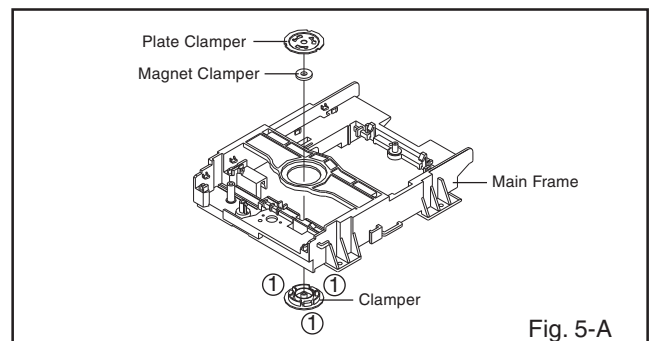
1. Unlock the support ② and remove the Gear Pulley.
2. Remove the Gear Main.
3. Press down the catcher ① and slide the Rack Loading.

**NOTE**

1. In case of the Rack Loading installation, hook the Rack Loading on the LOADER SUB Assy as shown Fig. 4-B.
2. When installing the Gear Main, take care the direction of up or down as shown Fig. 4-C.

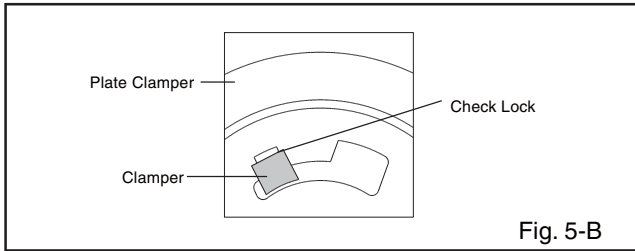
**5: CLAMPER ASSY (Refer to Fig. 5-A)**

1. Press the Clamper and rotate the Plate Clamper clockwise, then unlock the 3 supports ①.
2. Remove the Plate Clamper, Magnet Clamper and Clamper.



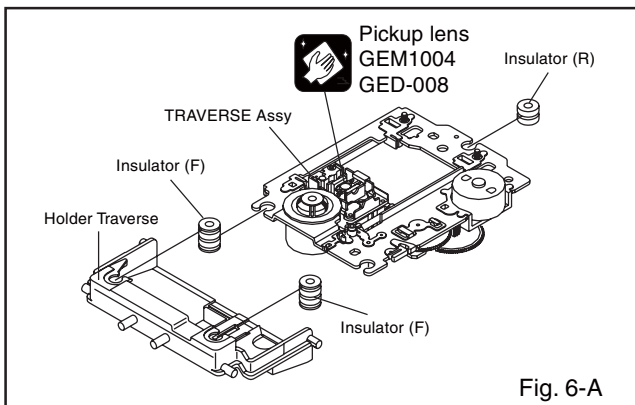
## A NOTE

1. In case of the Clamper Assy installation, install correctly as Fig. 5-B.



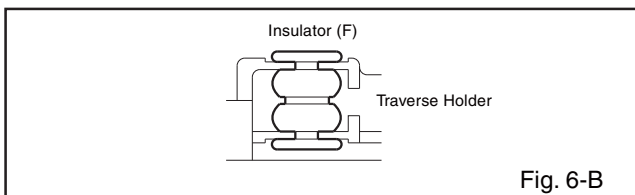
### 6: HOLDER TRAVERSE/INSULATOR (F)/INSULATOR (R) (Refer to Fig. 6-A)

1. Remove the Holder Traverse.
2. Remove the 2 Insulator (F).
3. Remove the Insulator (R).



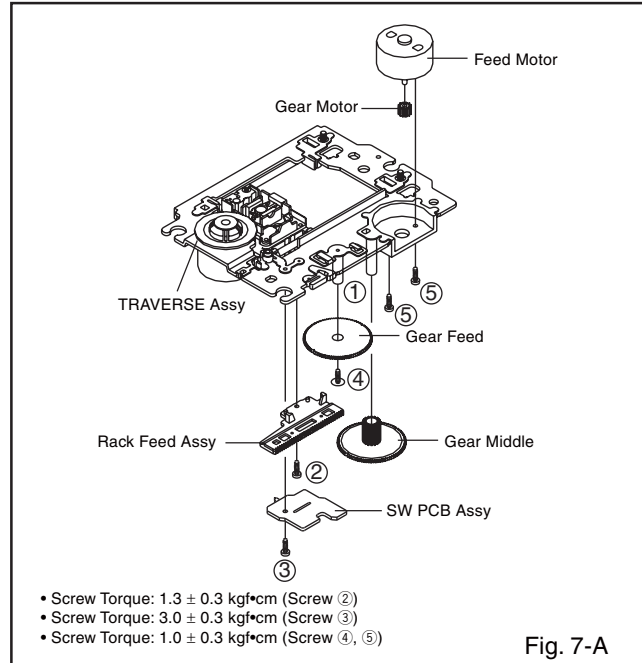
## NOTE

1. In case of the Insulator (F) installation, install correctly as Fig. 6-B.



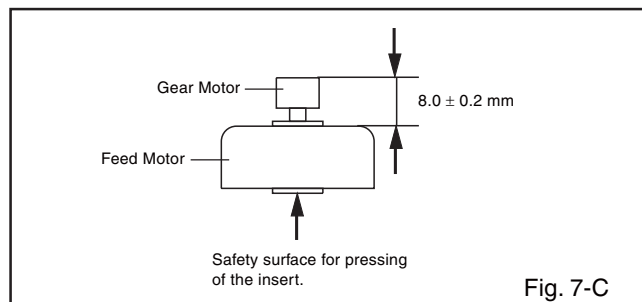
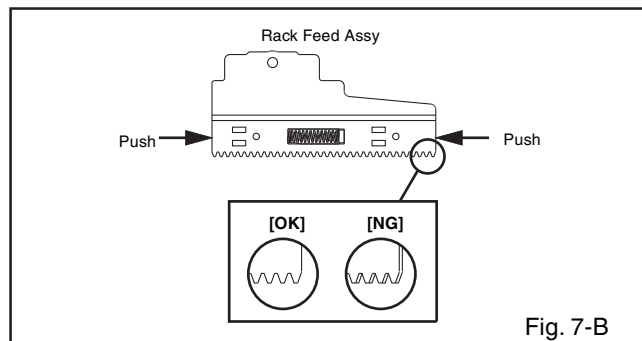
### 7: SW PCB ASSY/GEAR MIDDLE/GEAR FEED/ RACK FEED ASSY/FEED MOTOR (Refer to Fig. 7-A)

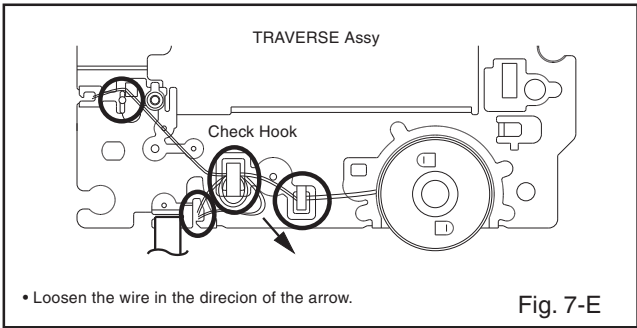
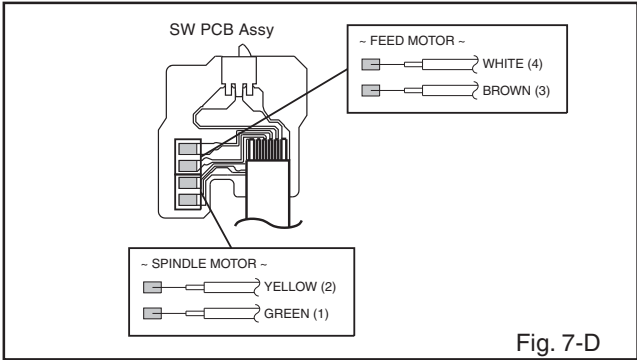
1. Unlock the support ①.
2. Remove the Gear Middle.
3. Remove the screw ②.
4. Remove the Rack Feed Assy.
5. Remove the screw ③.
6. Remove the SW PCB Assy.
7. Remove the screw ④.
8. Remove the Gear Feed.
9. Remove the 2 screws ⑤.
10. Remove the Feed Motor.
11. Remove the Gear Motor.



## NOTE

1. When installing the Rack Feed Assy, push both ends to align the teeth as shown Fig. 7-B. Then install it.
2. In case of the Gear Motor installation, check if the value of the Fig. 7-C is correct.
3. When installing the wire of the SW PCB Assy, install it correctly as Fig. 7-D.  
Manual soldering conditions
  - Soldering temperature:  $320 \pm 20 \text{ }^\circ\text{C}$
  - Soldering time: Within 3 seconds
  - Soldering combination: Sn - 3.0 Ag - 0.5 Cu
4. After the assembly of the TRVERSE Assy, hook the wire on the TRVERSE Assy as shown Fig. 7-E.





A  
B  
C  
D  
E  
F

# 8. EACH SETTING AND ADJUSTMENT

## 8.1 ID NUMBER AND ID DATA SETTING

### Caution:

For the DVD players compatible with DVD-RW, for playback of a DVD-RW disc (CPRM) and for the DVD players possessing HDMI output, for HDCP process, it is necessary that an individual ID number and ID data are set for each player. If the ID number and ID data be not properly set in the manner described below, future operations cannot be guaranteed. The ID number is written on the yellow label at the rear panel of the player.

**If there is no yellow label, before downloading FLASH ROM, take note of the ID number set following the procedures outlined in "ID Number Confirmation Mode" on the next page.**

**Note:** Enter ID numbers while the unit is in Stop mode so that the values set will be immediately written to the flash ROM.

### Setting an ID number or ID data is required in the following case:

If "No NUM", "NO DATA" or "HDMI ERR" is displayed on the FL display for a few seconds immediately after the power to the player is turned on or during Stop mode.

- ⑤ After entering all 9 digits, if you press the SEARCH key, the unit unconditionally sets the input number as the ID number. Then the unit automatically enters Player's Data Input Mode. (The SEARCH key is not accepted after all 9 digits have been entered.)

### JIGS AND MEASURING INSTRUMENTS



Service Remote Control Unit  
[GGF1381]



DVD Data Disc  
[GGV1344]

[Player's ID Number Setting]  
ID Number ?  
0 0 0 0 0 0 0 0 1

④ → <PLAY> Compare Mode  
⑤ → <SEARCH> Enter

Input ID Number !



- ⑥ This display appears when the PLAY key is pressed in Step ④. Enter a 9-digit number to compare. The number is also displayed on the FL display.
- ⑦ By pressing the CLEAR key without having input a number, the unit returns to Step ② without doing anything else. Each press of this key after a number has been input deletes one digit.

### ID Number Input Mode

- ① To enter ID Number Input Mode, with no ID number set, such as in a case of immediately after upgrading the firmware, press the ESC key then the STEREO key.

**Note:** If a previous ID number and ID data, such as a factory-preset ID number and ID data, are maintained, the unit enters ID Number Confirmation Mode when the above keys are pressed. However, if only an ID number is maintained, the unit enters ID Data Input Mode.

- ② Enter a 9-digit ID number. The ID number is also displayed on the FL display.
- ③ By pressing the CLEAR key without having input a number, you can exit this mode. Each press of this key after a number has been input deletes one digit.

[Player's ID Number Setting]  
ID Number ?  
0 0 0 0 0 0 0 0 1

Compare  
\* \* \* \* \*

⑥ →

Input ID Number !



- ⑧ After entering all 9 digits, if you press the PLAY key, the unit compares the numbers input in Steps ② and ⑥, and only if the numbers match, that number is set as the ID. Then the unit automatically enters ID DATA Input Mode. If the numbers do not match, the disc tray is opened, and the unit exits ID Number Input Mode.

**Note:** If you press the PLAY button before inputting a 9-digit ID number, the unit returns to Step ⑥ without doing anything else.

[Player's ID Number Setting]  
ID Number ?  
0 0 0 0 0 0 0 0 1

Compare  
0 0 0 0 0 0 0 0 1

⑧ → <PLAY> Enter

Input ID Number !

[Player's ID Number Setting]  
ID Number ?  
-----

② →

③ → <CLEAR> Exit

Input ID Number !



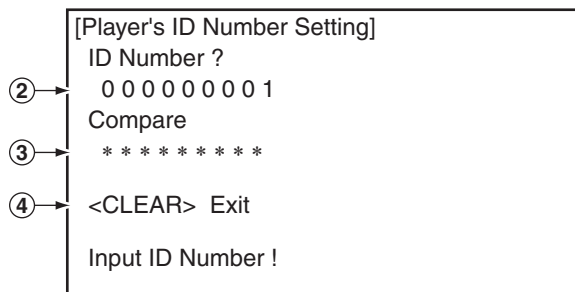
- ④ After entering all 9 digits, if you press the PLAY key, the unit enters Compare mode. Enter the same ID number again. Only if your two input numbers match, the ID number is set. Compare mode helps eliminate mistyping of the ID number.

**Note:** If you press the PLAY button before inputting a 9-digit ID number, the unit returns to Step ② without doing anything else.



## ■ ID Number Confirmation Mode

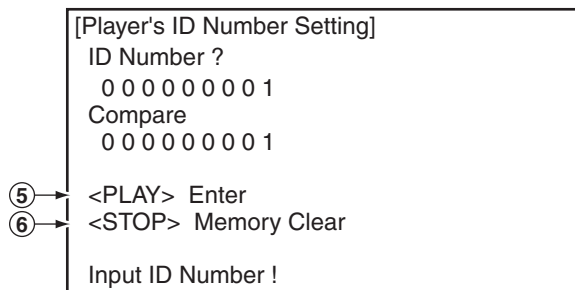
- ① To enter ID Number Confirmation Mode after the ID number and the ID data are set, press the ESC key then the STEREO key.
- ② The ID number already set is displayed.  
(It is also displayed on the FL display.)
- ③ Enter a 9-digit number for comparison. This is not required when you only wish to check the ID number visually.  
(The number is also displayed on the FL display.)
- ④ By pressing the CLEAR key without having input a number, you can exit this mode. Each press of this key after a number has been input deletes one digit.



- ⑤ After entering all 9 digits, if you press the PLAY key, the unit compares the number entered in Step ② with the ID number set, and only if the numbers match, the unit automatically exits ID Number Confirmation Mode. If an ID data has not been entered, the unit enters ID DATA Input Mode. If the numbers do not match, the disc tray is opened, and the unit exits ID Number Confirmation Mode.

**Note:** If you press the PLAY button before inputting a 9-digit ID number, the unit returns to Step ④ without doing anything else.

- ⑥ After entering all 9 digits, if you press the STOP key, the unit compares the number entered in Step ③ with the ID number set, and only if the numbers match, the unit automatically deletes the ID number and exits this mode. If the numbers do not match, the disc tray is opened, and the unit exits this mode. (The STOP key is not accepted after all 9 digits have been entered.)



### • Indication of an ID number already set

An ID number already set is displayed in the following cases:

- 1) When the ESC key then the CLEAR key are pressed, user settings are cleared, then the ID number set is displayed on the screen. In this case, the ID number is not displayed on the FL display.
- 2) When the unit enters ID Number Confirmation Mode by your pressing the ESC key then the CLEAR key, the ID number set is displayed. In this case, the ID number is also displayed on the FL display.  
If you only need to confirm the ID number, you can exit this mode by pressing the CLEAR key or turning off the power.

### • Indication when no ID number is set

If no ID number is set, the message "No NUM" flashes on the screen and FL display for a few seconds after the power is turned on or during Stop mode.

## A ■ ID DATA Input Mode

**NOTE: Be sure to use a specified DVD (ID) DATA DISC.**

① To enter ID DATA Input Mode, with the ID number set, press the ESC key then the STEREO key.

② When the STEREO key is pressed, the unit enters ID DATA Input Mode.

```

[Player's ID Number Setting]
ID Number ?
[ 0 0 0 0 0 0 0 1 ]
Compare
> * * * * *
<CLEAR> Exit
<STEREO> ID Data Setting Mode

Input ID Number !
  
```



③ If the DVD DATA DISC is loaded in this mode, the unit automatically starts reading the data. (If the DVD DATA DISC has already been loaded, the unit does not start reading the data. In this case, open then close the tray.)

④ To exit this mode, press the CLEAR key. While data are being read from the DVD DATA DISC, you cannot exit this mode.

```

[Player's Data Input Mode]

<CLEAR> Exit

Insert The ID Data Disc !
  
```



⑤ When writing of the data read from the disc to flash ROM is completed, "Rom Write OK!" is displayed. After seeing this message, you can exit this mode by pressing the CLEAR key.

**Note:** Whether or not the data have been written to flash ROM can be confirmed by watching for the message "Rom Write OK!" being displayed after the disc is read.

```

[Player's Data Input Mode]

Rom Write OK!

<CLEAR> Exit
  
```



⑥ If the data cannot be read from the disc, the unit will be exited ID Data Input Mode and proceed to the display of "Pioneer" logo.

### • Indication when the data have not been set

If no ID data are set after the ID number is changed, the message "NO DATA" flashes on the screen and FL display for a few seconds after the power is turned on or during Stop mode.





5



6



7



8



A



B



C



D



E



F



5



6

XV-DV590



7



8

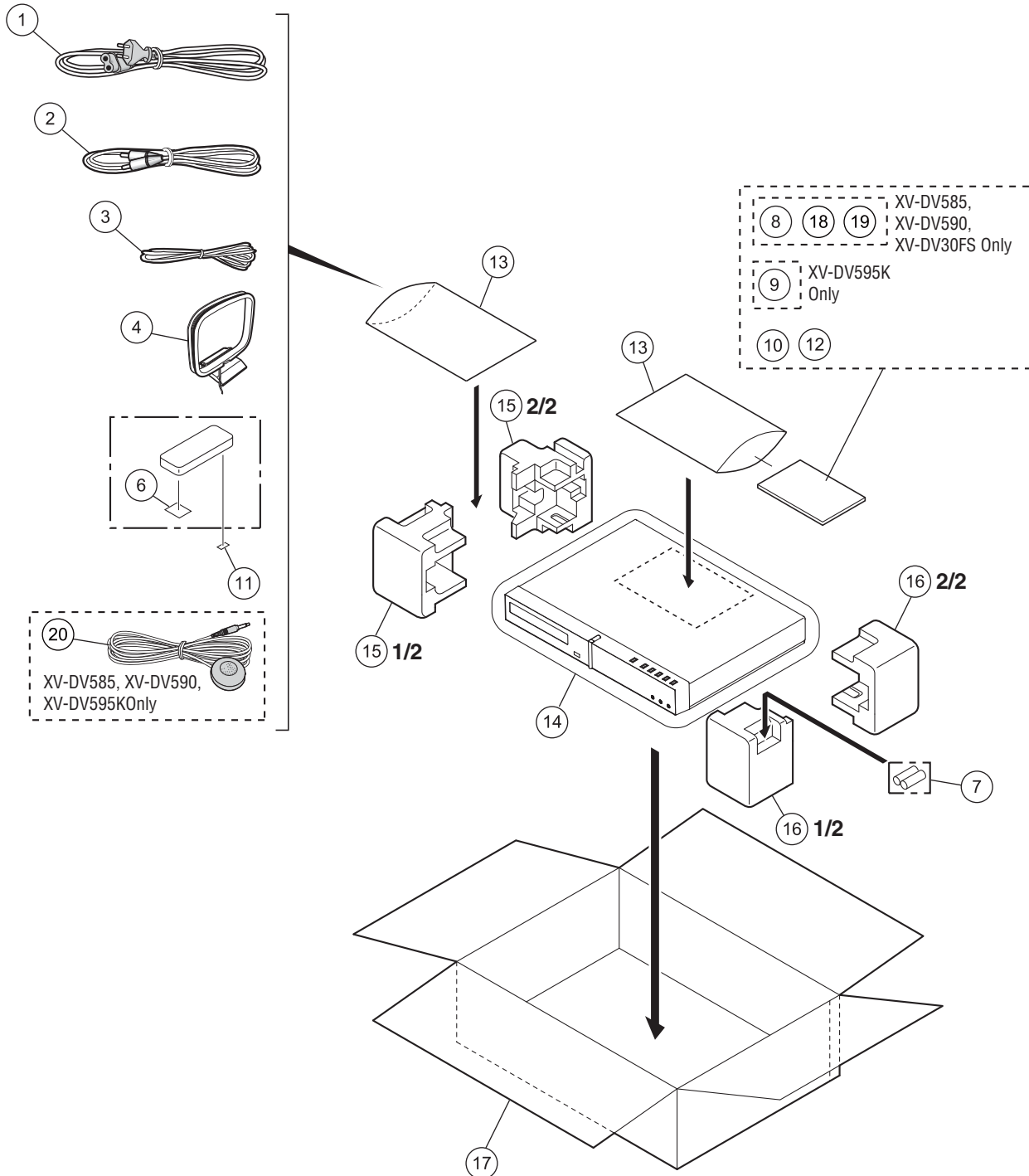


# 9. EXPLODED VIEWS AND PARTS LIST

NOTES: ● Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.

- The  $\triangle$  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  $\nabla$  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



8	18	19	XV-DV585, XV-DV590, XV-DV30FS Only
9			XV-DV595K Only
10	12		

20  
XV-DV585, XV-DV590,  
XV-DV595K Only

**PACKING SECTION PARTS LIST**

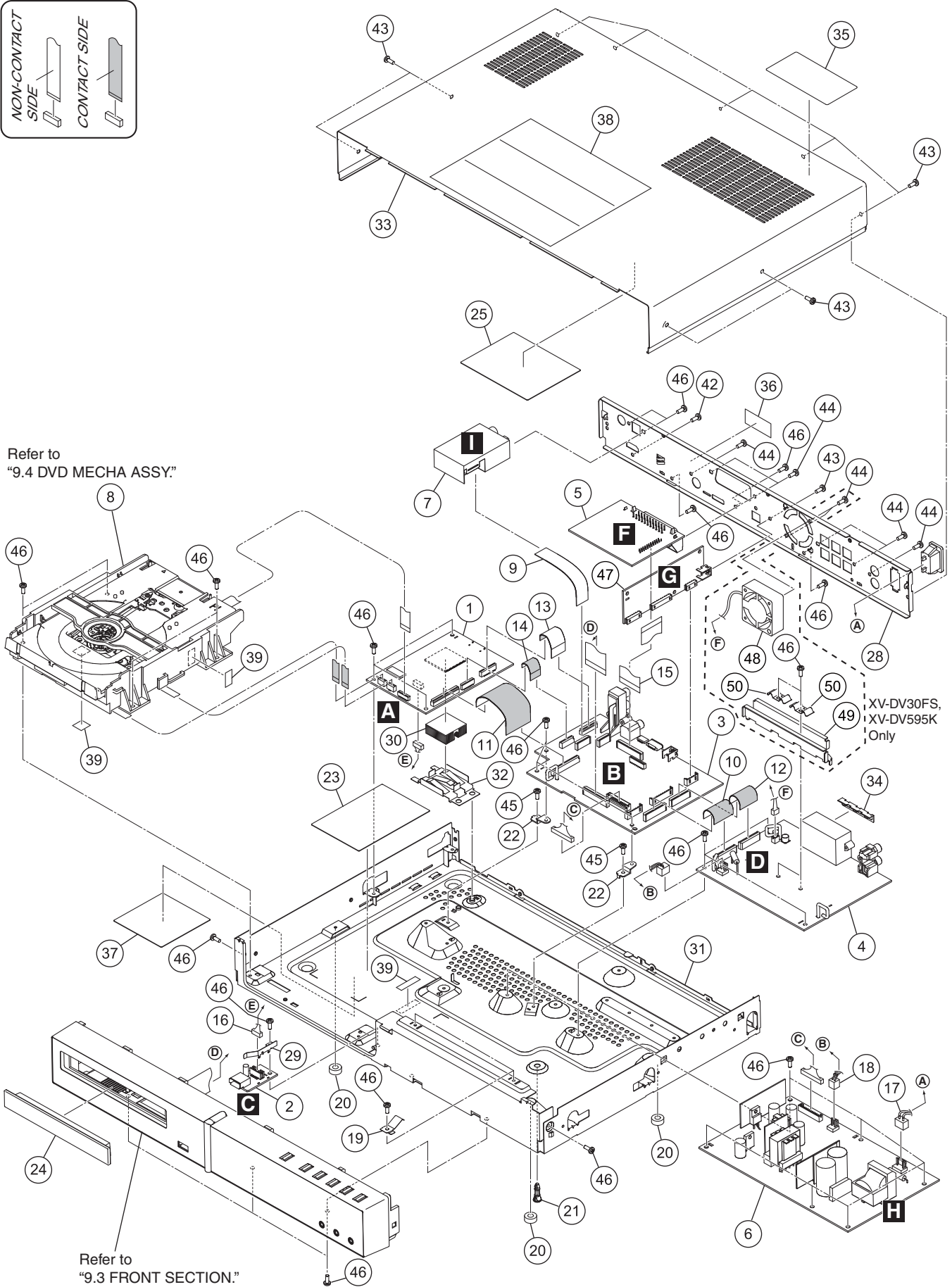
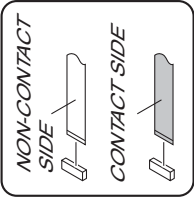
<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
⚠	1 Power Cord	ADG1127	11	Label (WEEE)	ARW7322
	2 Video Cable (yellow plugs)	XDE3046	NSP 12	Warranty Card EU	ARY7128
	3 FM Antenna	ADH7030	NSP 13	Polyethylene Bag (0.06 x 230 x 340)	AHG7117
	4 AM Loop Antenna	ATB7013			
	5 Remote Control	See Contrast table (2)	14	Packing Sheet	AHG7053
			15	Left Pad RHTS	XHA3191
	6 Battery Cover	AZN8018			
NSP	7 Dry Cell Battery (R6, AA)	XEX3005	16	Right Pad RHTS	XHA3190
	8 Operating Instructions (En, Fr)	See Contrast table (2)	17	Packing Case RHTS	See Contrast table (2)
	9 Operating Instructions (Ru)	See Contrast table (2)	18	Operating Instructions (Ge, It)	See Contrast table (2)
	10 Setup Guide	See Contrast table (2)	19	Operating Instructions (Du, Sp)	See Contrast table (2)
			20	Microphone	See Contrast table (2)

**(2) CONTRAST TABLE**

XV-DV590/YXJ5, XV-DV585/YXJ5, XV-DV30FS/YXJ5 and XV-DV595K/SXJ5 are constructed the same except for the following:

<b>Mark</b>	<b>No.</b>	<b>Symbol and Description</b>	<b>XV-DV590/YXJ5</b>	<b>XV-DV585/YXJ5</b>	<b>XV-DV30FS/YXJ5</b>	<b>XV-DV595K/SXJ5</b>
	5	Remote Control	XXD3181	XXD3181	XXD3184	XXD3178
	8	Operating Instructions (En, Fr)	XRE3230	XRE3230	XRE3230	Not used
	9	Operating Instructions (Ru)	Not used	Not used	Not used	XRC3452
	10	Setup Guide (7LAN)	Not used	Not used	XRE3239	Not used
	10	Setup Guide (8LAN)	Not used	XRE3238	Not used	Not used
	10	Setup Guide (9LAN)	XRE3244	Not used	Not used	XRE3244
	17	Packing Case RHTS	XHD3895	XHD3896	XHD3897	XHD3898
	18	Operating Instructions (Ge, It)	XRC3441	XRC3441	XRC3441	Not used
	19	Operating Instructions (Du, Sp)	XRC3442	XRC3442	XRC3442	Not used
	20	Microphone (for Auto MCACC setup)	APM7008	APM7008	Not used	APM7008

# 9.2 EXTERIOR SECTION



XV-DV30FS,  
XV-DV595K  
Only

Refer to  
"9.3 FRONT SECTION."

## EXTERIOR SECTION PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
	1 09 DVDM Assy	See Contrast table (2)	26	•••••	
	2 RHTS USB Assy	XWZ4414	27	•••••	
	3 RHTS SYSMAN Assy	See Contrast table (2)	28	Rear Panel RHTS	See Contrast table (2)
	4 RHTS D-AMP Assy	See Contrast table (2)	29	USB GND Bracket RHTS	XNG3203
	5 EUROSCART Assy	AWU8291	30	Heatsink WHTS	XNH3049
⚠	6 POWER SUPPLY Unit	See Contrast table (2)	NSP 31	Chassis RHTS	XNA3086
	7 FM/AM TUNER Unit	XXX3085	NSP 32	Radiation Plate	XNG3183
	8 DVD MECHA Assy	A2ZX01A650	33	Bonnet WHTS (BOX)	See Contrast table (2)
	9 15P FFC/60V (J1910)	XDD3306	34	GND Plate W5.1	See Contrast table (2)
	10 19P FFC/60V (J1905)	XDD3303	NSP 35	Laser Caution	PRW1608
	11 31P FFC/60V (J1909)	XDD3304	NSP 36	ID Label Assy	VXW1012
	12 17P FFC 1.25MM/60V (J1906)	XDD3305	NSP 37	Name Label RHTS	See Contrast table (2)
	13 17P FFC/60V (J1907)	XDD3307	NSP 38	POP Getter RHTS	See Contrast table (2)
	14 13P FFC/60V (J1908)	See Contrast table (2)	NSP 39	Double Side Tape	ZTB-500-10
	15 23P FFC/60V (J1911)	XDD3267	40	•••••	
	16 5P Shielded Cable (J1902)	XDX3086	41	•••••	
	17 2P Wire (J1901)	XDX3087	42	Screw	BSZ30P060FTC
	18 Cable Assy (J1903)	XDX3068	43	Screw	BBZ30P080FTB
	19 Earth Spring W5.1	ABH7240	44	Screw	BPZ30P080FNI
NSP	20 Spacer	AEB7092	45	Screw	BBZ30P060FNI
	21 Locking Card Spacer	AEC7372	46	Screw	BBZ30P080FNI
	22 PCB Stay	VNE2489	47	RHTS DSP ASSY	XWM3493
NSP	23 Guide Sheet	XAK3603	48	DC Fan Motor	See Contrast table (2)
	24 Tray Panel RHTS	XAK3653	49	Heat Sink NHTS	See Contrast table (2)
NSP	25 Primary Barrier RHTS	See Contrast table (2)	50	Spring Plate NHTS	See Contrast table (2)

### (2) CONTRAST TABLE

XV-DV590/YXJ5, XV-DV585/YXJ5, XV-DV30FS/YXJ5 and XV-DV595K/SXJ5 are constructed the same except for the following:

Mark	No.	Symbol and Description	XV-DV590/YXJ5	XV-DV585/YXJ5	XV-DV30FS/YXJ5	XV-DV595K/SXJ5
	1	09 DVDM Assy	AWM8177	AWM8177	AWM8177	AWM8134
	3	RHTS SYSMAN ASSY	XWZ4432	XWZ4431	XWZ4433	XWZ4436
	4	RHTS D-AMP Assy	XWM3489	XWM3489	Not used	Not used
	4	RHTS H-AMP Assy	Not used	Not used	XWM3495	XWM3494
⚠	6	POWER SUPPLY Unit	XWR3020	XWR3020	XWR3021	XWR3021
	14	13P FFC/60V (J1908)	Not used	Not used	Not used	XDD3308
NSP	25	Primary Barrier RHTS	XAK3685	XAK3685	Not used	Not used
	28	Rear Panel RHTS	XNC3650	XNC3652	XNC3653	XNC3654
	33	Bonnet WHTS (BOX)	XZN3219	XZN3219	XZN3220	XZN3220
	34	GND Plate W5.1	ABH7241	ABH7241	Not used	Not used
NSP	37	Name Label RHTS	XAL3330	XAL3331	XAL3332	XAL3333
NSP	38	POP Getter RHTS	XAX3759	XAX3759	XAX3760	XAX3761
	48	DC Fan Motor	Not used	Not used	VXM1121	VXM1121
	49	Heat Sink NHTS	Not used	Not used	ANH7190	ANH7190
	50	Spring Plate NHTS	Not used	Not used	ABH7244	ABH7244

# 9.3 FRONT PANEL SECTION

1

2

3

4

A

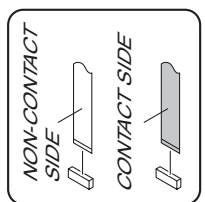
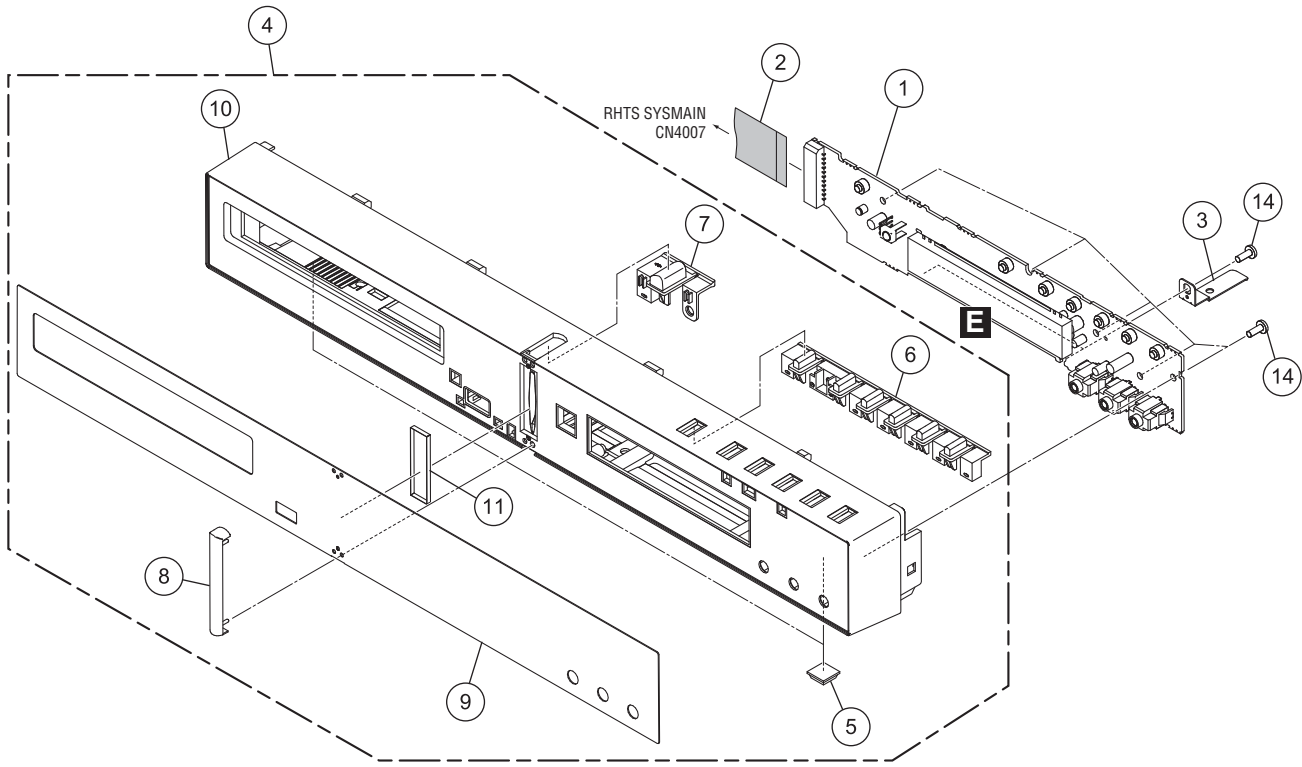
B

C

D

E

F



1

2

3

4

## FRONT PANEL SECTION PARTS LIST

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
	1 RHTS DISPLAY Assy	See Contrast table (2)	NSP 11	Diffusion Sheet RHTS	XAK3658
	2 23P FFC/60V (J1904)	XDD3302	12	•••••	
	3 Ground Bracket RHTS	XBH3020	13	•••••	
	4 F/P Assy RHTS	See Contrast table (2)	14	Screw	BPZ30P080FNI
NSP	5 Rubber Foot	VEB1325			
	6 Button Function RHTS	XAD3283			
	7 Button Power RHTS	XAD3285			
NSP	8 Cosmetic RHTS	XAK3657			
NSP	9 Display Window RHTS	See Contrast table (2)			
NSP	10 Front Panel RHTS	See Contrast table (2)			

### (2) CONTRAST TABLE

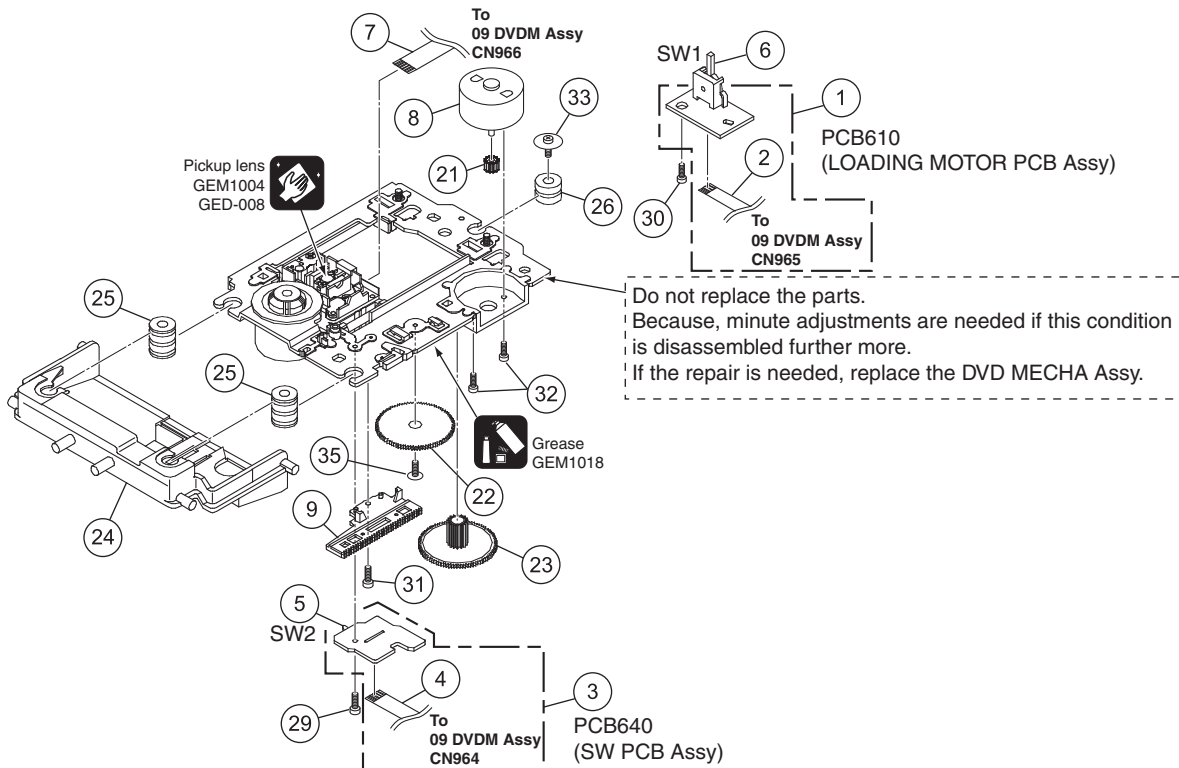
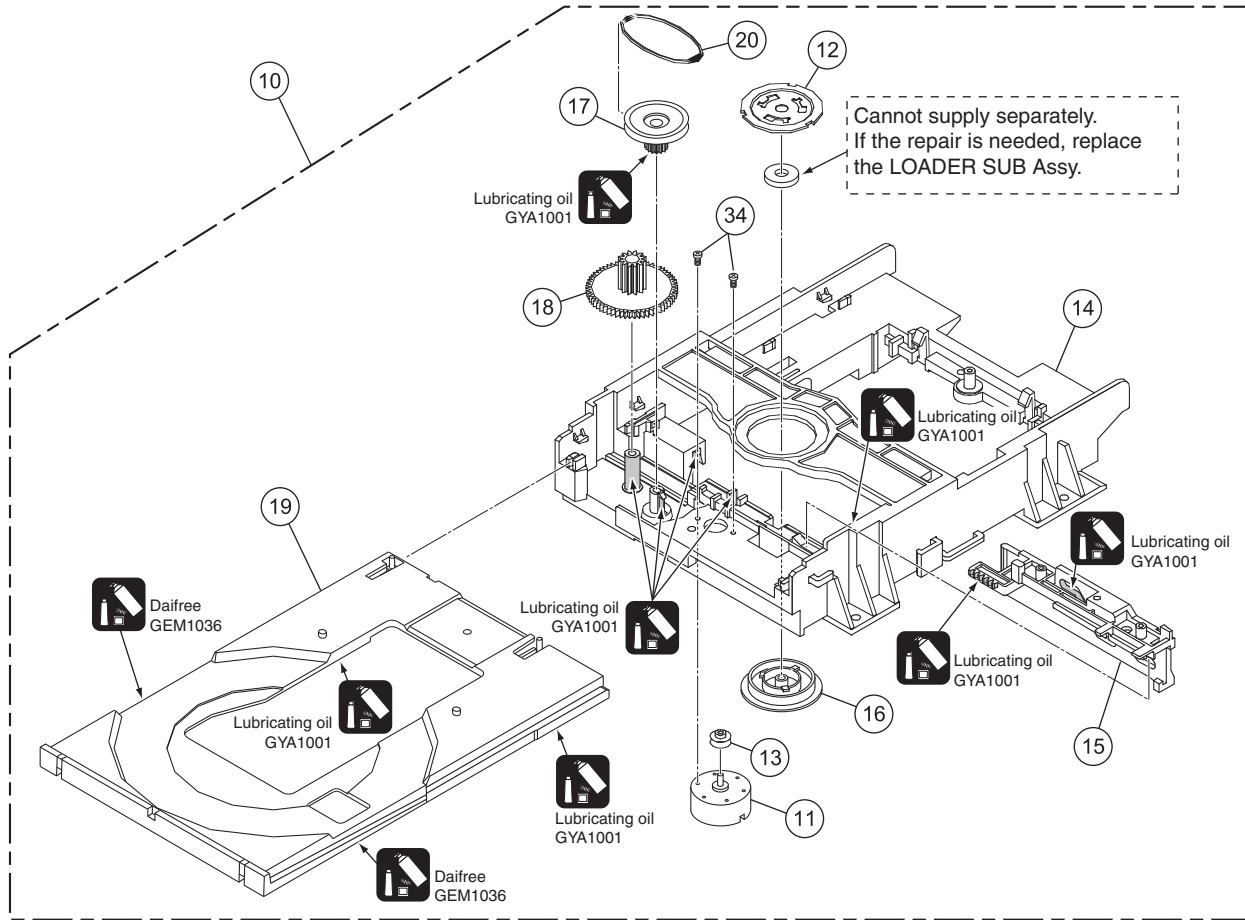
XV-DV590/YXJ5, XV-DV585/YXJ5, XV-DV30FS/YXJ5 and XV-DV595K/SXJ5 are constructed the same except for the following:

<u>Mark</u>	<u>No.</u>	<u>Symbol and Description</u>	<u>XV-DV590/YXJ5</u>	<u>XV-DV585/YXJ5</u>	<u>XV-DV30FS/YXJ5</u>	<u>XV-DV595K/SXJ5</u>
	1	RHTS DISPLAY Assy	XWM3487	XWM3487	XWM3488	XWM3484
	4	F/P Assy RHTS	XXG3422	XXG3423	XXG3424	XXG3425
NSP	9	Display Window RHTS	XAK3655	XAK3655	XAK3660	XAK3663
NSP	10	Front Panel RHTS	XMB3358	XMB3359	XMB3360	XMB3361

# 9.4 DVD MECHA ASSY



**Note :**  
Check if the correct grease is applied for each position.





## DVD MECHA ASSY SECTION PARTS LIST

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>	
1	LOADING MOTOR PCB Assy	A2ZX01A610	
2	Cord Jumper (5P)	12C1053601	A
3	SW PCB Assy	A2ZX01A640	
4	Cord Jumper (6P)	12C1063201	
5	Switch (SW2)	0500101036	
6	Switch (SW1)	0515S32003	
7	Cord Jumper (24P)	122F003101	
8	FEED Motor	1515T98006	
9	Feed Rack Assy	92AAA0017A	
10	LOADER SUB Assy	92AAA0024A	
11	LOADING Motor	1515S98004	B
12	Plate, Clamper	92P000023A	
13	Pulley, Motor	92P100097A	
14	Frame, Main	92P100119A	
15	Rack, Loading	92P100121A	
16	Clamper	92P100122A	
17	Gear, Pulley	92P100123A	
18	Gear, Main	92P100124A	
19	Tray	92P100151A	
20	Belt, Loading	92P200015A	C
21	Gear, Motor	92P100088A	
22	Gear, Feed	92P100116A	
23	Gear, Middle	92P100117A	
24	Holder, Traverse	92P100125A	
25	Insulator (F)	92P200013A	
26	Insulator (R)	92P200016A	
27	•••••		
28	•••••		
29	Screw, Bind (2 x 8)	811022080U	
30	Screw, Tap tite (P)(2.6 x 8)	811022680U	D
31	Screw, T-tite (B)(M1.7 x 5.0 P3)	813381750U	
32	Screw, Pan (M1.7 x 2.3 P3)	814011723U	
33	Screw, Tap tite (P)(2 x 8)	816112080U	
34	Screw, Pan (M1.7 x 3 P3)	814011730U	
35	Screw, Gear Feed	92P700007A	

# 10. SCHEMATIC DIAGRAM

## 10.1 09 DVDM ASSY (1/2)

1 2 3 4

A

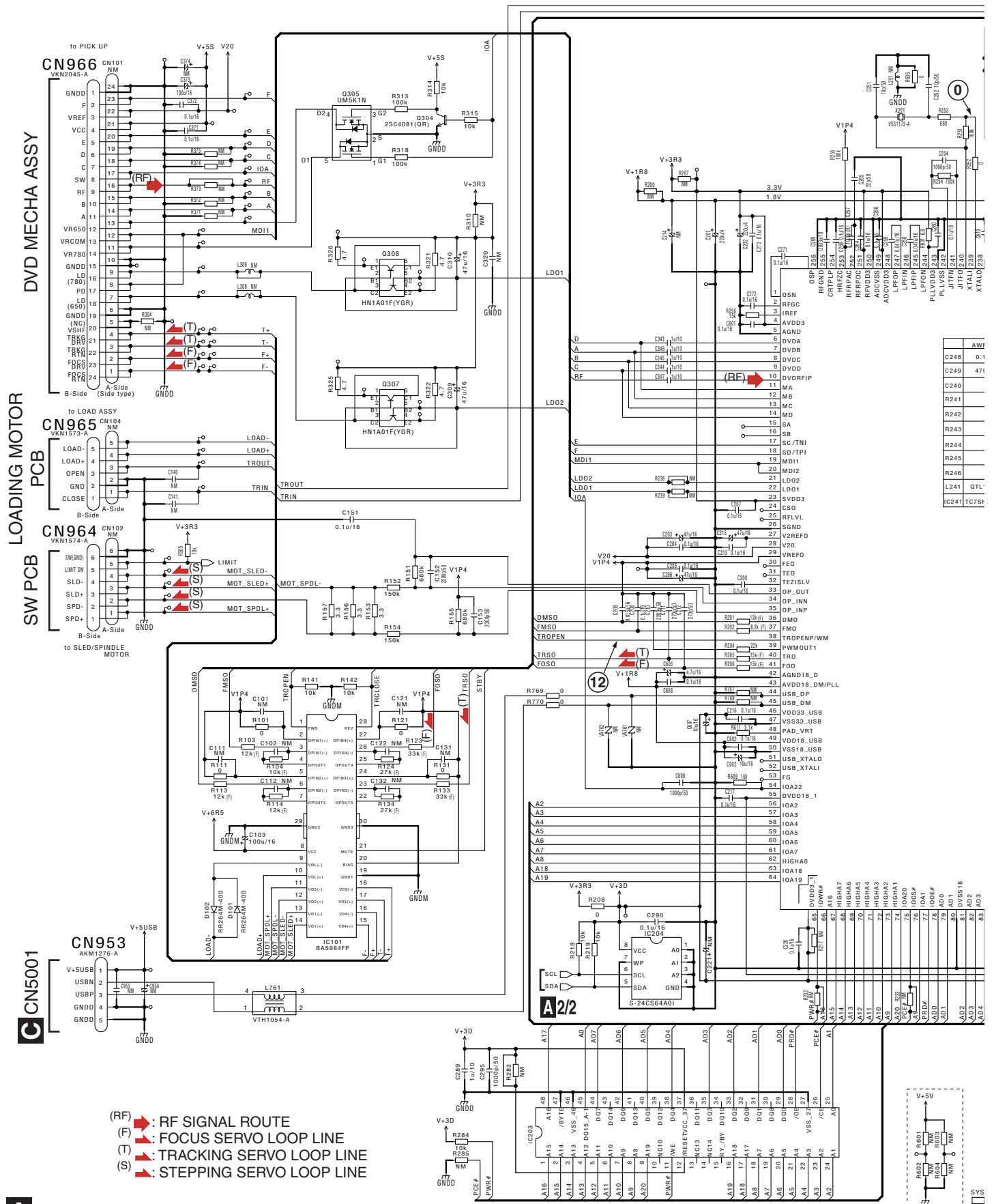
B

C

D

E

F



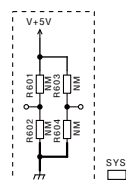
(RF) → : RF SIGNAL ROUTE  
 (F) → : FOCUS SERVO LOOP LINE  
 (T) → : TRACKING SERVO LOOP LINE  
 (S) → : STEPPING SERVO LOOP LINE

**A/12**  
58


XV-DV590

1 2 3 4

AW	AW
C248	0.1
C249	471
C240	
R241	
R242	
R243	
R244	
R245	
R246	
LD21	OTL
TC241	TC79P

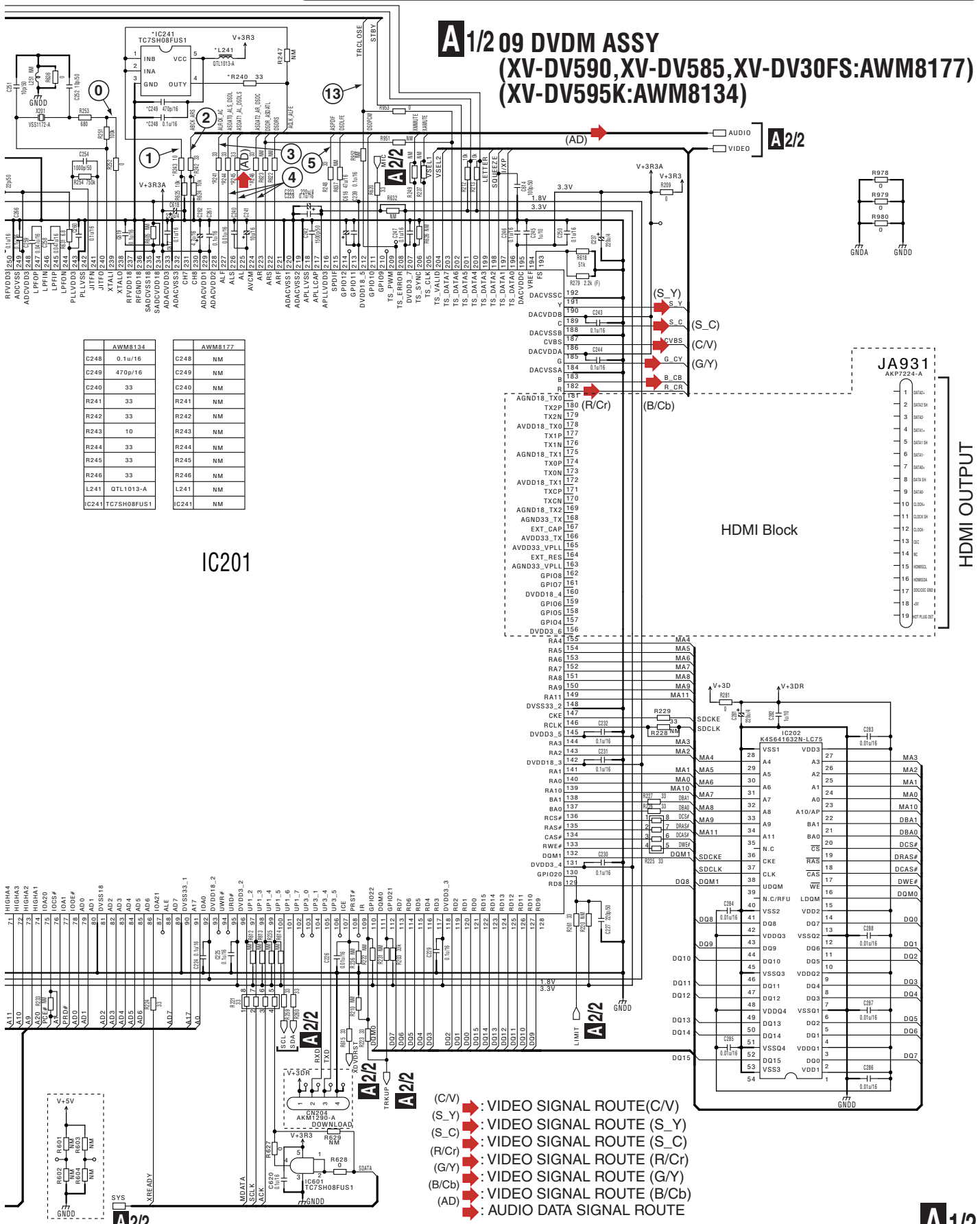


SY 1/6

- When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".
- The  $\Delta$  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.
-  : The power supply is shown with the marked box.

# A/2 09 DVDM ASSY

(XV-DV590, XV-DV585, XV-DV30FS:AWM8177)  
(XV-DV595K:AWM8134)



	AWM8134	AWM8177	
C248	0.1u/16	C248	NM
C249	470p/16	C249	NM
C240	33	C240	NM
R241	33	R241	NM
R242	33	R242	NM
R243	10	R243	NM
R244	33	R244	NM
R245	33	R245	NM
R246	33	R246	NM
L241	QTL1013-A	L241	NM
IC241	TC7SH08FUS1	IC241	NM

IC201

HDMI Block

HDMI OUTPUT

- (C/V)  : VIDEO SIGNAL ROUTE (C/V)
- (S\_Y)  : VIDEO SIGNAL ROUTE (S\_Y)
- (S\_C)  : VIDEO SIGNAL ROUTE (S\_C)
- (R/Cr)  : VIDEO SIGNAL ROUTE (R/Cr)
- (G/Y)  : VIDEO SIGNAL ROUTE (G/Y)
- (B/Cb)  : VIDEO SIGNAL ROUTE (B/Cb)
- (AD)  : AUDIO DATA SIGNAL ROUTE

XV-DV590

A/2

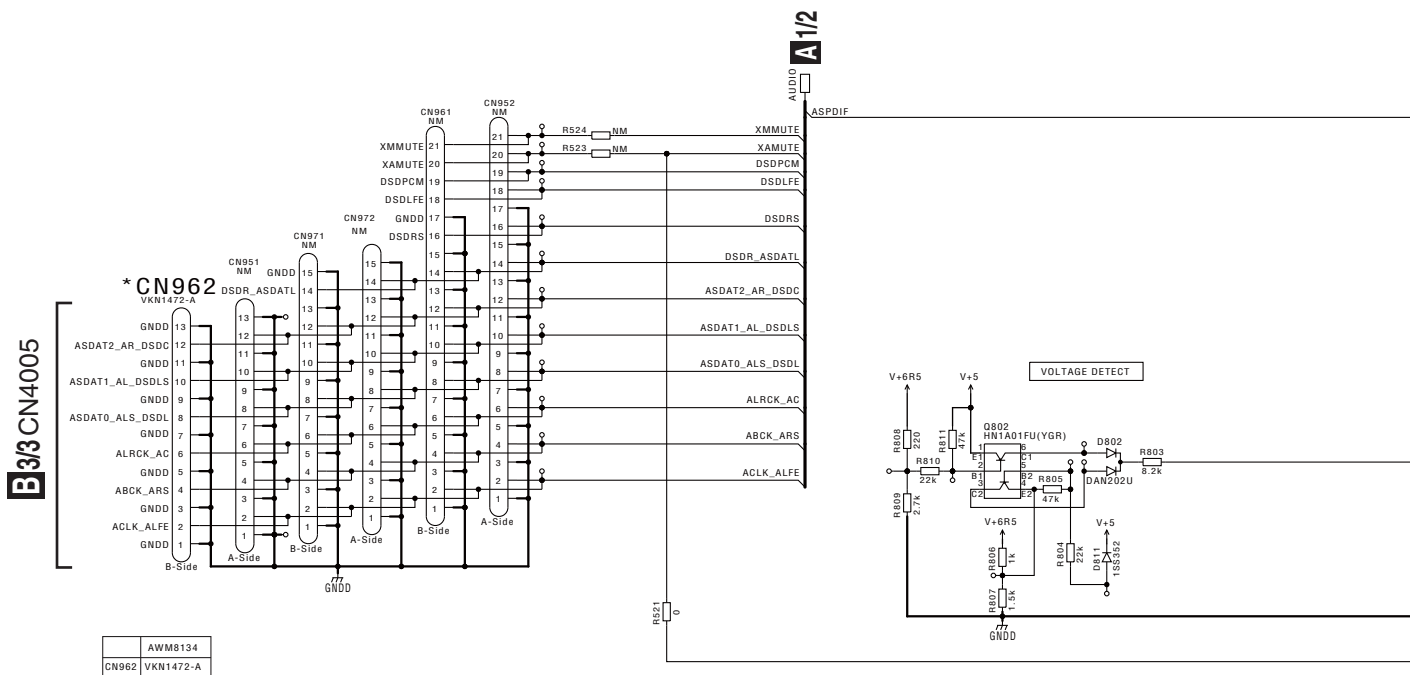
# 10.2 09 DVDM ASSY (2/2)

1 2 3 4

A

B

C

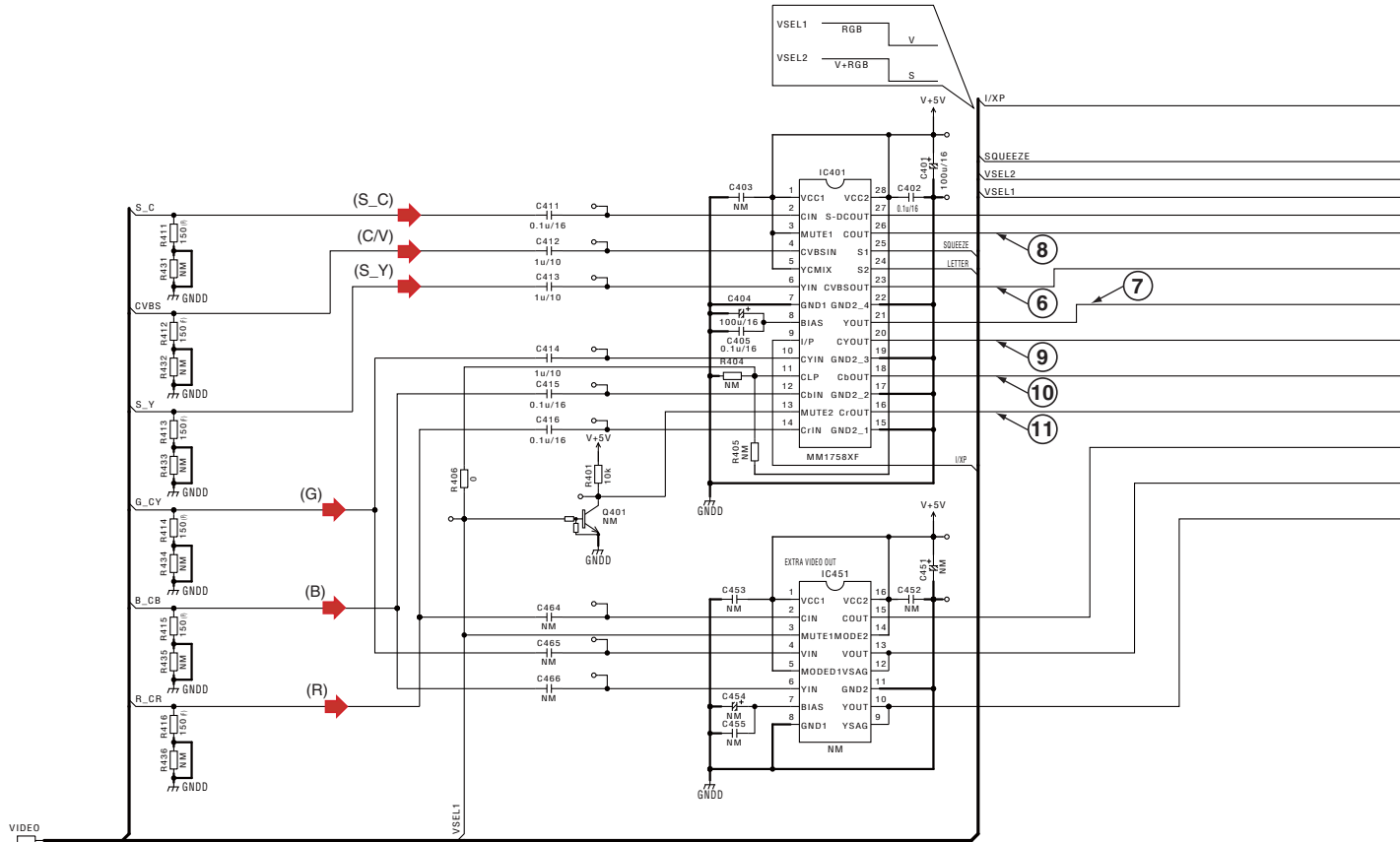


	AWM8134
CN962	VKN1472-A

D

E

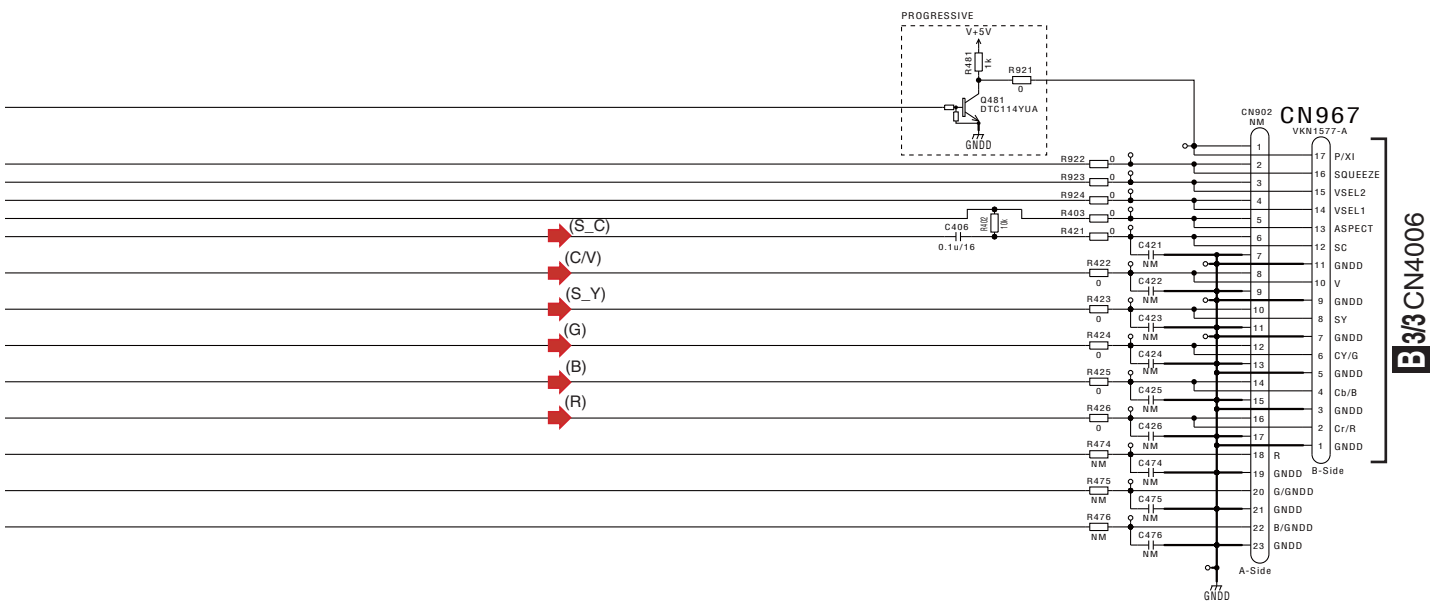
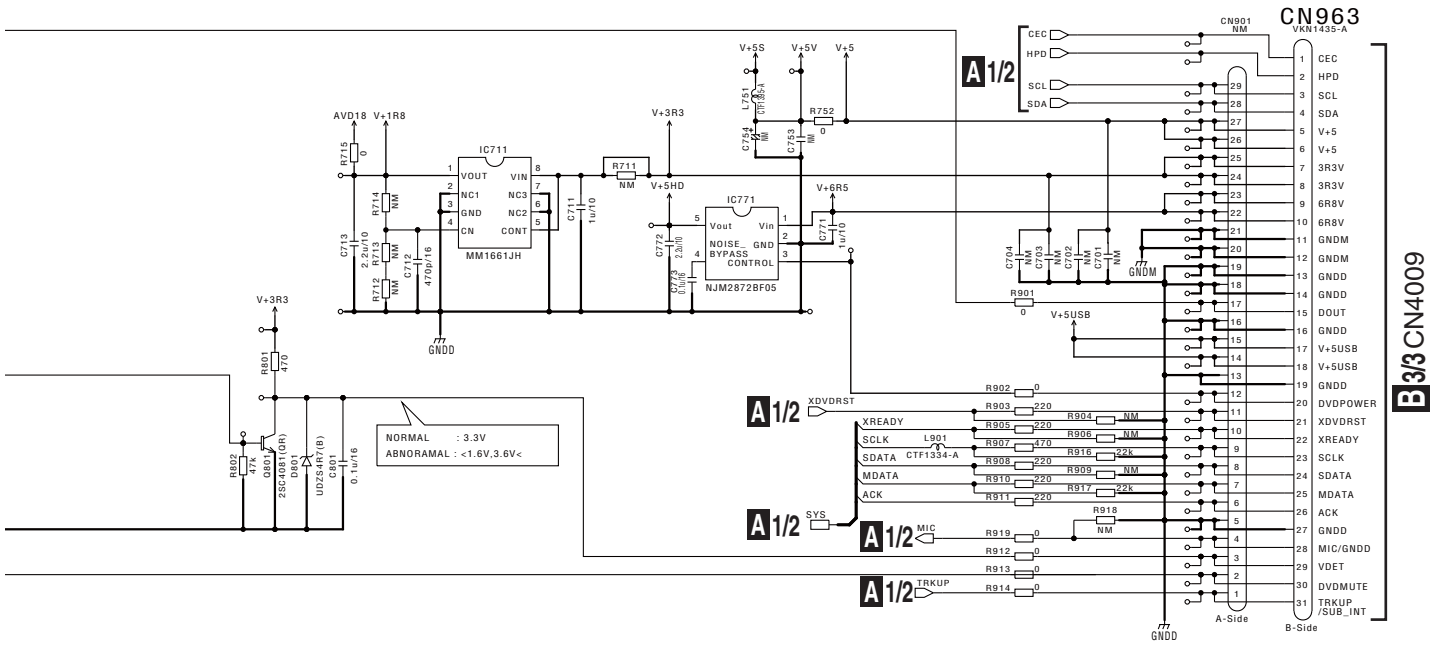
F



A2/2

1 2 3 4

# A 2/2 09 DVDM ASSY (XV-DV590, XV-DV585, XV-DV30FS:AWM8177) (XV-DV595K:AWM8134)

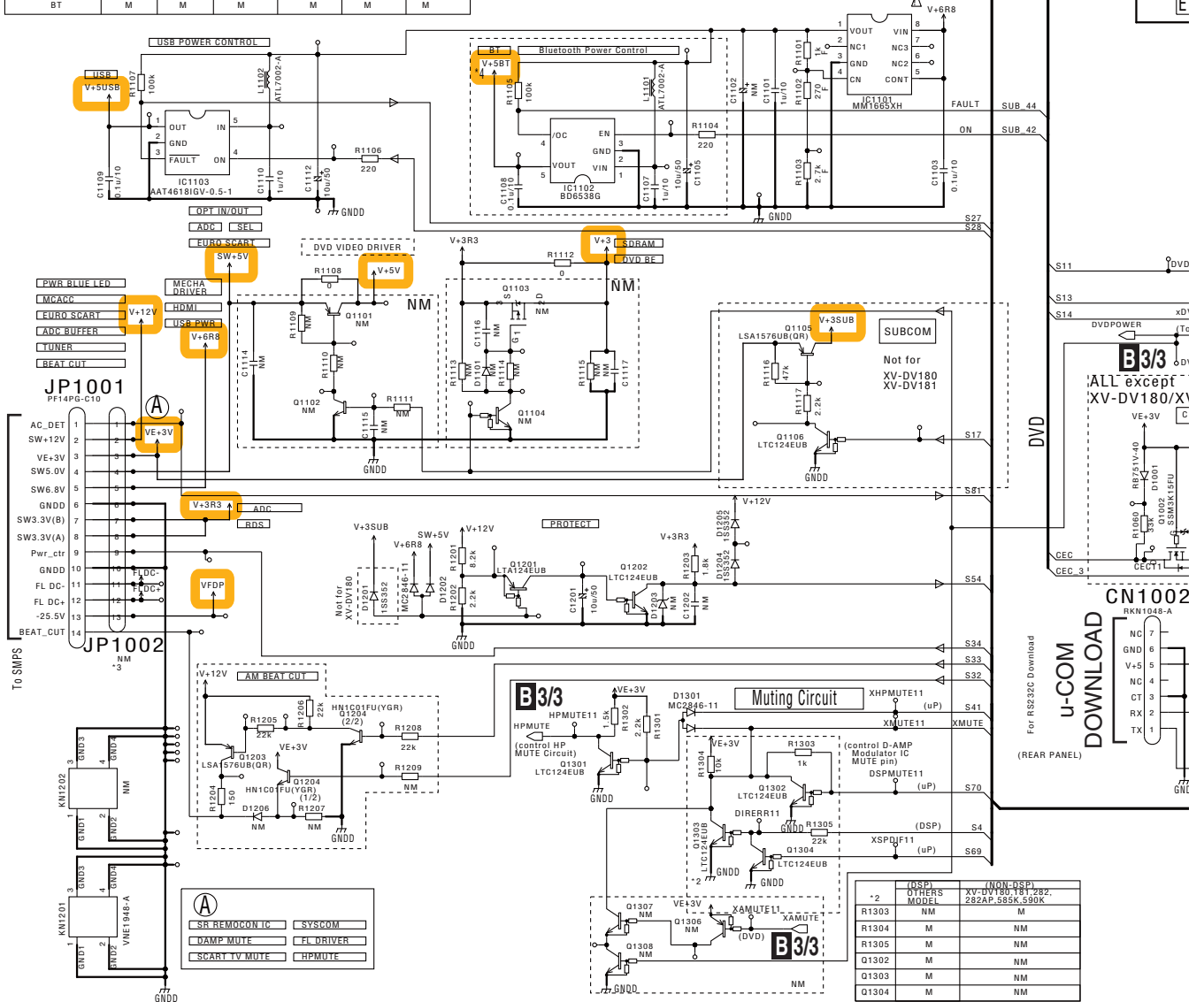


- (C/V) : VIDEO SIGNAL ROUTE(C/V)
- (S\_Y) : VIDEO SIGNAL ROUTE (S\_Y)
- (S\_C) : VIDEO SIGNAL ROUTE (S\_C)
- (R) : VIDEO SIGNAL ROUTE (R)
- (G) : VIDEO SIGNAL ROUTE (G)
- (B) : VIDEO SIGNAL ROUTE (B)

# 10.3 RHTS SYSMAIN ASSY (1/3)

**B**1/3 RHTS SYSMAIN ASSY  
 (XV-DV590/YXJ5:XWZ4432)  
 (XV-DV585/YXJ5:XWZ4431)  
 (XV-DV30FS/YXJ5:XWZ4433)  
 (XV-DV595K/SXJ5:XWZ4436)

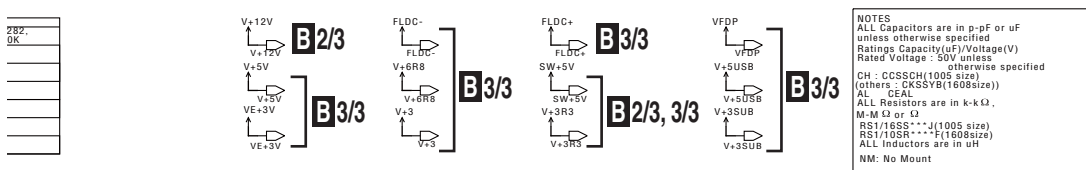
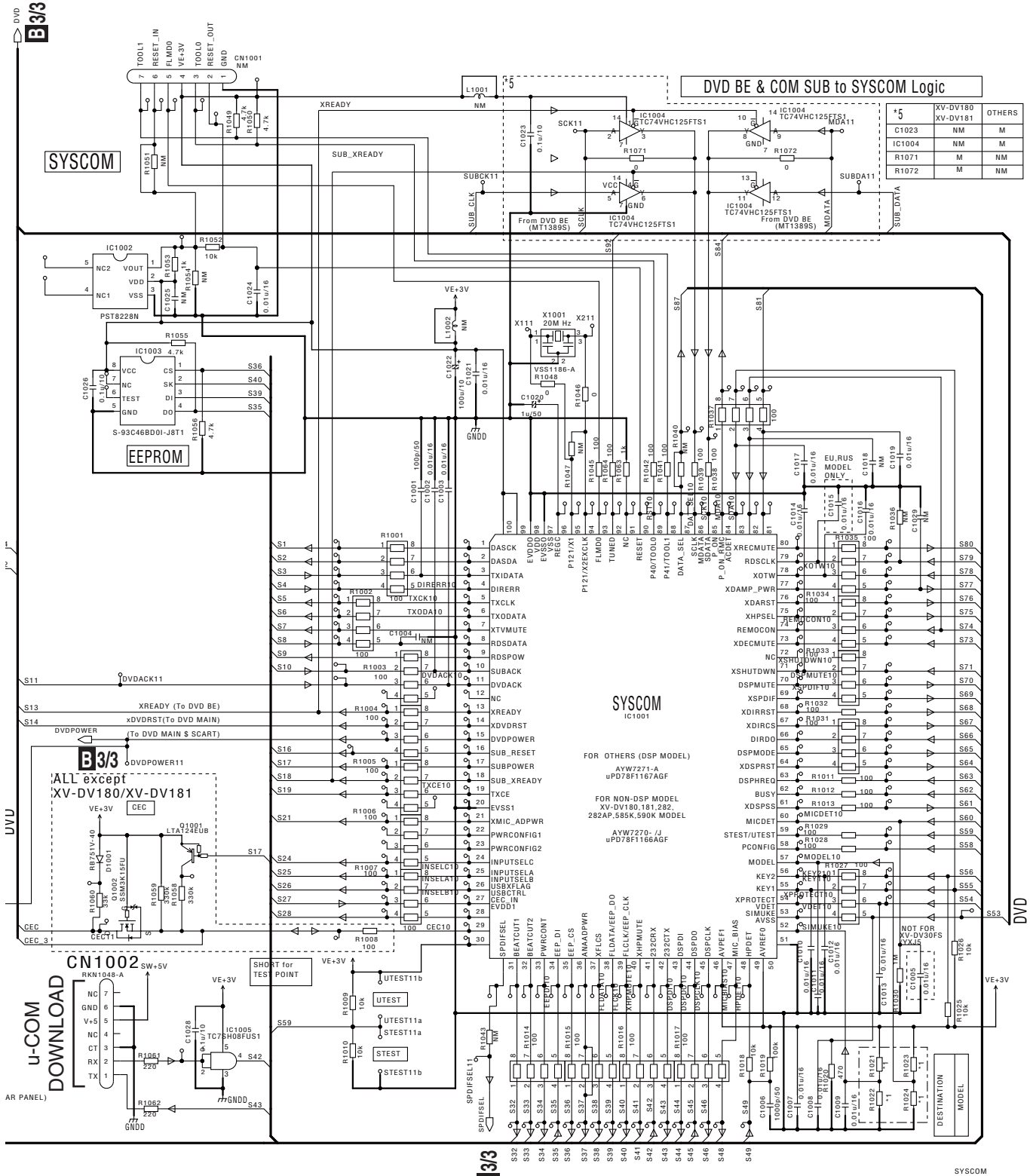
SIMUKE_System	EUROPE					
	Europe YXJ5			Russia SXJ5		
R1021(Kohm)	-			15		
R1022(Kohm)	47			82		
Model No.	XV-DV585	XV-DV590	XV-DV30FS	XV-DV585K	XV-DV590K	XV-DV595K
Assy No.	XWM3502	XWM3503	XWM3504	XWM3505	XWM3506	XWM3407
&AW301	S4	S5	S6	S1	S3	S5
MODEL_System	ST	UPPER 4T	2.1CH LCD	BASE ST	BASE 4T/2T	UPPER 4T
R1023(Kohm)	33	39	39	-	68	39
R1024(Kohm)	12	33	51	47	15	33
BT	M	M	M	M	M	M



+	OTHERS	(JPN)	(KOR)
MODEL			
R1303	NM	M	M
R1304	M	NM	NM
R1305	M	NM	NM
Q1302	M	NM	NM
Q1303	M	NM	NM
Q1304	M	NM	NM

**B**1/3

FOR DOWNLOAD



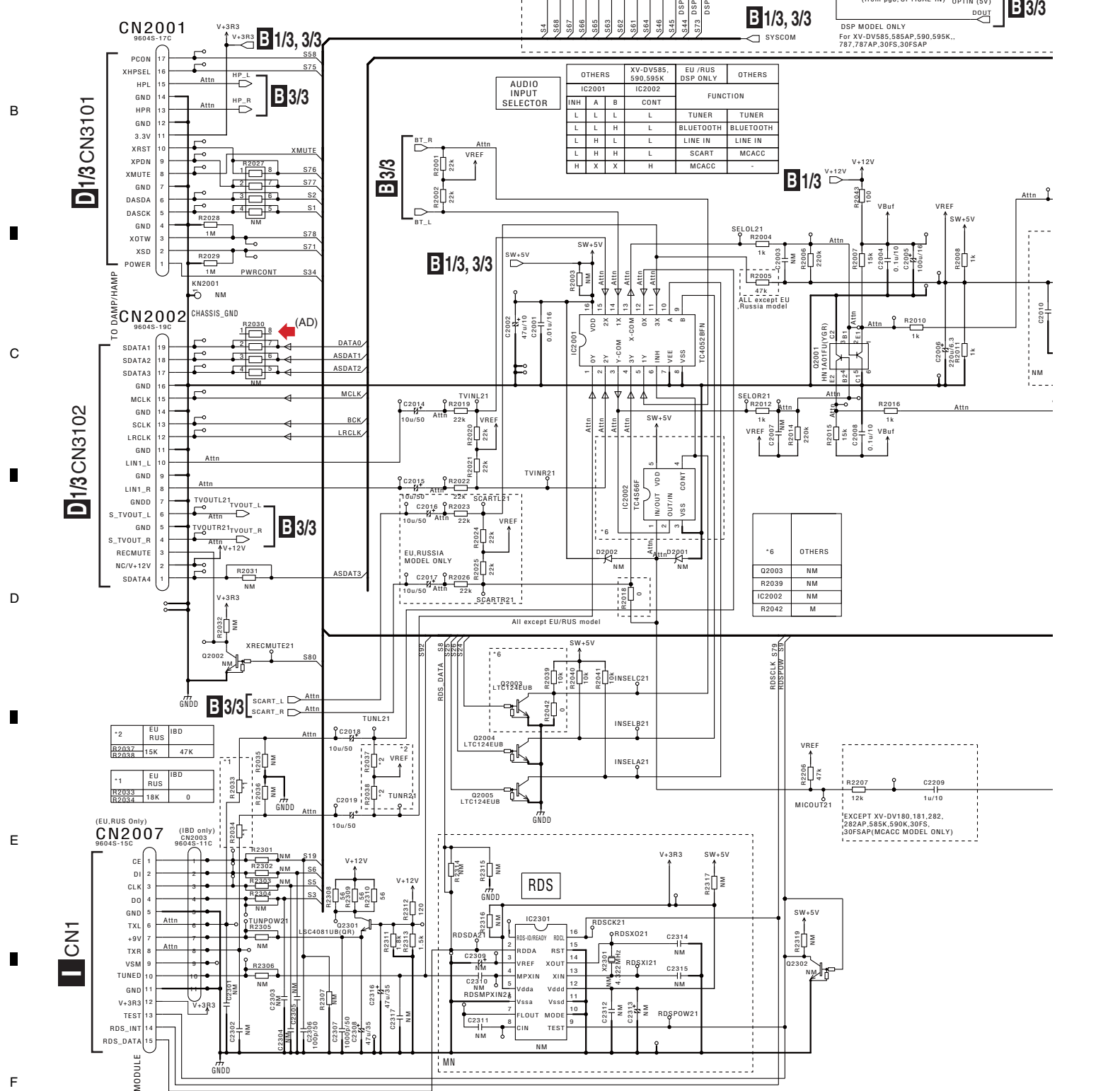
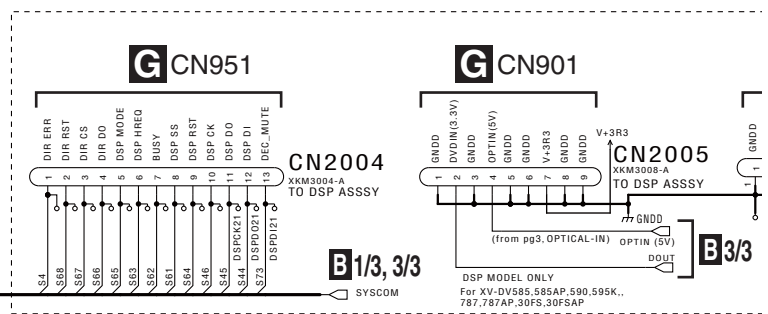
282. OK

NOTES  
 ALL Capacitors are in p-pF or uF unless otherwise specified  
 Ratings Capacity(uF)/Voltage(V)  
 Rated Voltage: 50V unless otherwise specified  
 CH : CCSSCH(1005 size) (others: CKSSYB(1608size))  
 AL : CEAL  
 ALL Resistors are in k-kΩ.  
 M-M (2 or 1)  
 R1/16SS: J(1005 size)  
 R1/10SR: F(1608size)  
 ALL Inductors are in uH  
 NM: No Mount

XV-DV590

# 10.4 RHTS SYSMAIN ASSY (2/3)

## B2/3 RHTS SYSMAIN ASSY (XV-DV590/YXJ5:XWZ4432) (XV-DV585/YXJ5:XWZ4431) (XV-DV30FS/YXJ5:XWZ4433) (XV-DV595K/SXJ5:XWZ4436)



OTHERS		XV-DV585, 590,595K		EU/RUS DSP ONLY		OTHERS	
IC2001		IC2002		FUNCTION			
L	L	L	L	L	TUNER	TUNER	
L	L	L	L	L	BLUETOOTH	BLUETOOTH	
L	L	L	L	L	LINE IN	LINE IN	
L	L	L	L	L	SCART	MCACC	
H	X	X	H	H	MCACC	-	

*6	OTHERS
Q2003	NM
R2039	NM
IC2002	NM
R2042	M

+2	EU	RUS	IBD
R2037	15K	47K	
R2038			

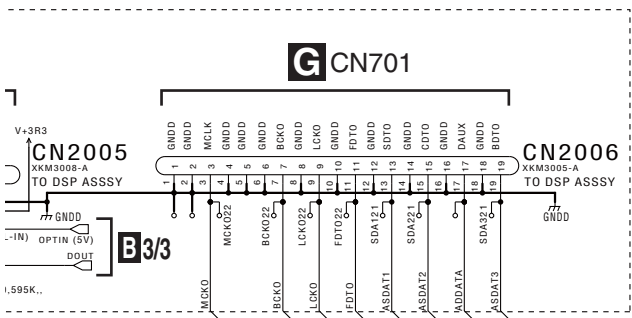
  

+1	EU	RUS	IBD
R2033	18K	0	
R2034			

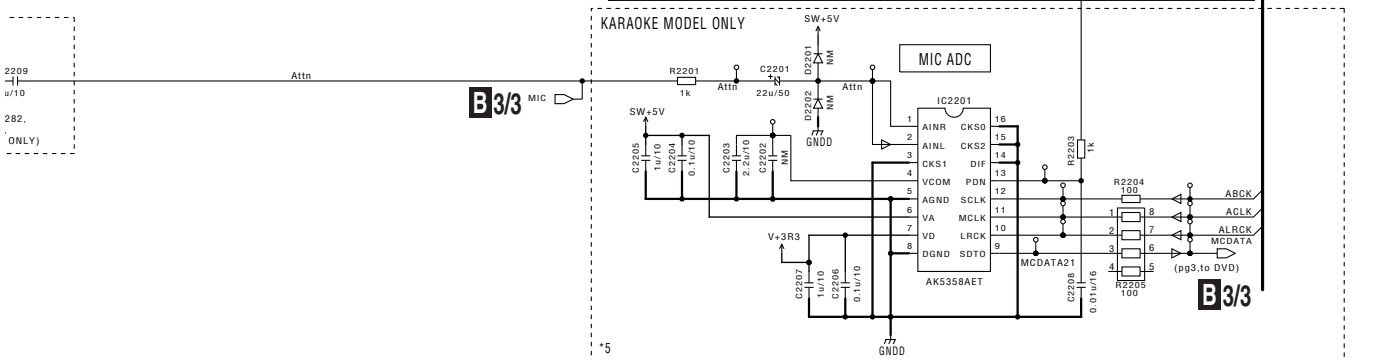
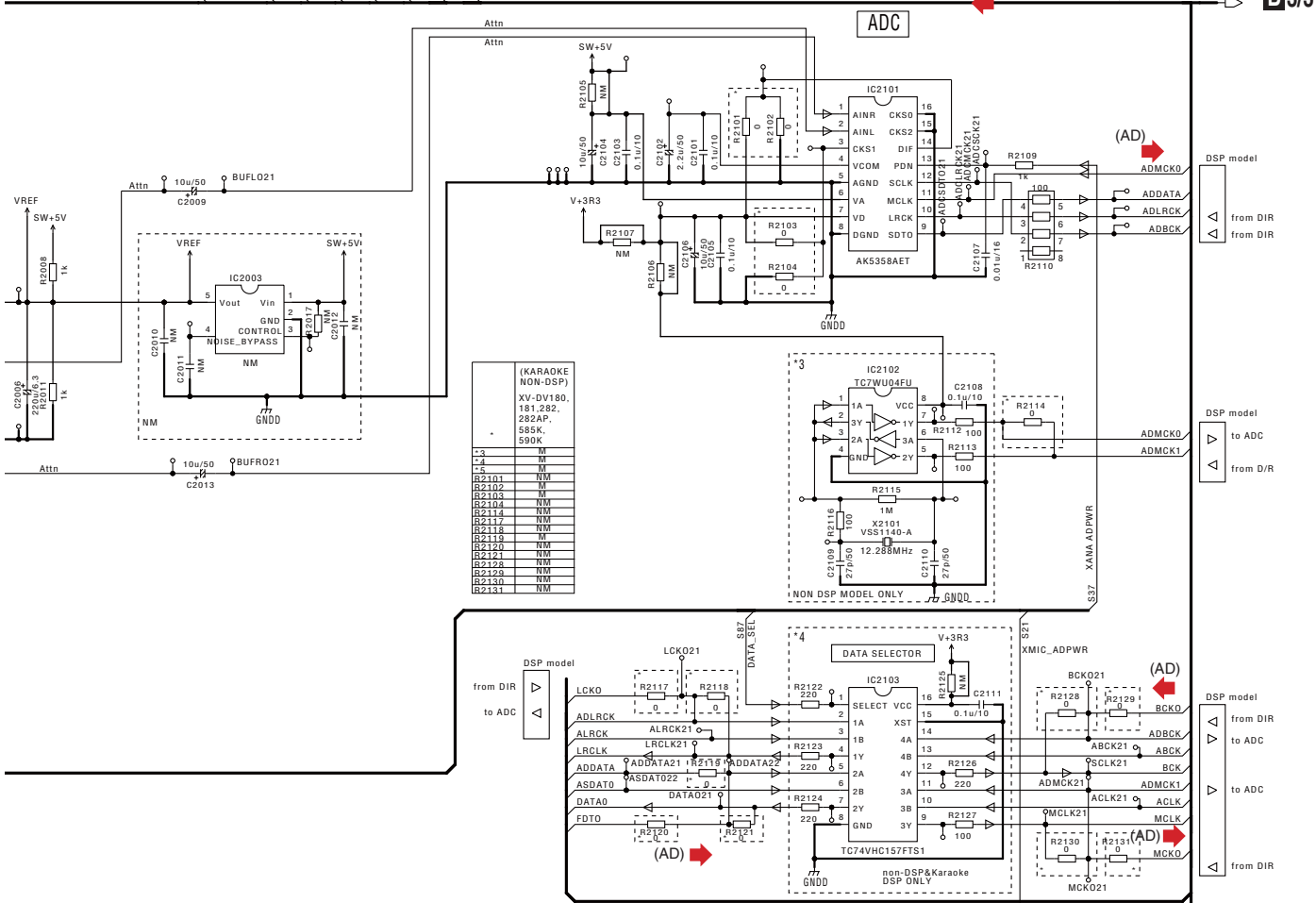
EXCEPT XV-DV180,181,282, 282AP,585K,590K,30FS, 30FSAP(MCACC MODEL ONLY)

## B2/3





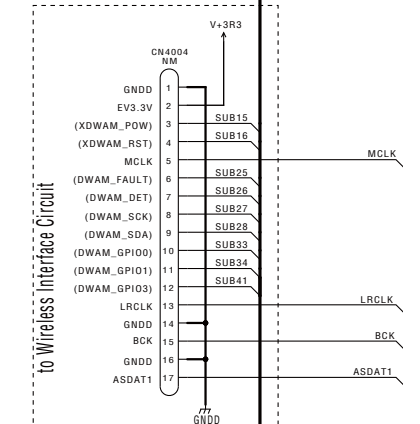
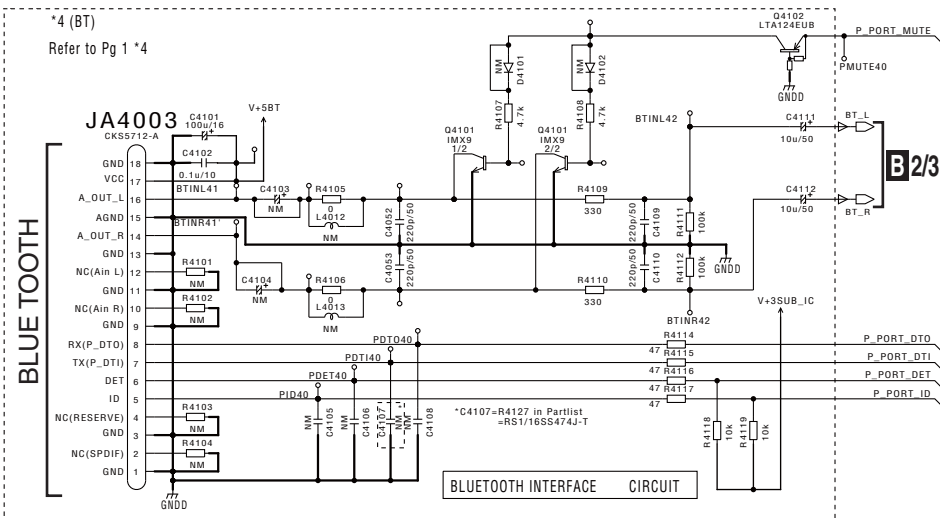
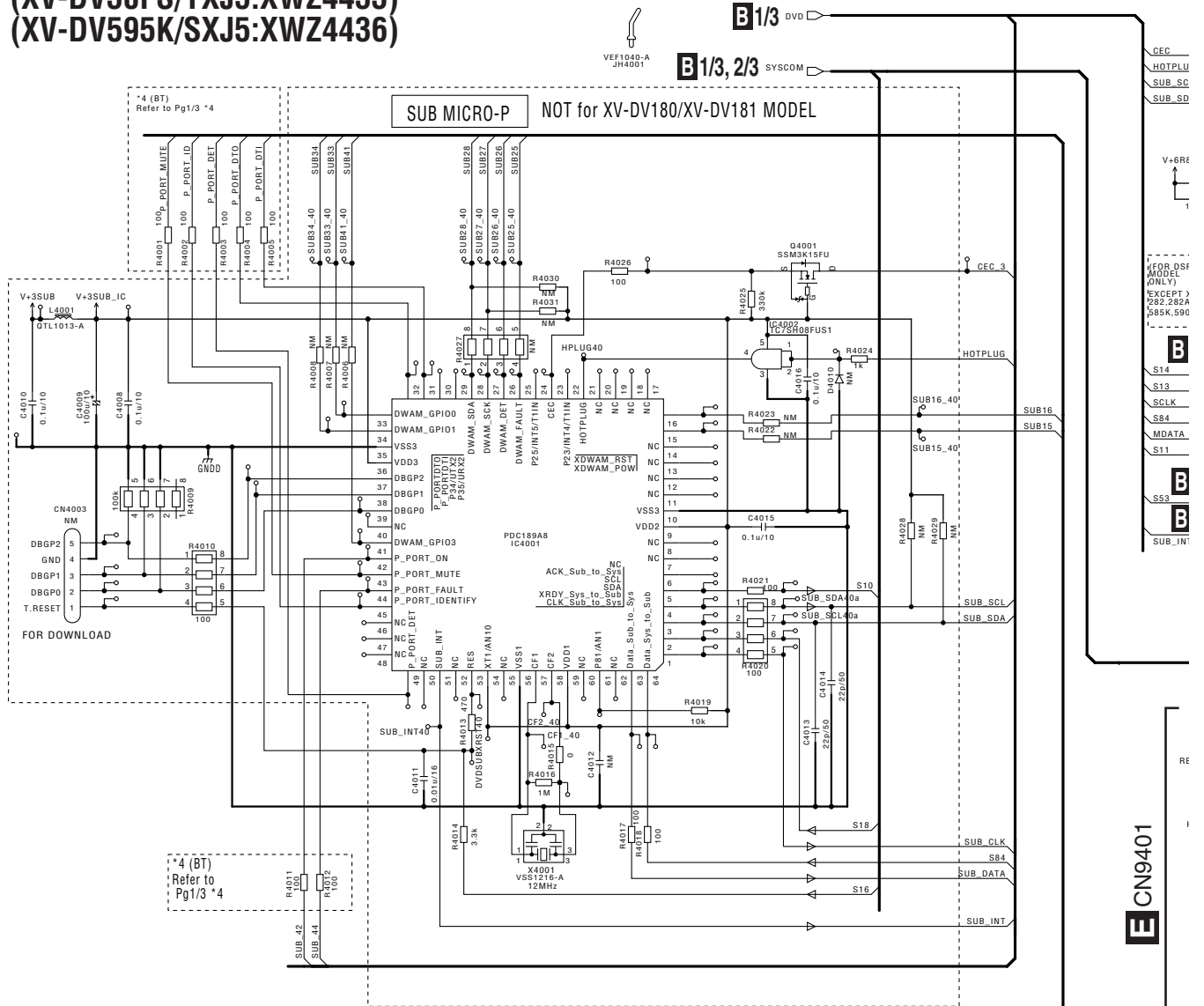
NOTES  
 ALL Capacitors are in p-pF or uF unless otherwise specified  
 Ratings Capacity(uF)/Voltage(V)  
 Rated Voltage : 50V unless otherwise specified  
 CH : CCSSCH(1005 size)  
 (others : CKSSY(1608size))  
 AL : CEAL  
 ALL Resistors are in k-kΩ,  
 M-MΩ or Ω  
 RS1/16SS: J(1005 size)  
 RS1/10SR: F(1608size)  
 ALL Inductors are in uH  
 NM: No Mount

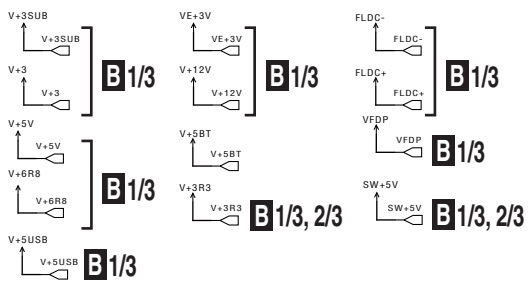


(AD) → AUDIO DATA SIGNAL ROUTE

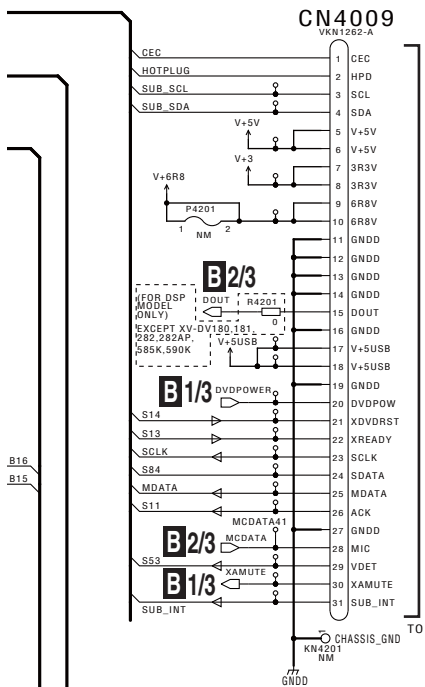
# 10.5 RHTS SYSMAIN ASSY (3/3)

**B3/3** RHTS SYSMAIN ASSY  
 (XV-DV590/YXJ5:XWZ4432)  
 (XV-DV585/YXJ5:XWZ4431)  
 (XV-DV30FS/YXJ5:XWZ4433)  
 (XV-DV595K/SXJ5:XWZ4436)

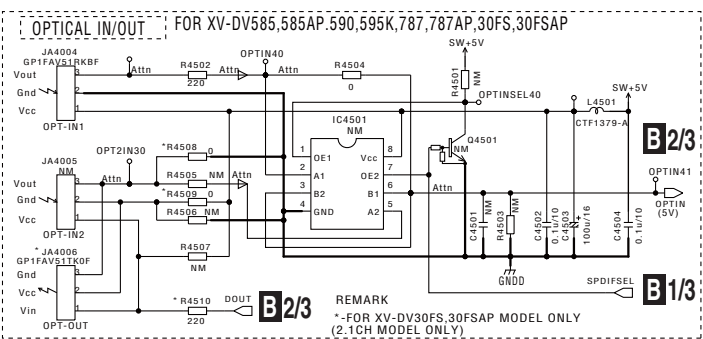




NOTES  
 ALL Capacitors are in p-pF or uF unless otherwise specified  
 Ratings Capacity(uF)/Voltage(V)  
 Rated Voltage : 50V unless otherwise specified  
 CH : CCSSCH(1005 size)  
 (others : CKSSYB(1608size))  
 CEAL : CEAL  
 ALL Resistors are in k-kΩ, M-MΩ or Ω  
 RS/16SS...J(1005 size)  
 RS/10SR...F(1608size)  
 ALL Inductors are in uH  
 NM: No Mount



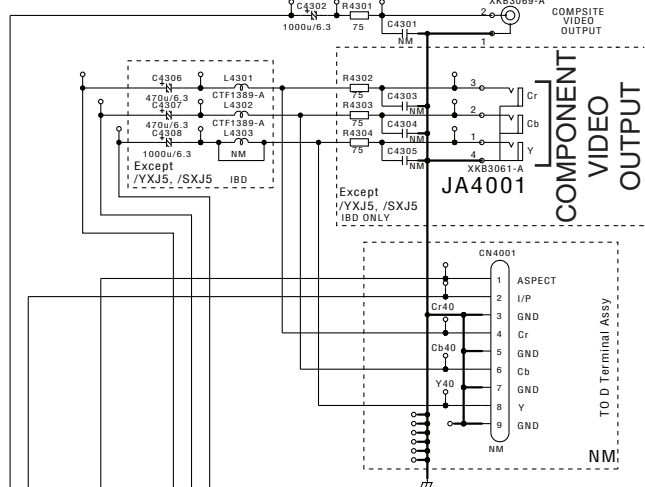
**A2/2 CN963**



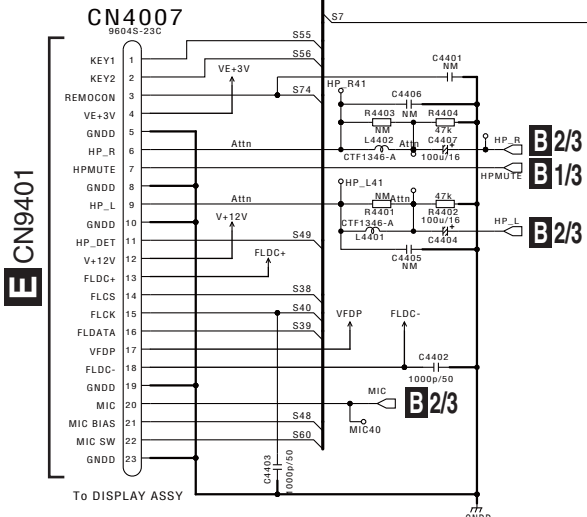
**B2/3**

**B2/3**

**B1/3**



**COMPONENT VIDEO OUTPUT**



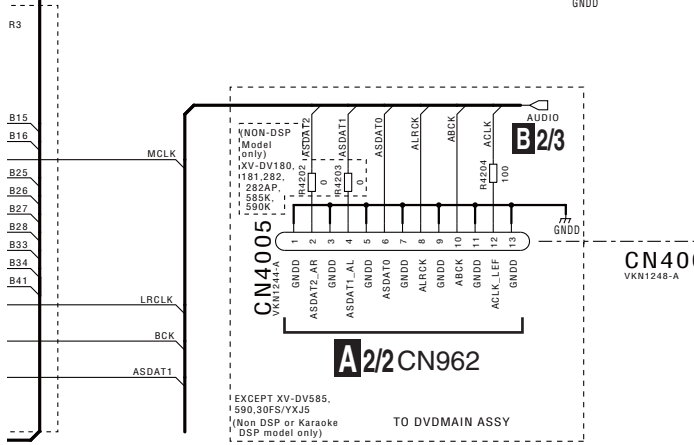
**E CN9401**

**B2/3**

**B1/3**

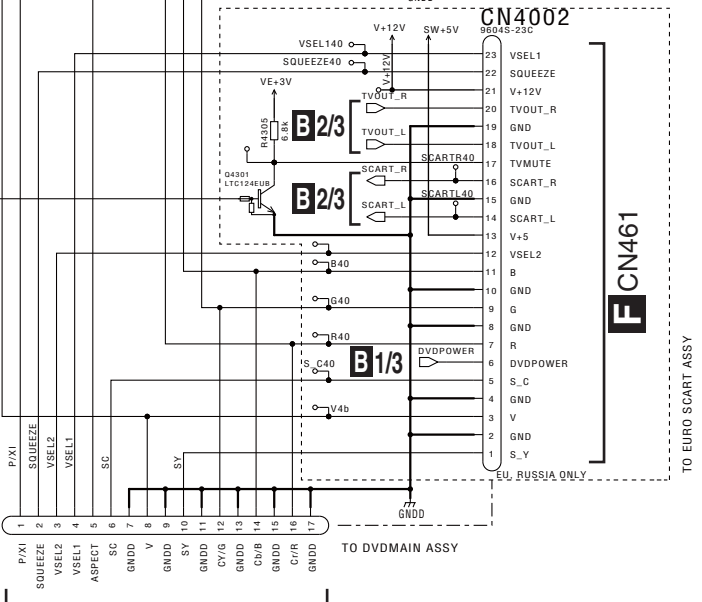
**B2/3**

**B2/3**



**A2/2 CN962**

**CN4006**



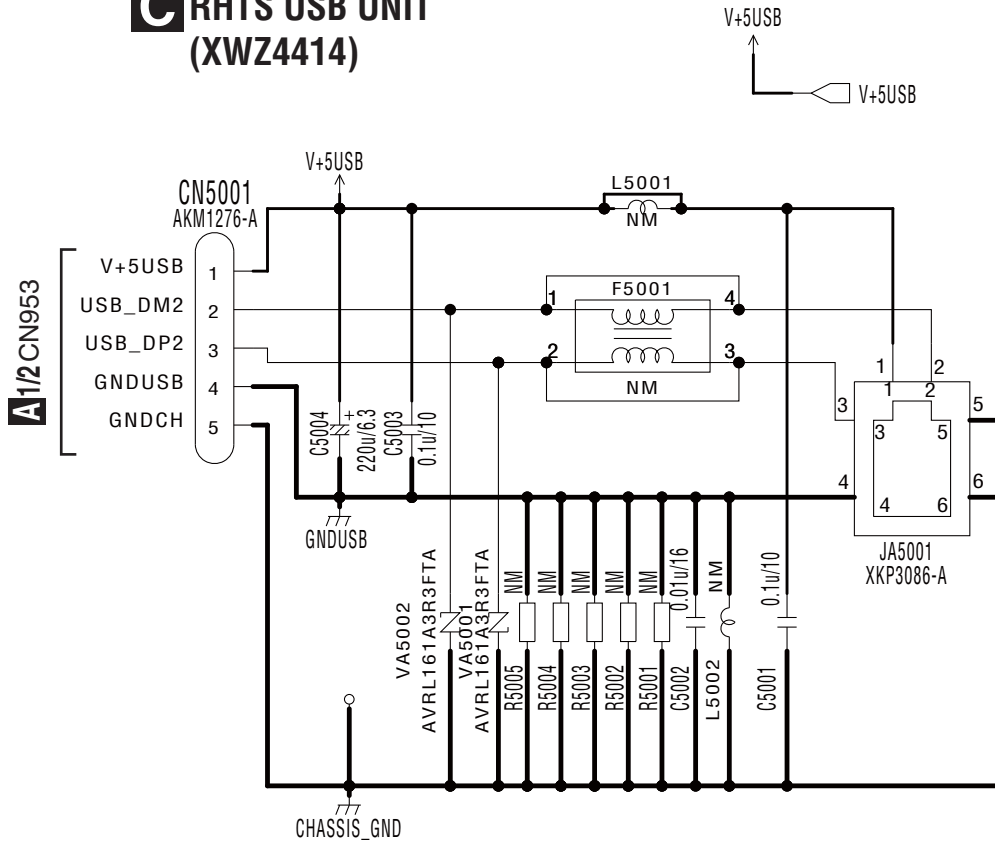
**F CN461**

**A2/2 CN967**

**B3/3**

# 10.6 RHTS USB ASSY

## C RHTS USB UNIT (XWZ4414)



**NOTES**  
 ALL Capacitors are in p-pF or uF unless otherwise specified  
 Ratings Capacity(uF)/Voltage(V)  
 Rated Voltage : 50V unless otherwise specified  
 CH : CCSSCH(1005 size)  
 (others : CKSSYB(1608size))  
 AL : CEAL  
 ALL Resistors are in k-kΩ , M-M Ω or Ω  
 RS1/16SS\*\*\*J(1005 size)  
 RS1/10SR\*\*\*F(1608size)  
 ALL Inductors are in uH  
 NM: No Mount



5



6



7



8



A



B



C



D



E



F



5



6

XV-DV590



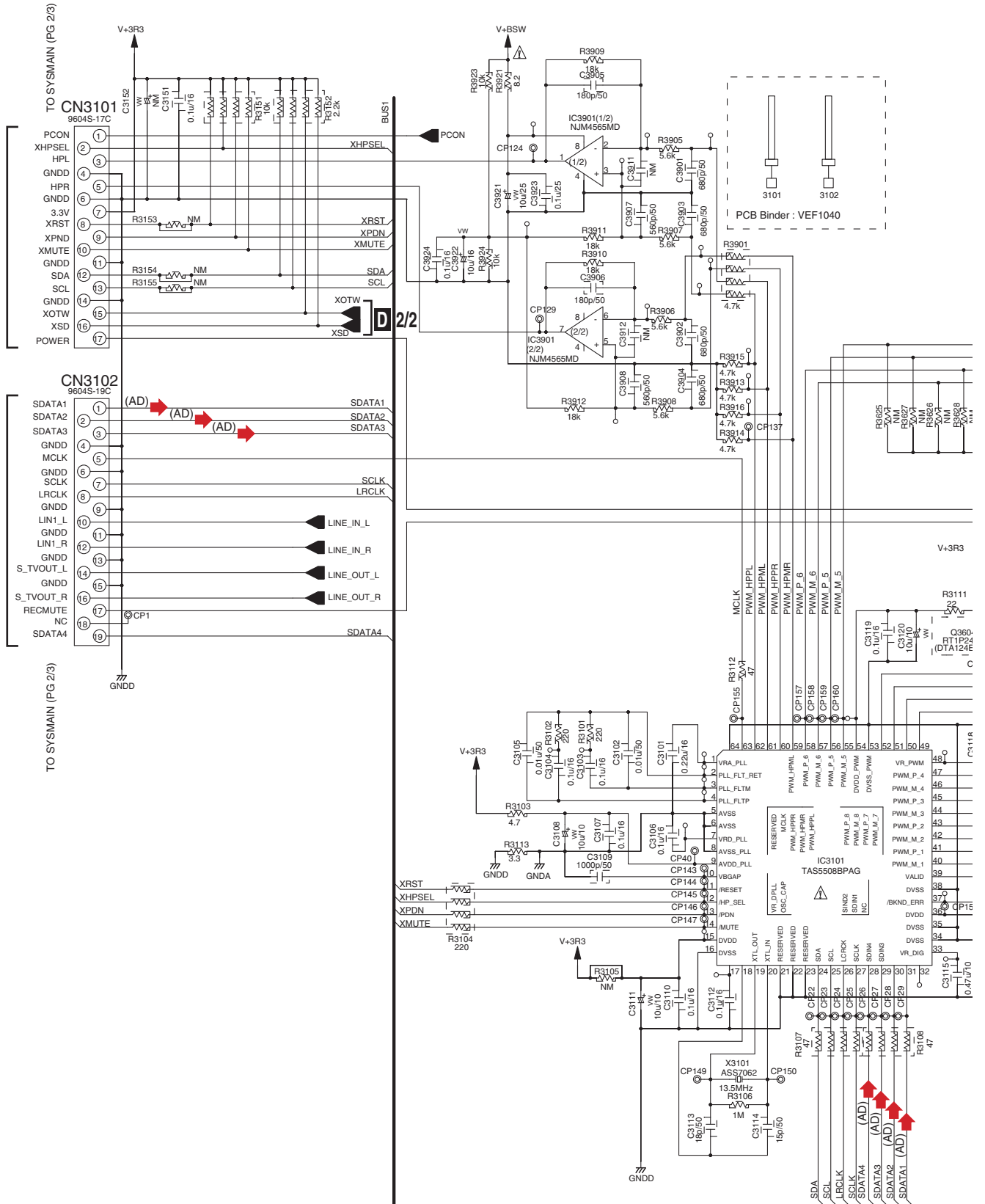
7



8



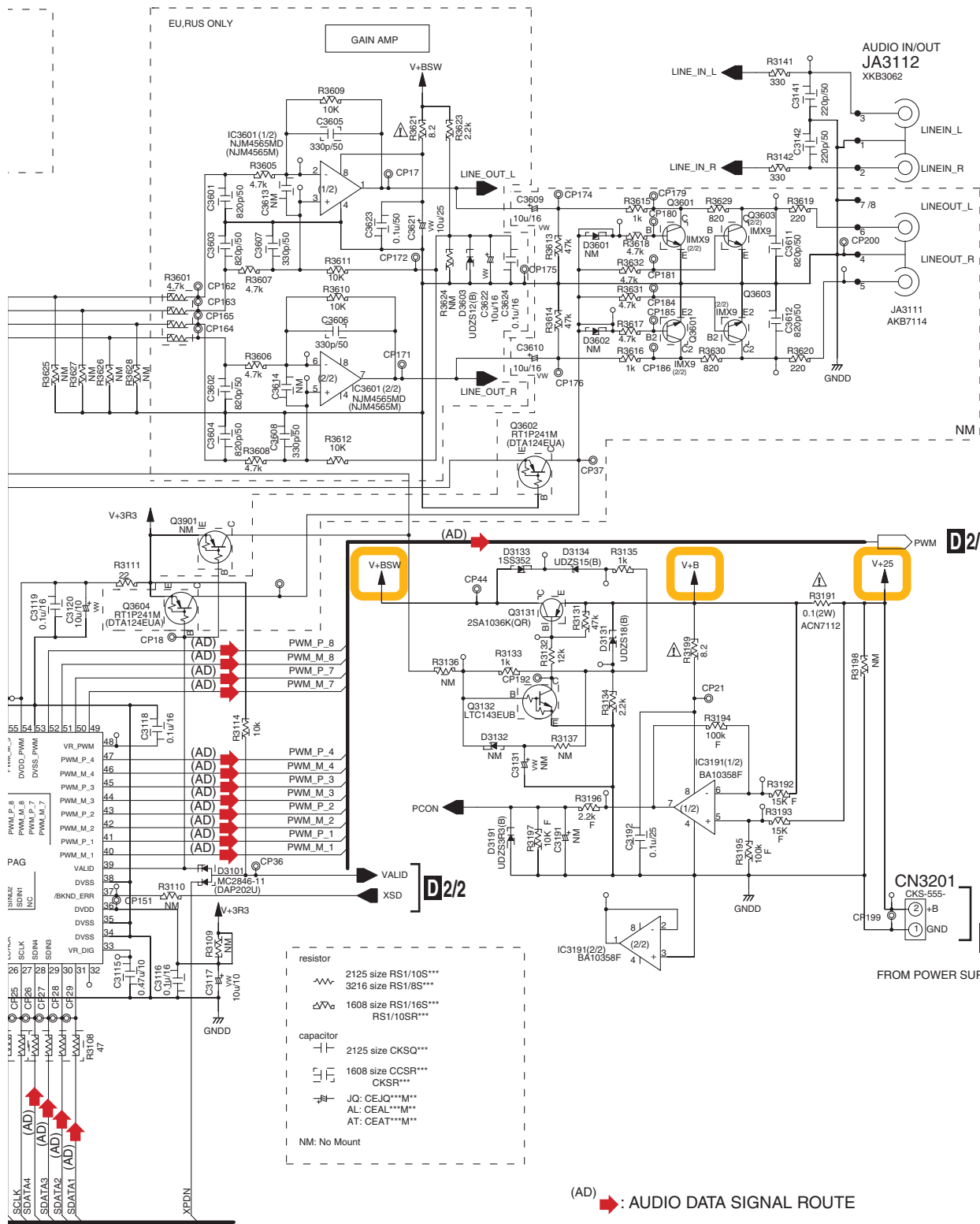
# 10.7 RHTS D-AMP ASSY (1/2)



D1/2

# D1/2 RHTS D-AMP ASSY (XV-DV590, XV-DV585:XWM3489)

A  
B  
C  
D  
E  
F



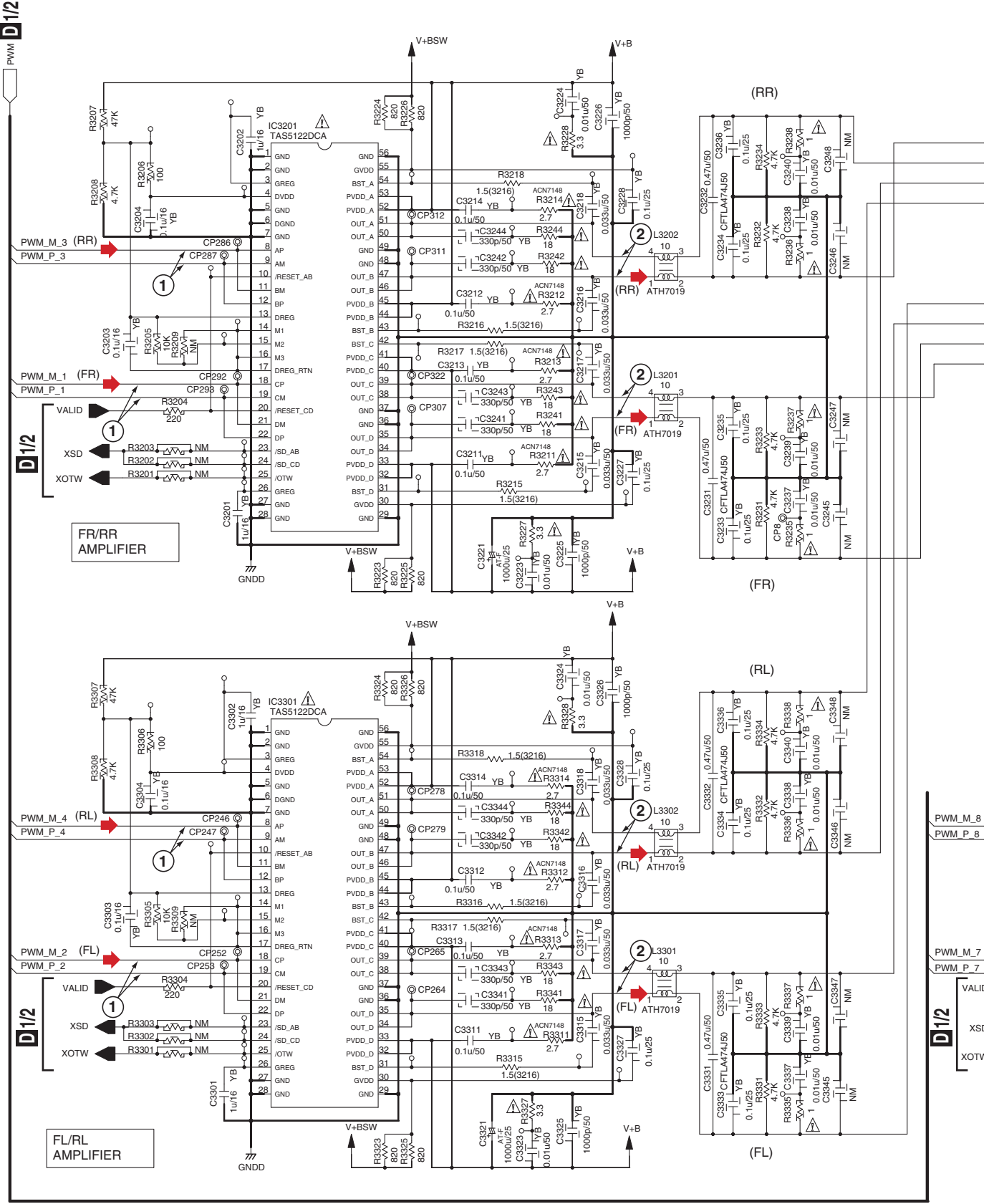
resistor	2125 size RS1/10S***
	3216 size RS1/8S***
	1608 size RS1/16S***
	RS1/10SR***
capacitor	2125 size CKSQ***
	1608 size CCSR***
	CKSR***
	JO: CEJQ***M**
	AL: CEAL***M**
	AT: CEAT***M**
	NM: No Mount

(AD) → : AUDIO DATA SIGNAL ROUTE

# 10.8 RHTS D-AMP ASSY (2/2)

1 2 3 4

A  
B  
C  
D  
E  
F



FR/RR  
AMPLIFIER

FL/RL  
AMPLIFIER

LAYOUT NOTE :  
L325X L335X L345X are PCB track inductors approx.  
50mm long and 1mm wide

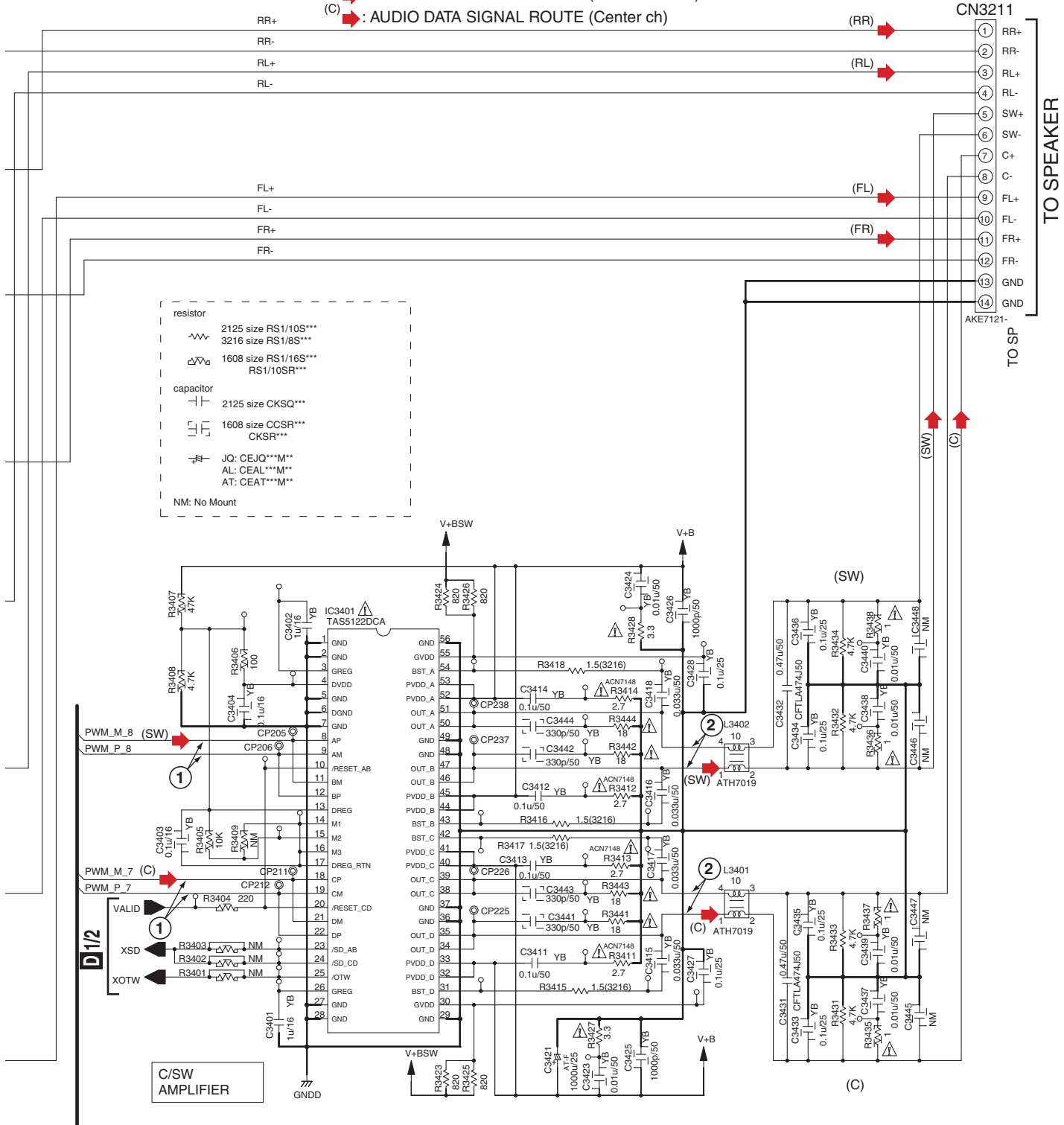
D2/2

1 2 3 4



# D2/2 RHTS D-AMP ASSY (XV-DV590, XV-DV585:XWM3489)

- (RL) → : AUDIO DATA SIGNAL ROUTE (Rear Lch)
- (RR) → : AUDIO DATA SIGNAL ROUTE (Rear Rch)
- (FL) → : AUDIO DATA SIGNAL ROUTE (Front Lch)
- (FR) → : AUDIO DATA SIGNAL ROUTE (Front Rch)
- (SW) → : AUDIO DATA SIGNAL ROUTE (Sub woofer ch)
- (C) → : AUDIO DATA SIGNAL ROUTE (Center ch)



**NOTICE**  
R3211 to R3214, R3311 to R3314, R3411 to R3414 : ACN7148-(2,71); SUB:ACN7141-(2,71); (2W)

# 10.9 RHTS H-AMP ASSY (1/2)

1 2 3 4

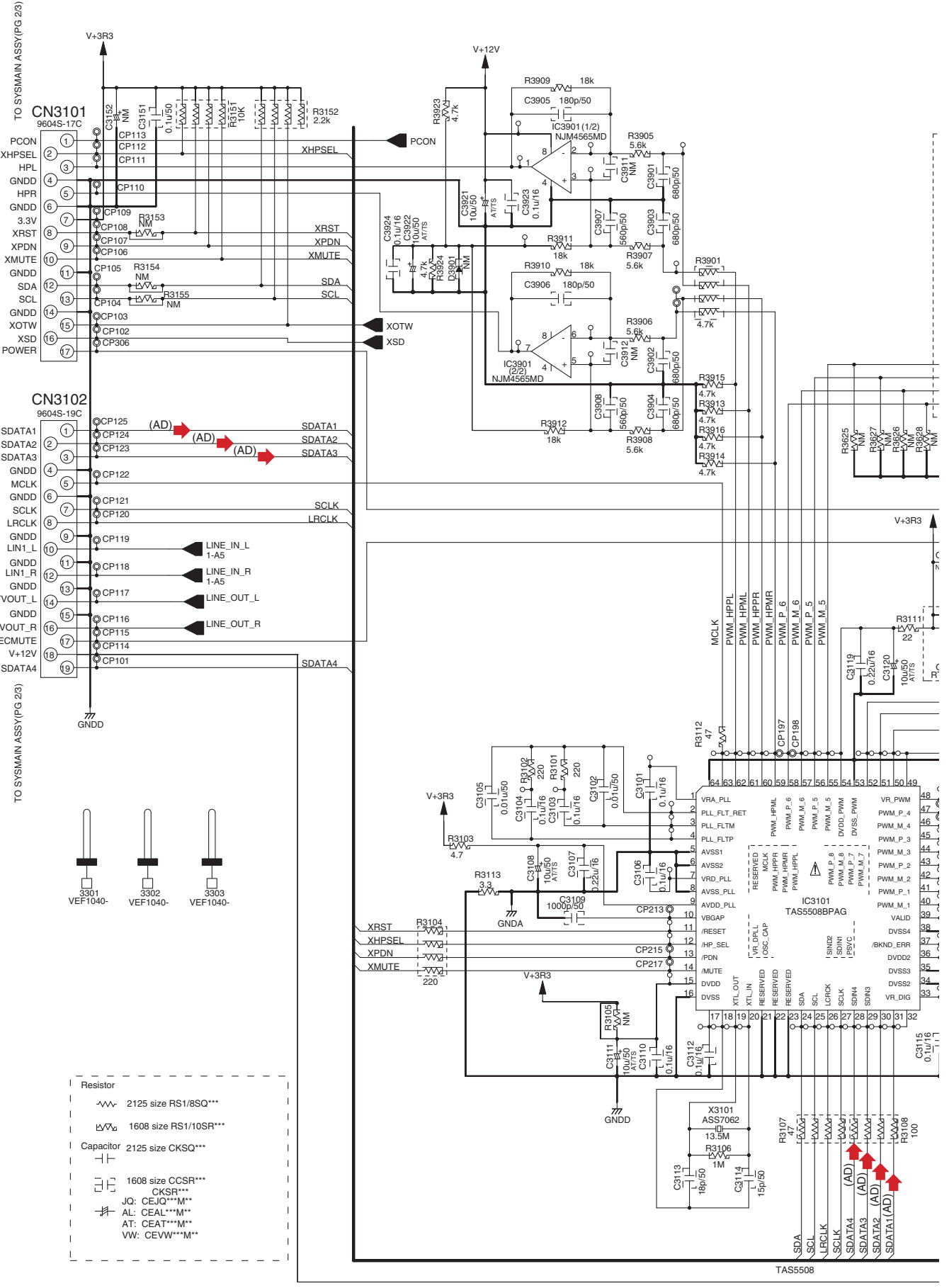
A  
B  
C  
D  
E  
F

B2/3 CN2001

B2/3 CN2002

TO SYSTEM MAIN ASSY (PG 2/3)

TO SYSTEM MAIN ASSY (PG 2/3)



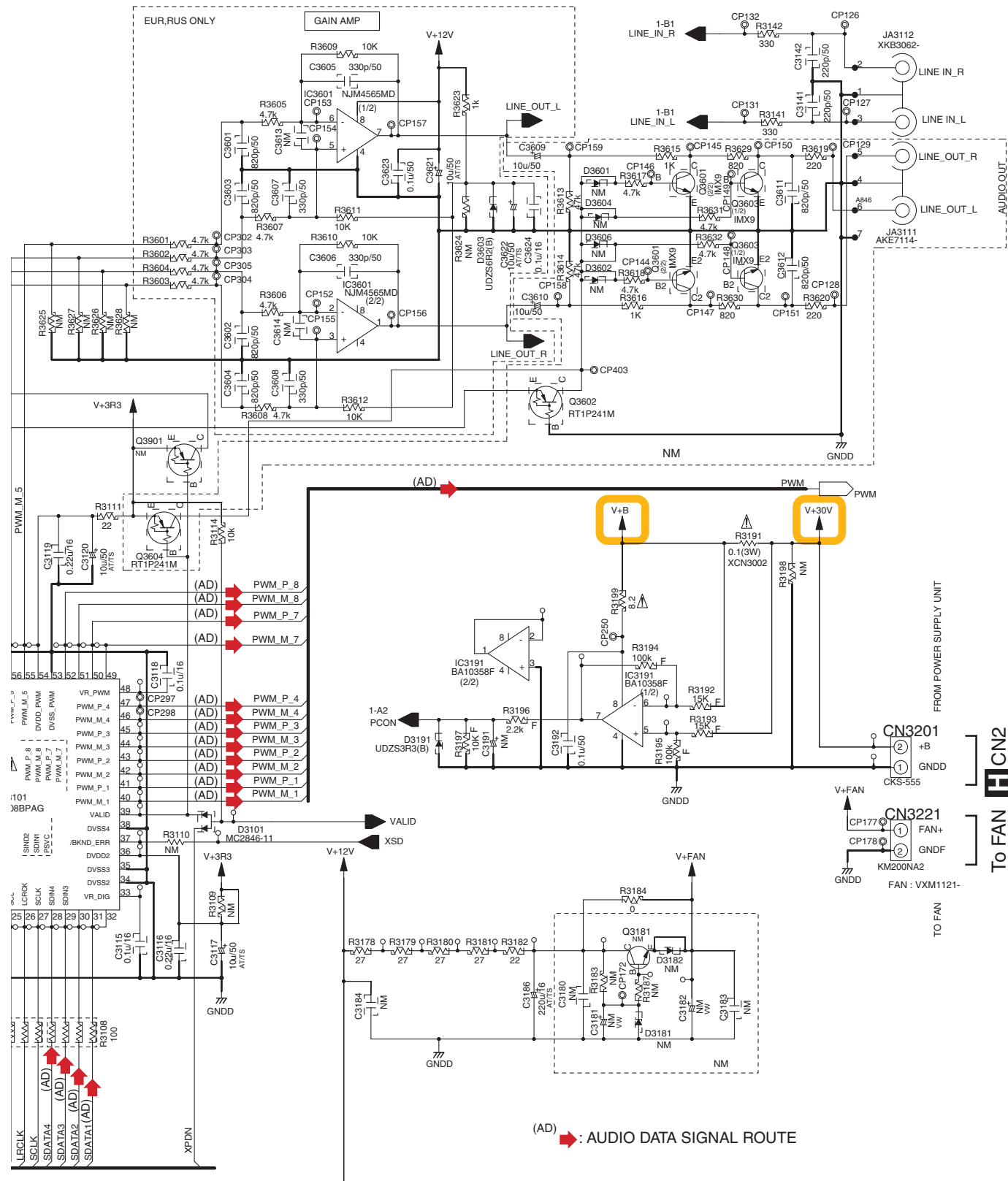
Resistor	
	2125 size RS1/8SQ***
	1608 size RS1/10SR***
Capacitor	
	2125 size CKSQ***
	1608 size CCSR***
	CKSR***
	JO: CEJQ***M**
	AL: CEAL***M**
	AT: CEAT***M**
	VW: CEVW***M**

D1/2

1 2 3 4

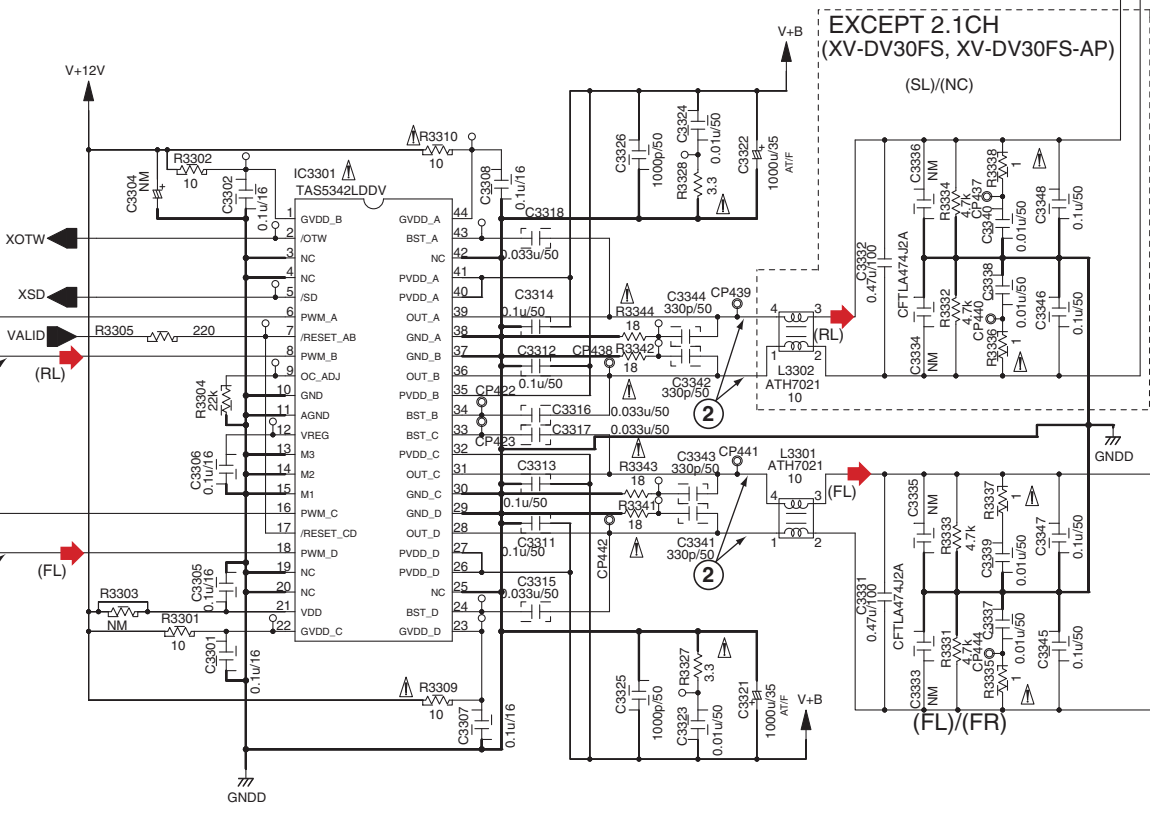
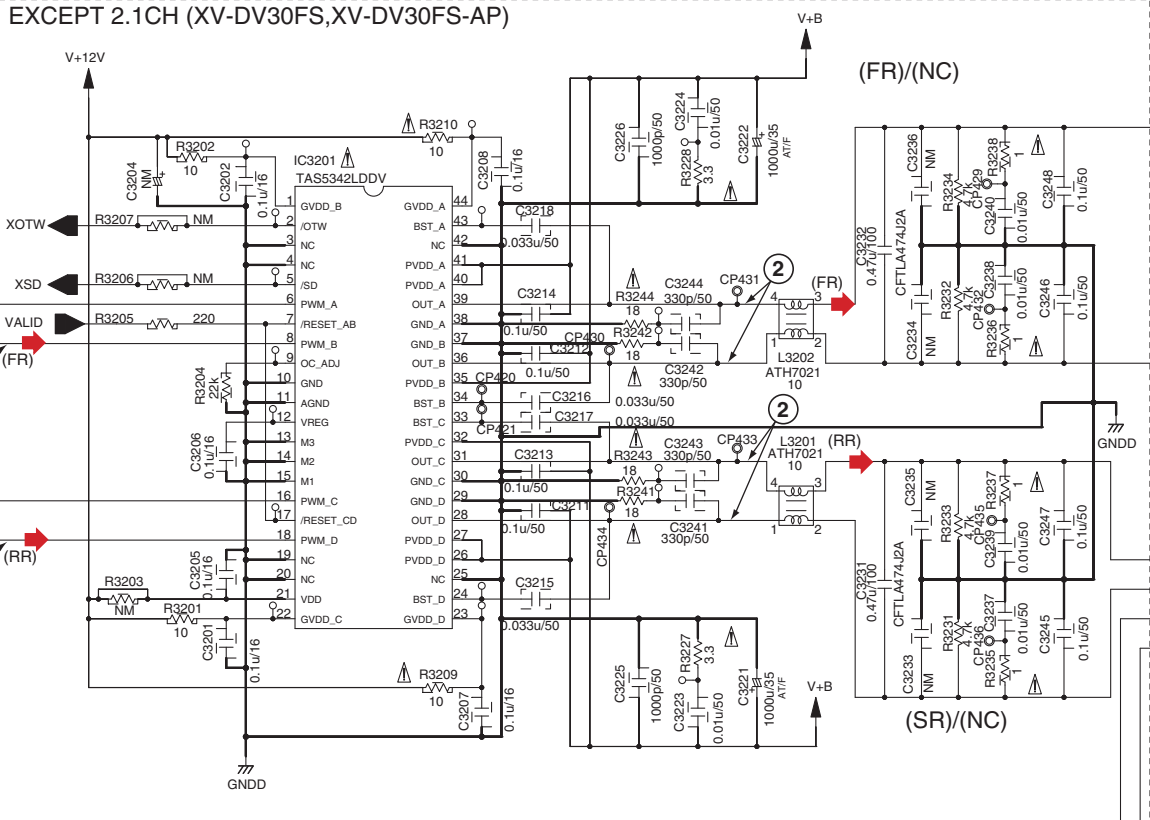
# D1/2 RHTS H-AMP ASSY

(XV-DV30FS:XWM3495)  
(XV-DV595K:XWM3494)



(AD) → : AUDIO DATA SIGNAL ROUTE

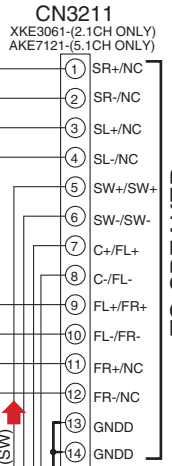
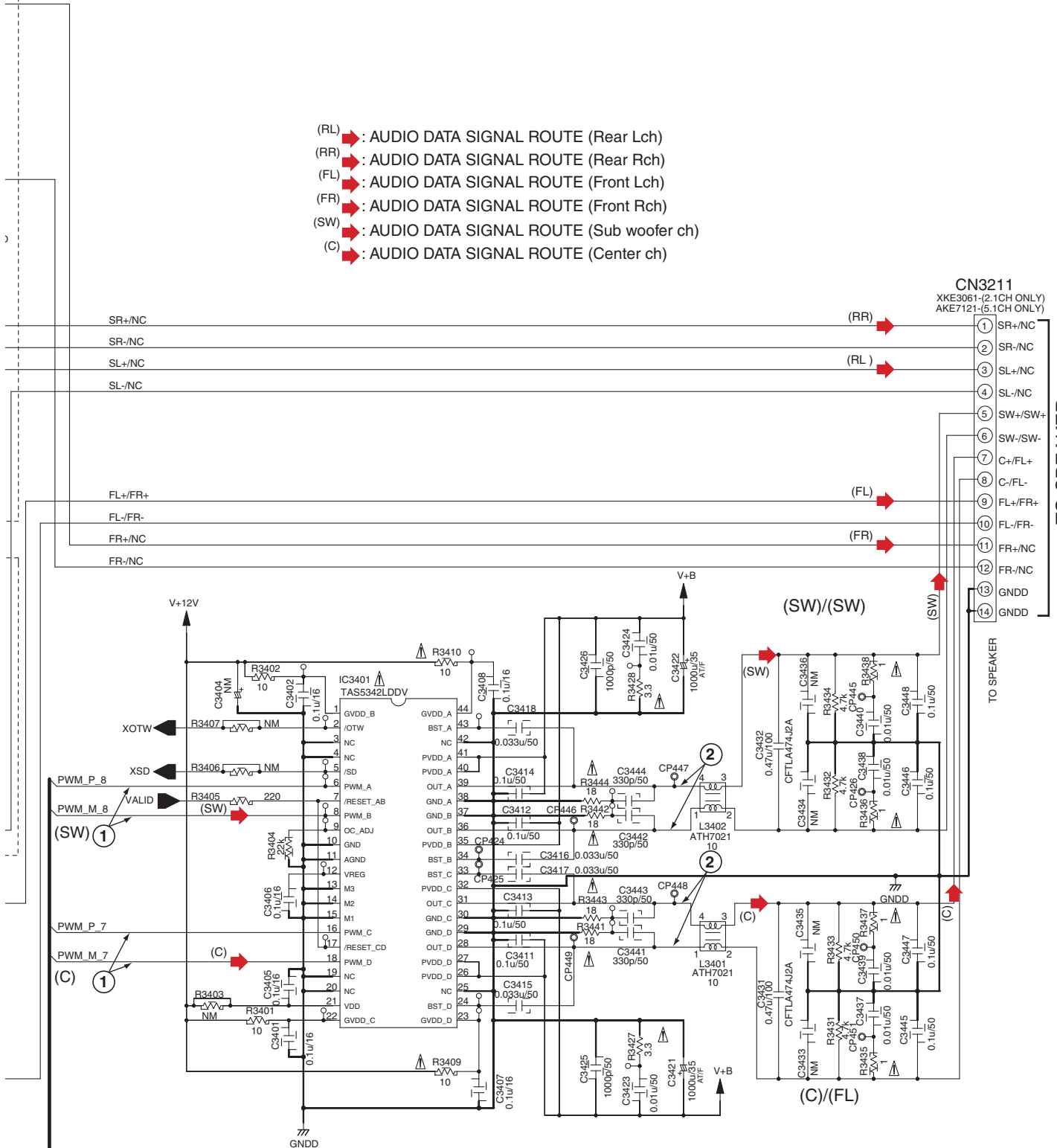
# 10.10 RHTS H-AMP ASSY (2/2)



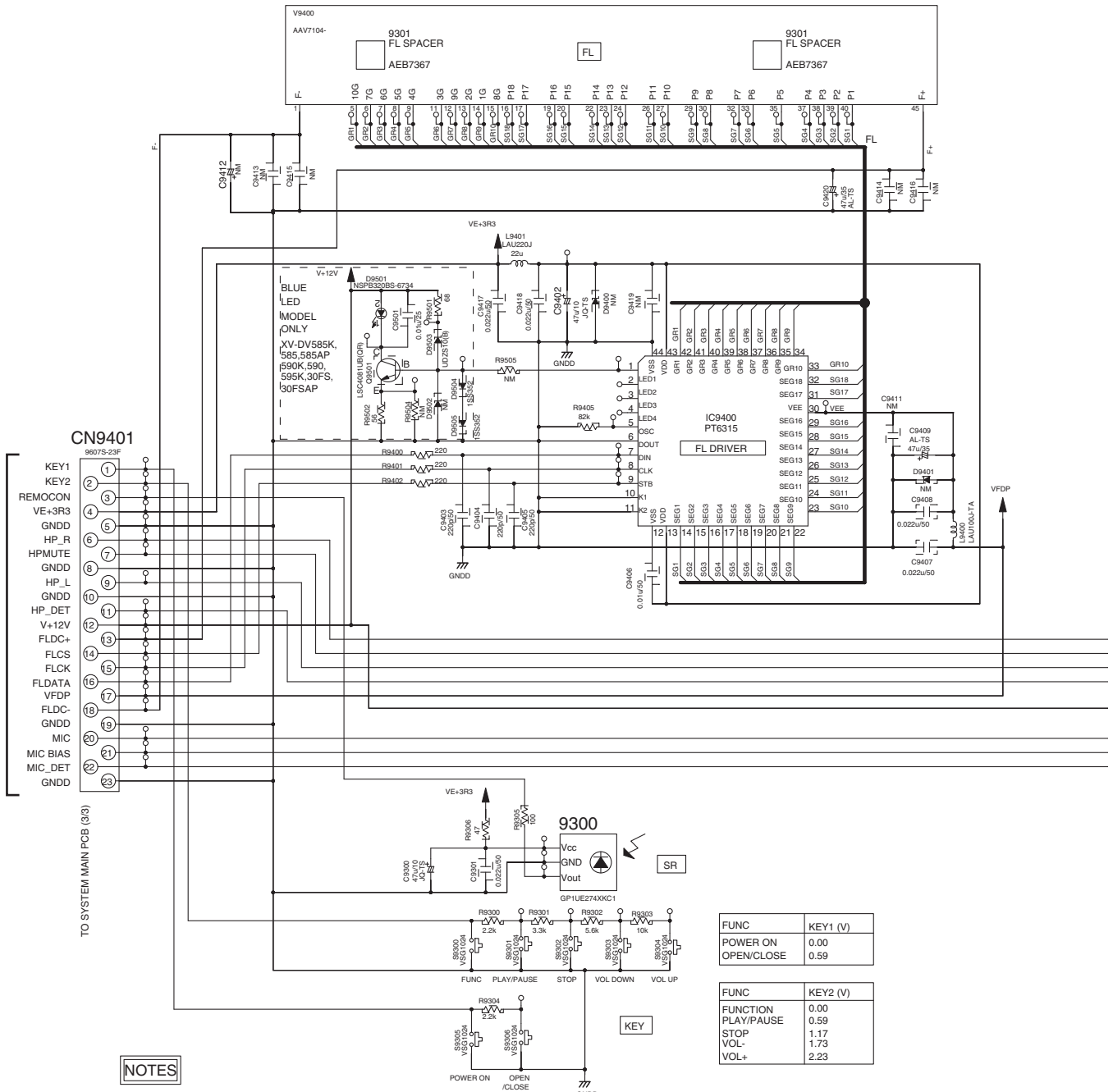
# D2/2 RHTS H-AMP ASSY

(XV-DV30FS:XWM3495)  
(XV-DV595K:XWM3494)

- (RL) ➔ : AUDIO DATA SIGNAL ROUTE (Rear Lch)
- (RR) ➔ : AUDIO DATA SIGNAL ROUTE (Rear Rch)
- (FL) ➔ : AUDIO DATA SIGNAL ROUTE (Front Lch)
- (FR) ➔ : AUDIO DATA SIGNAL ROUTE (Front Rch)
- (SW) ➔ : AUDIO DATA SIGNAL ROUTE (Sub woofer ch)
- (C) ➔ : AUDIO DATA SIGNAL ROUTE (Center ch)



# 10.11 RHTS DISPLAY ASSY



- CN9401**  
9607S-23F
- 1 KEY1
  - 2 KEY2
  - 3 REMOCON
  - 4 VE+3R3
  - 5 GNDD
  - 6 HP\_R
  - 7 HPMUTE
  - 8 GNDD
  - 9 HP\_L
  - 10 GNDD
  - 11 HP\_DET
  - 12 V+12V
  - 13 FLDC+
  - 14 FLCS
  - 15 FLCK
  - 16 FLDATA
  - 17 VFDP
  - 18 FLDC-
  - 19 GNDD
  - 20 MIC
  - 21 MIC BIAS
  - 22 MIC\_DET
  - 23 GNDD

**NOTES**

- ALL CAPACITORS ARE IN  $\mu F$  UNLESS OTHERWISE SPECIFIED
- CKSRB\*\*\*K\*\*
- CCSRCH\*\*\*J\*\*
- JQ : CEJQ\*\*\*M\*\*
- AL : CEAL\*\*\*M\*\*
- AT : CEAT\*\*\*M\*\*
- ALL RESISTORS ARE IN  $\Omega$
- RS1/10SR\*\*\*J
- ALL INDUCTORS ARE IN  $\mu H$
- LAU\*\*\*J-TA
- NM: No Mount

FUNC	KEY1 (V)
POWER ON	0.00
OPEN/CLOSE	0.59

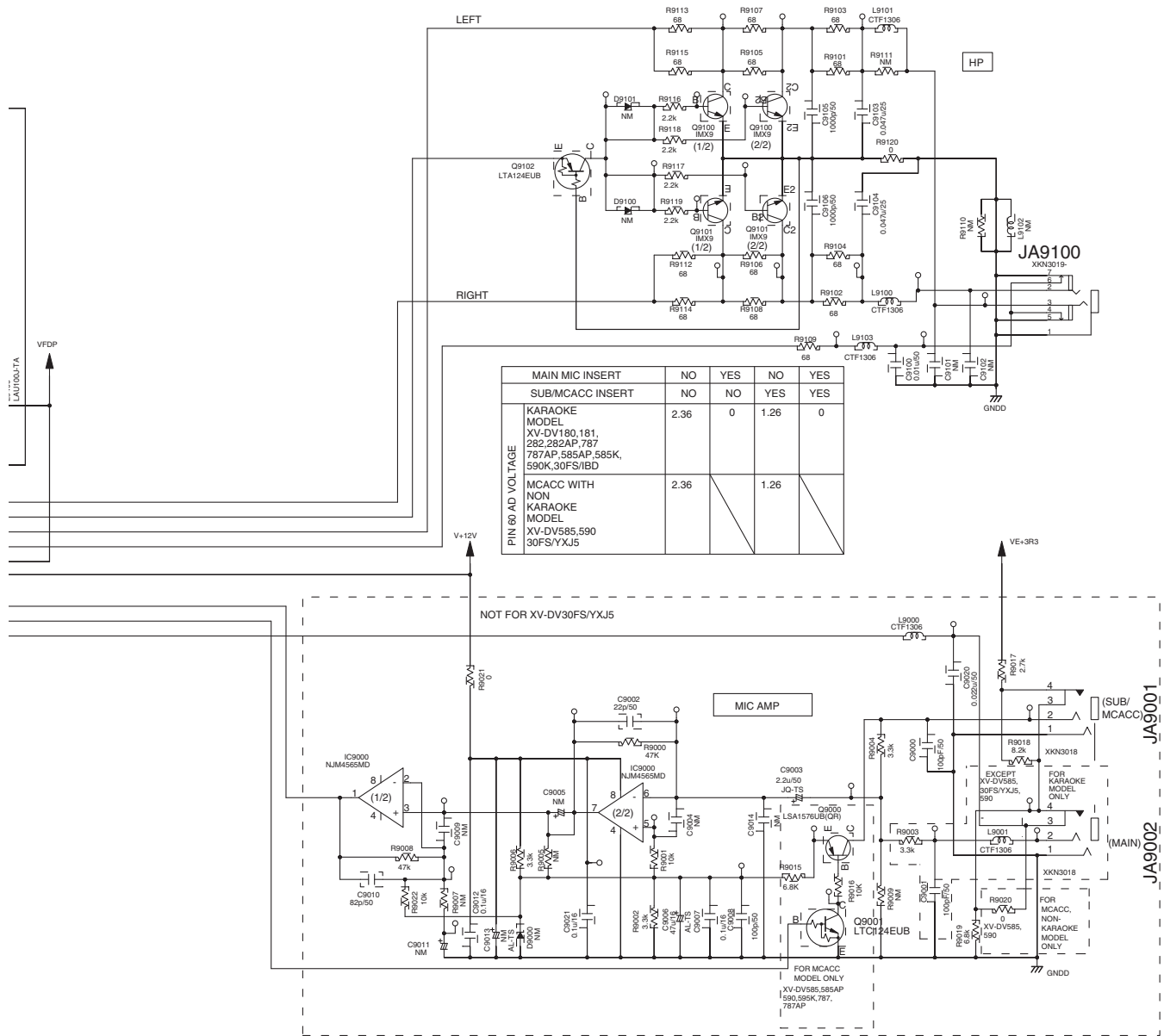
  

FUNC	KEY2 (V)
FUNCTION	0.00
PLAY/PAUSE	0.59
STOP	1.17
VOL-	1.73
VOL+	2.23



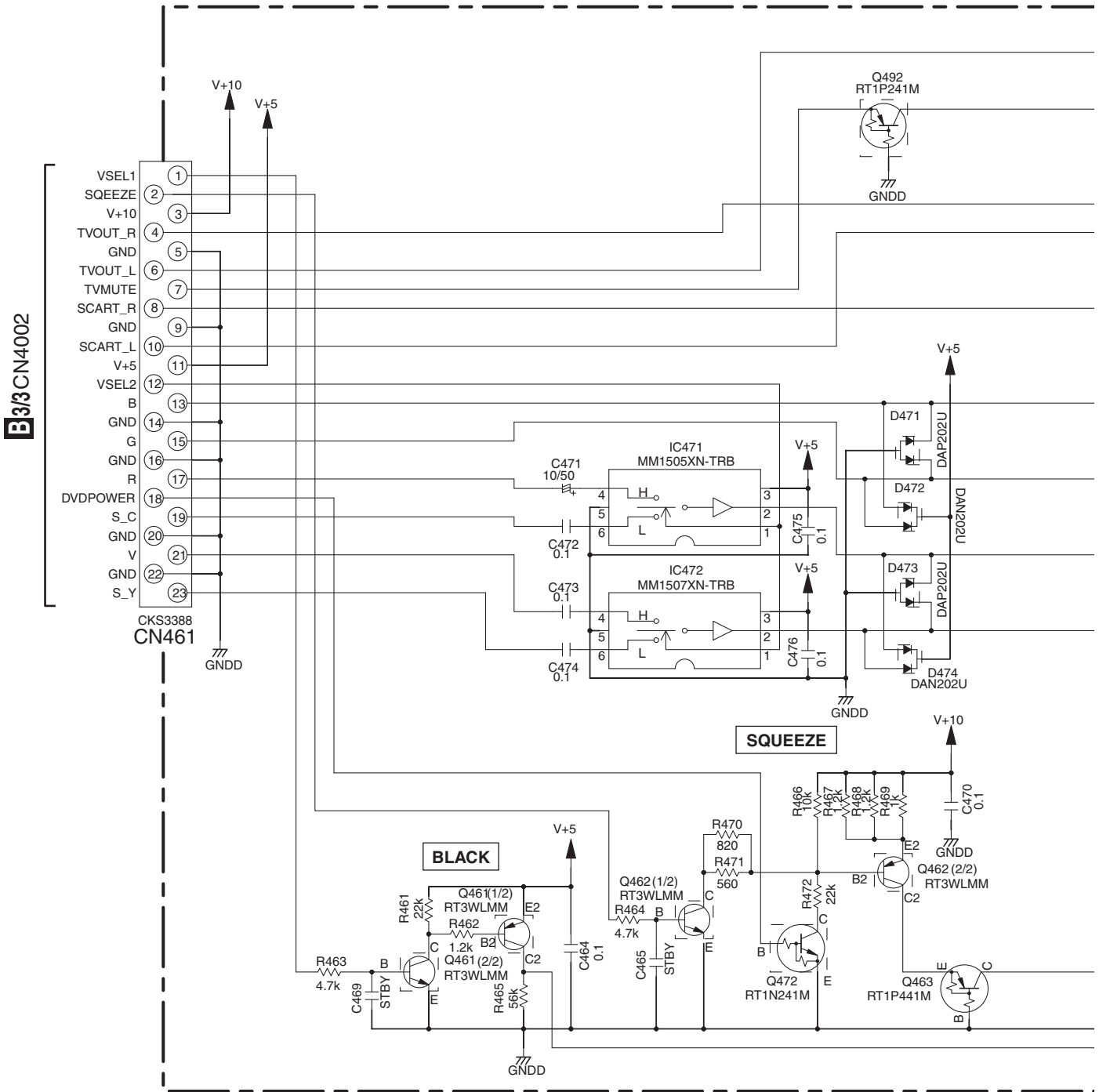
# RHTS DISPLAY ASSY

(XV-DV590, XV-DV585:XWM3487)  
 (XV-DV30FS:XWM3488)  
 (XV-DV595K:XWM3484)

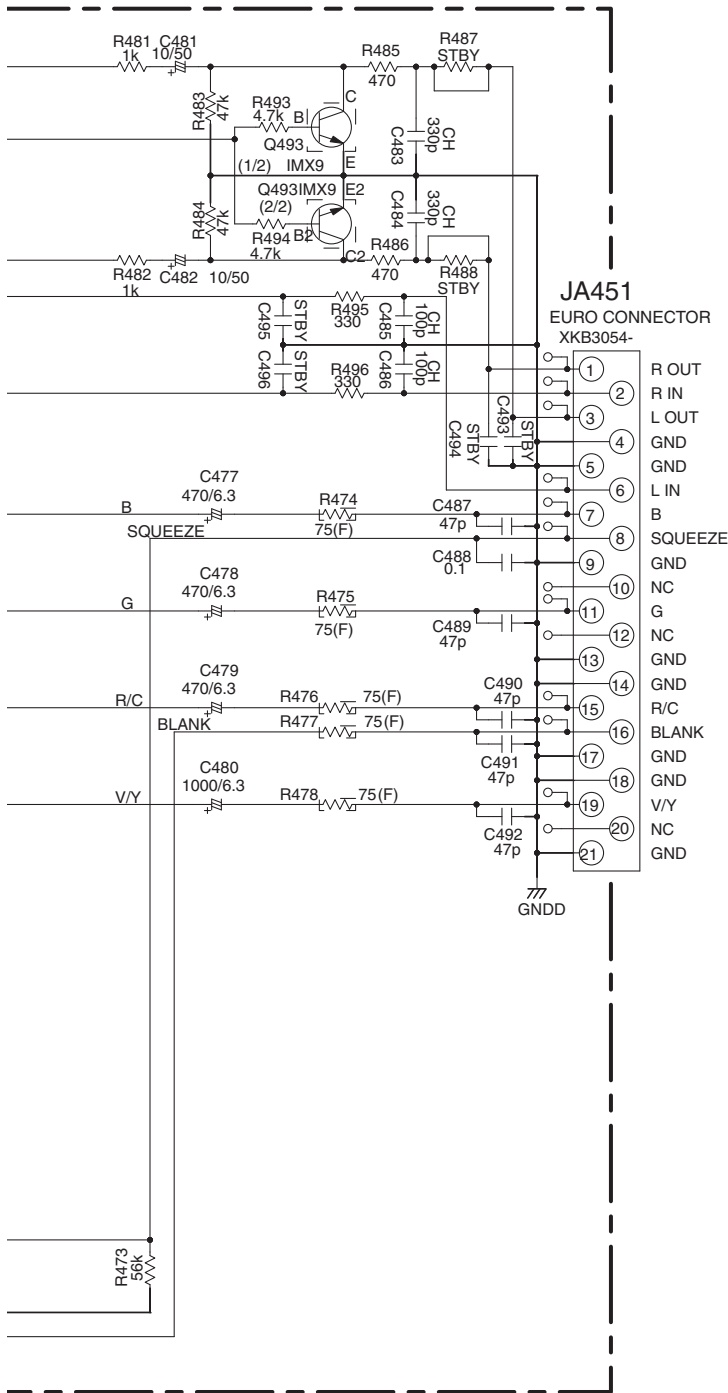


# 10.12 EUROSCART ASSY

## F EUROSCART ASSY (AWU8291)







**NOTES**

ALL CAPACITORS ARE IN  $\mu$ F  
UNLESS OTHERWISE SPECIFIED

- CKSRYB\*\*K50
- JQ : CEJQ\*\*M\*\*
- AL : CEAL\*\*M\*\*
- AT : CEAT\*\*M\*\*

ALL RESISTORS ARE IN  $\Omega$

- RS1/16S\*\*\*J
- RS1/10S\*\*\*J

ALL INDUCTORS ARE IN  $\mu$ H

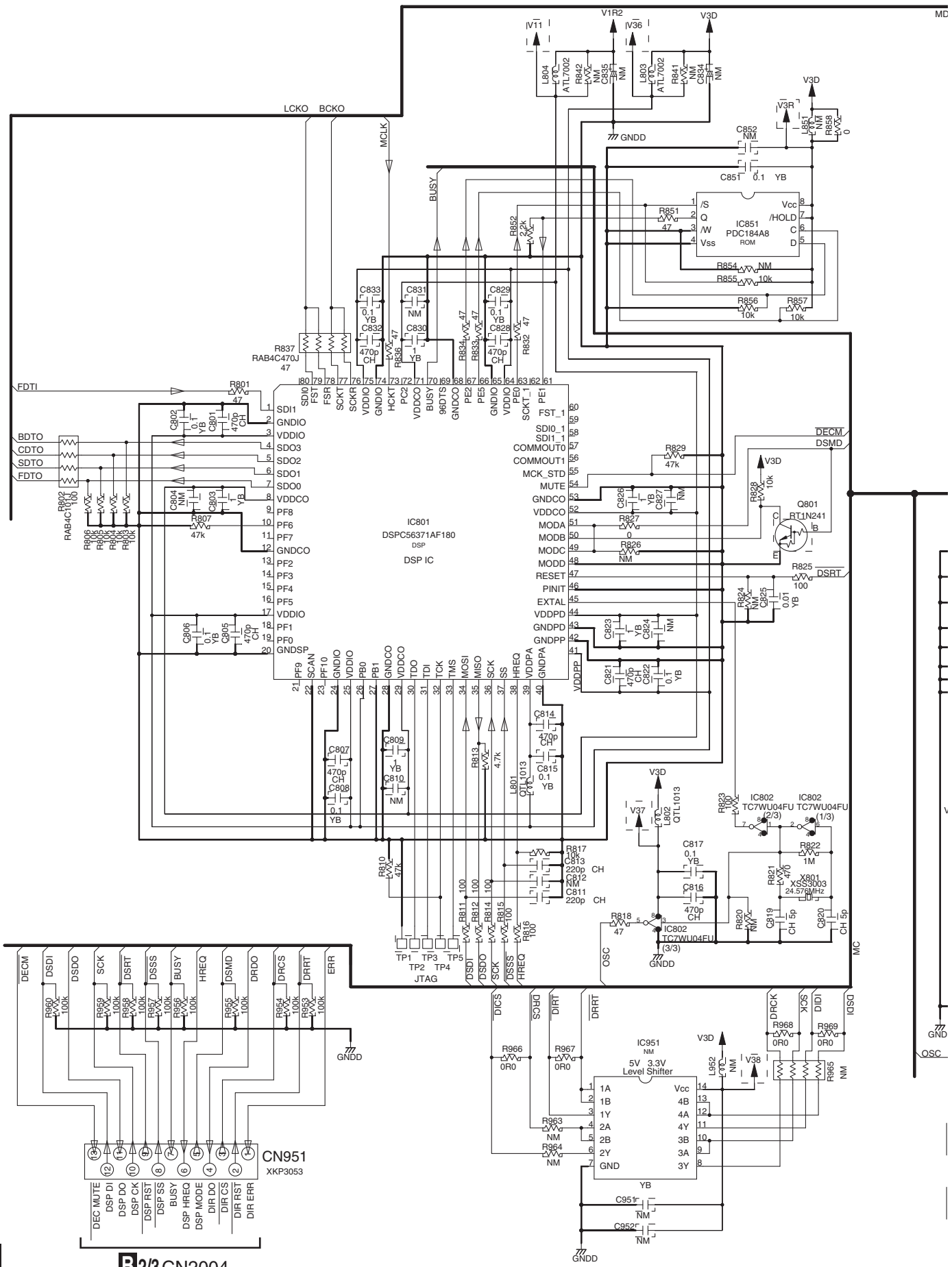
- LCYA\*\*\*J2520

NM: No Mount

# 10.13 RHTS DSP ASSY

1 2 3 4

A  
B  
C  
D  
E  
F

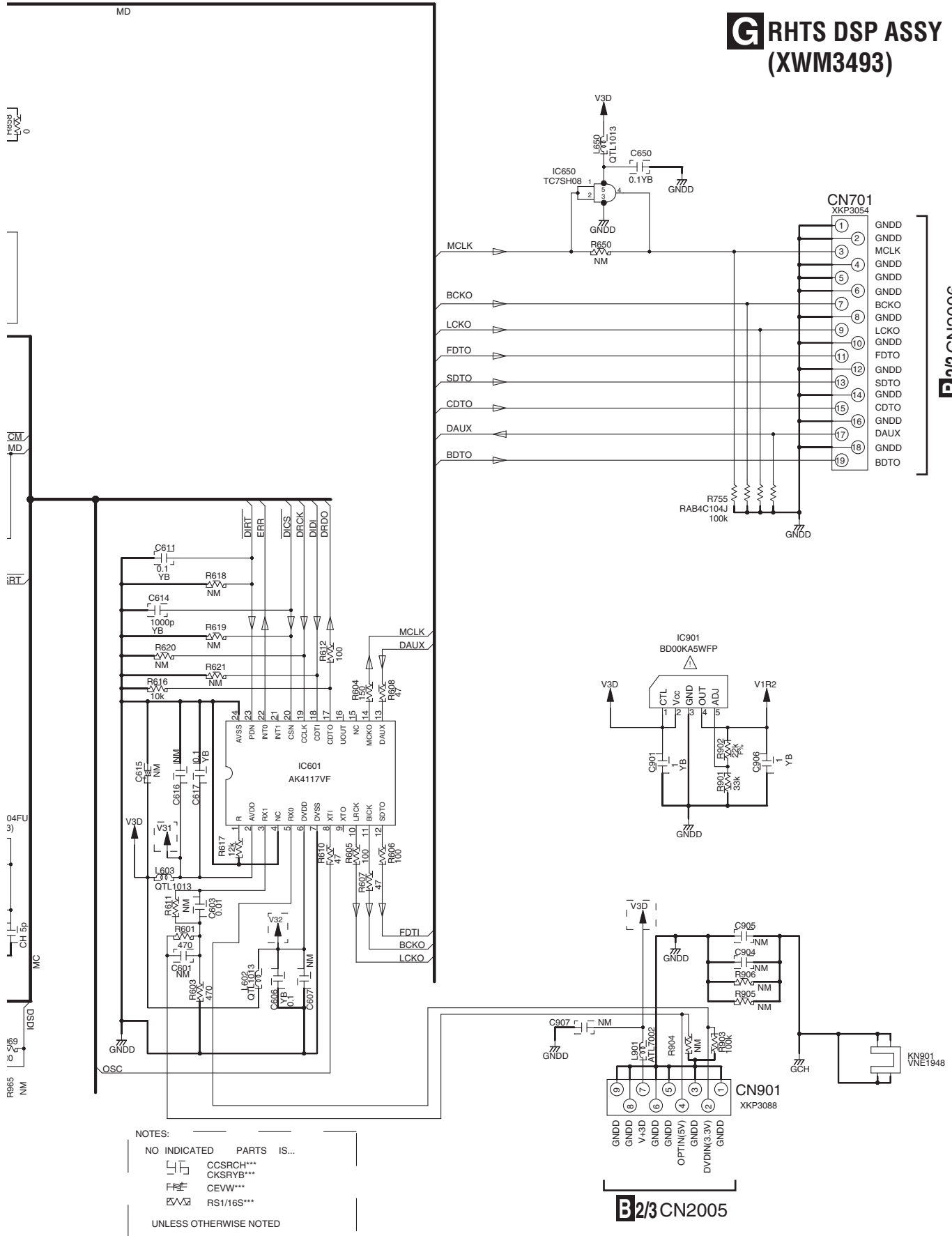


B2/3 CN2004

XV-DV590

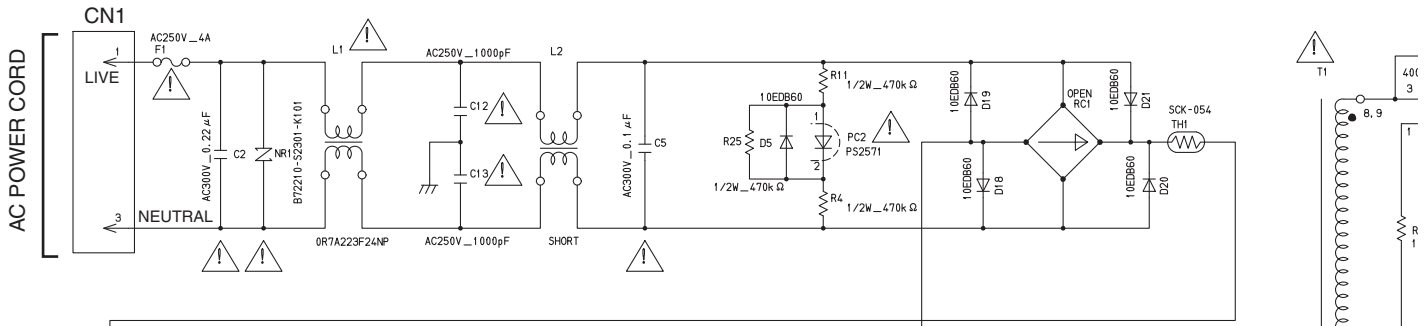
1 2 3 4

# RHTS DSP ASSY (XWM3493)

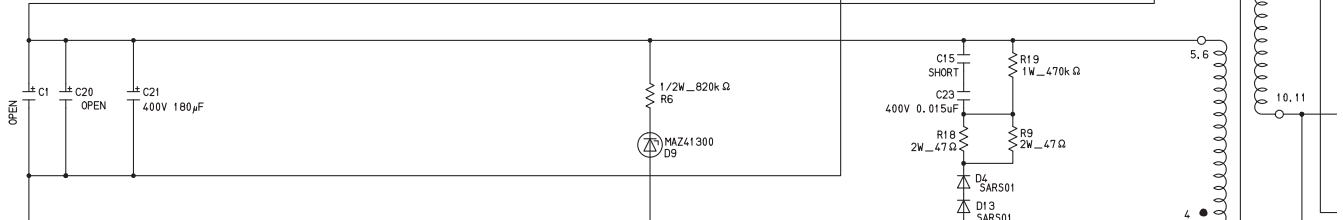


# 10.14 POWER SUPPLY UNIT(60W)

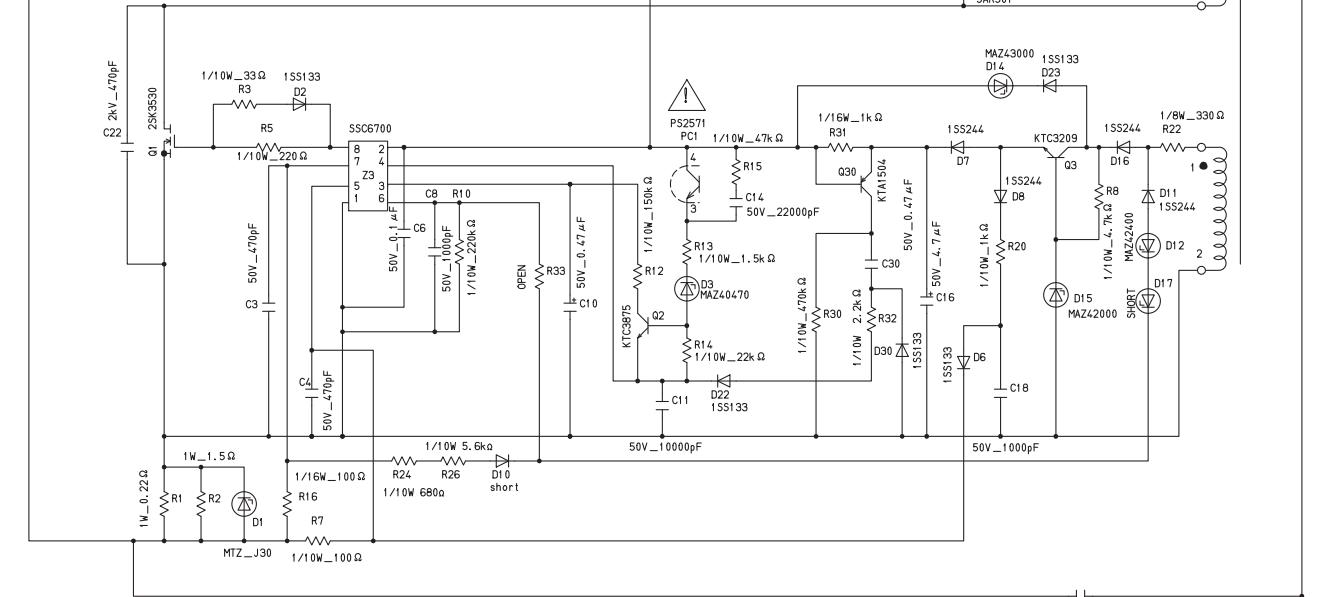
A



B



C



D

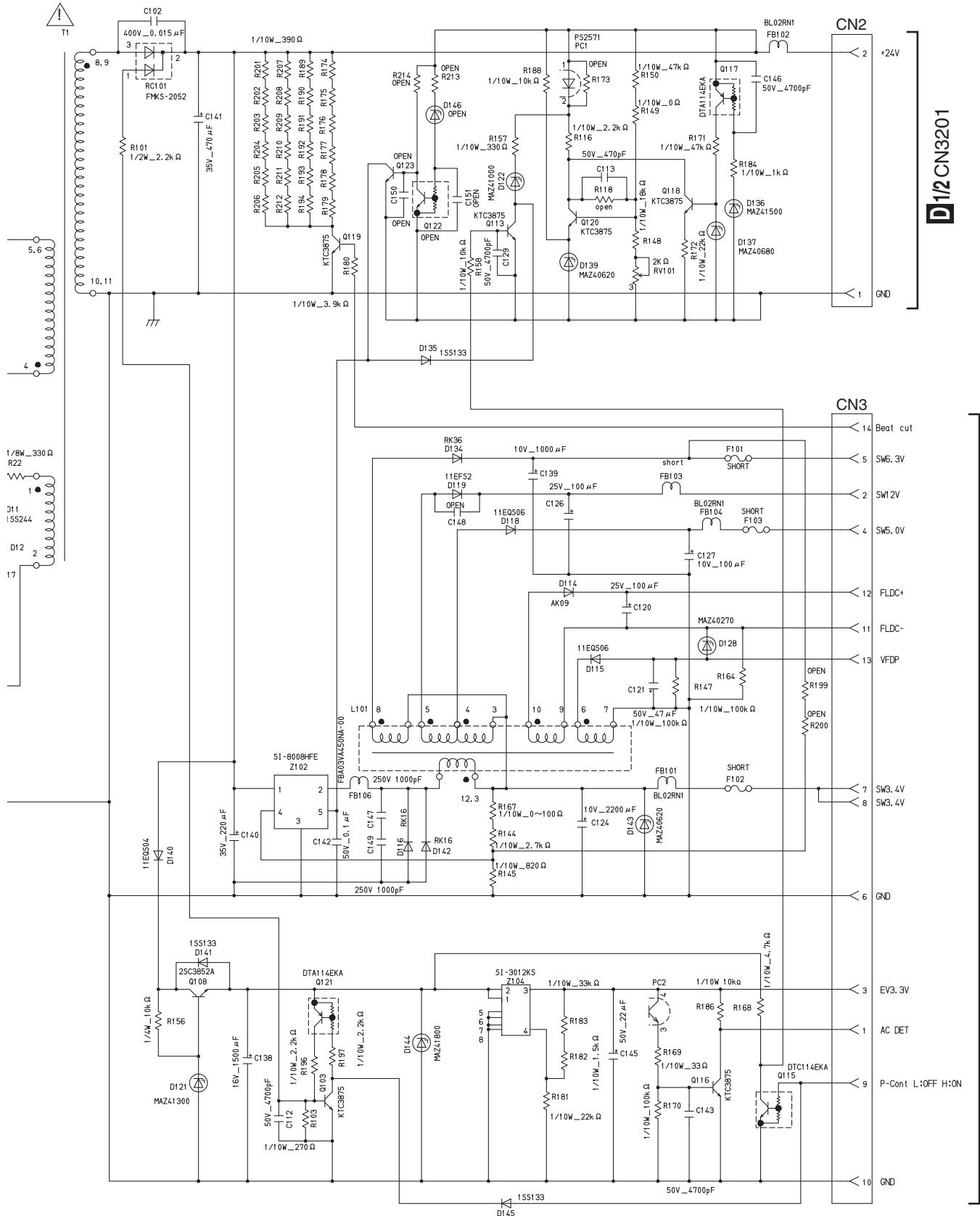


E

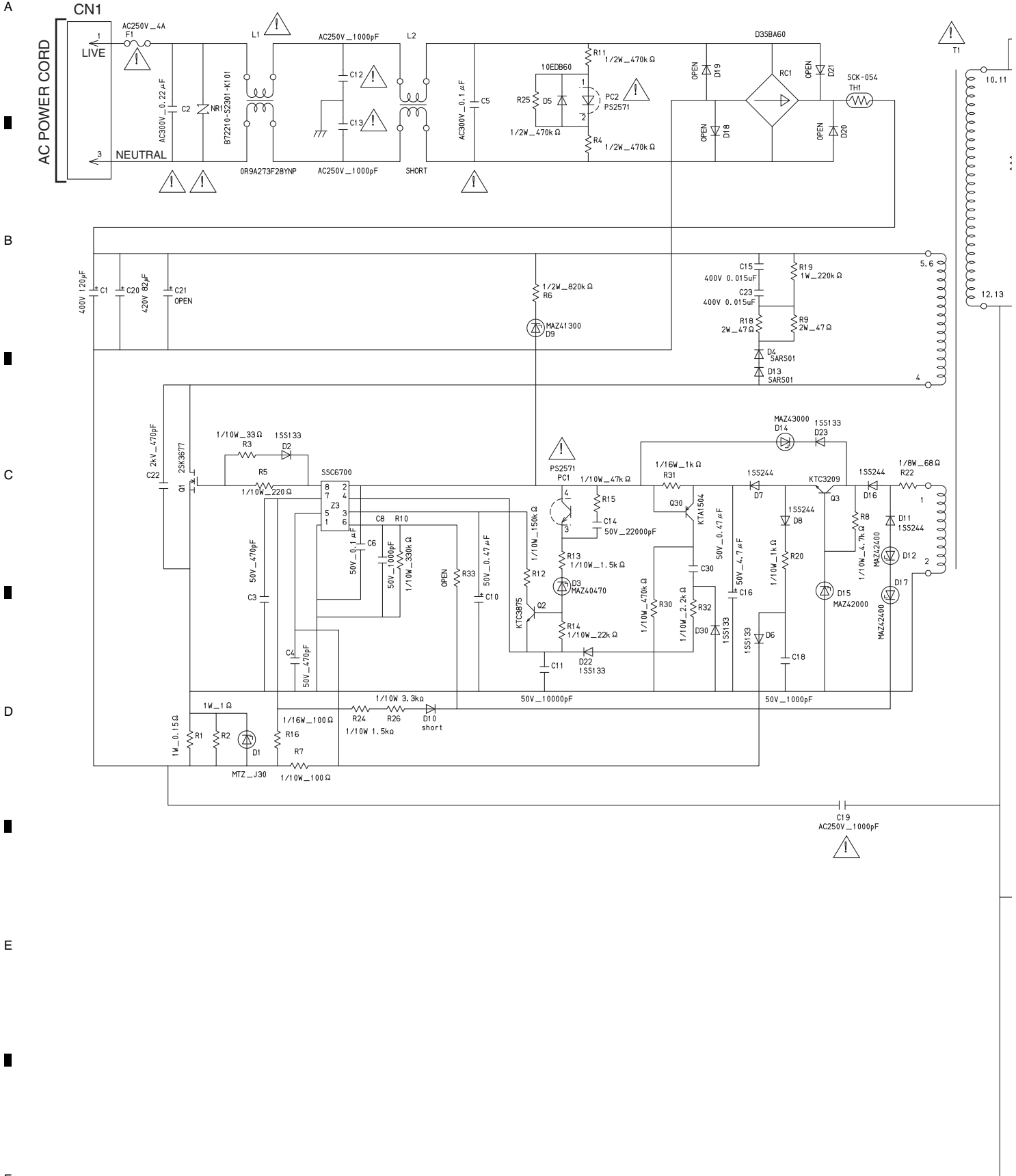
F



# POWER SUPPLY UNIT (XV-DV590, XV-DV585:XWR3020)

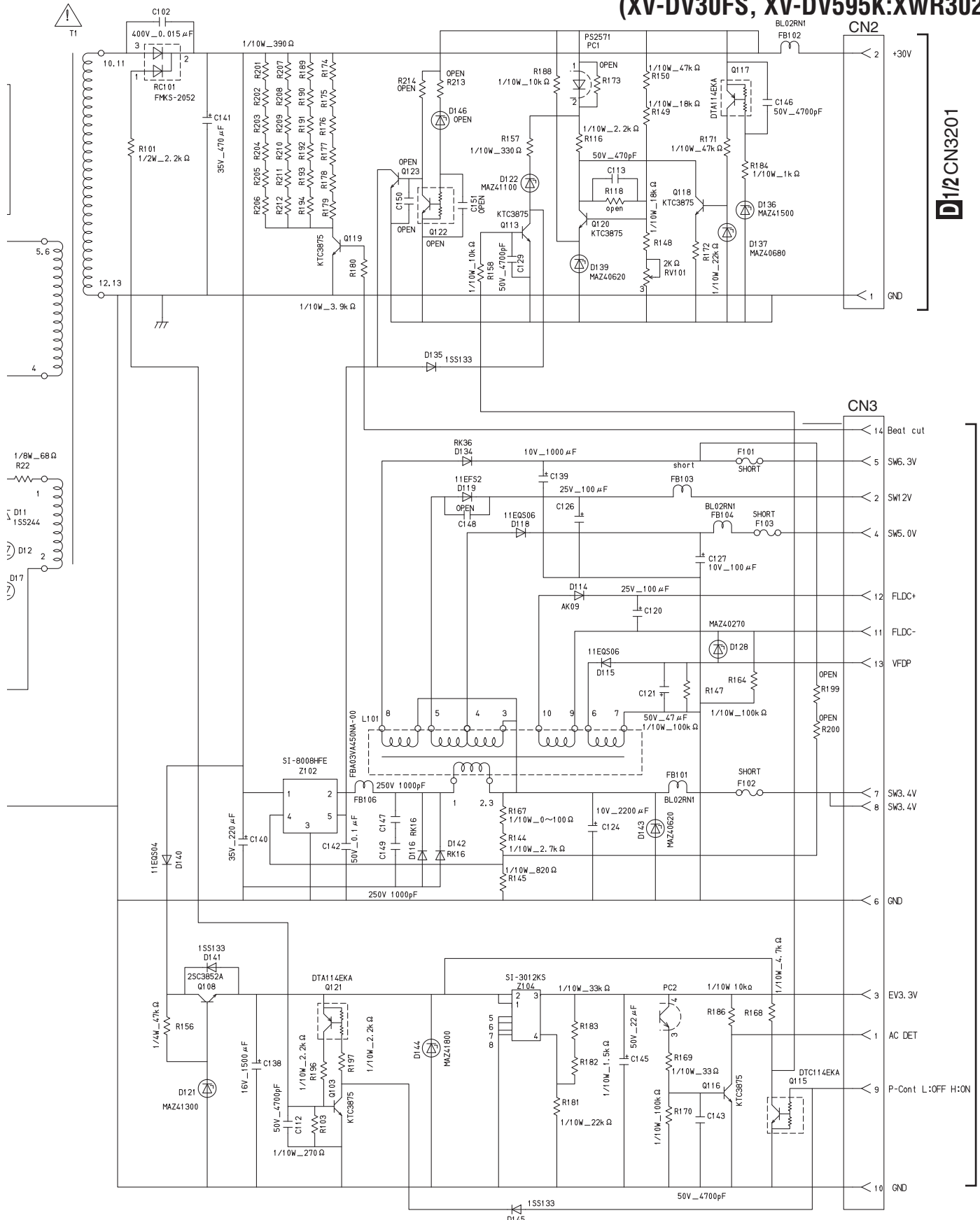


# 10.15 POWER SUPPLY UNIT(100W)



# POWER SUPPLY UNIT

## (XV-DV30FS, XV-DV595K:XWR3021)



D1/2CN3201

B1/3JP1001

XV-DV590

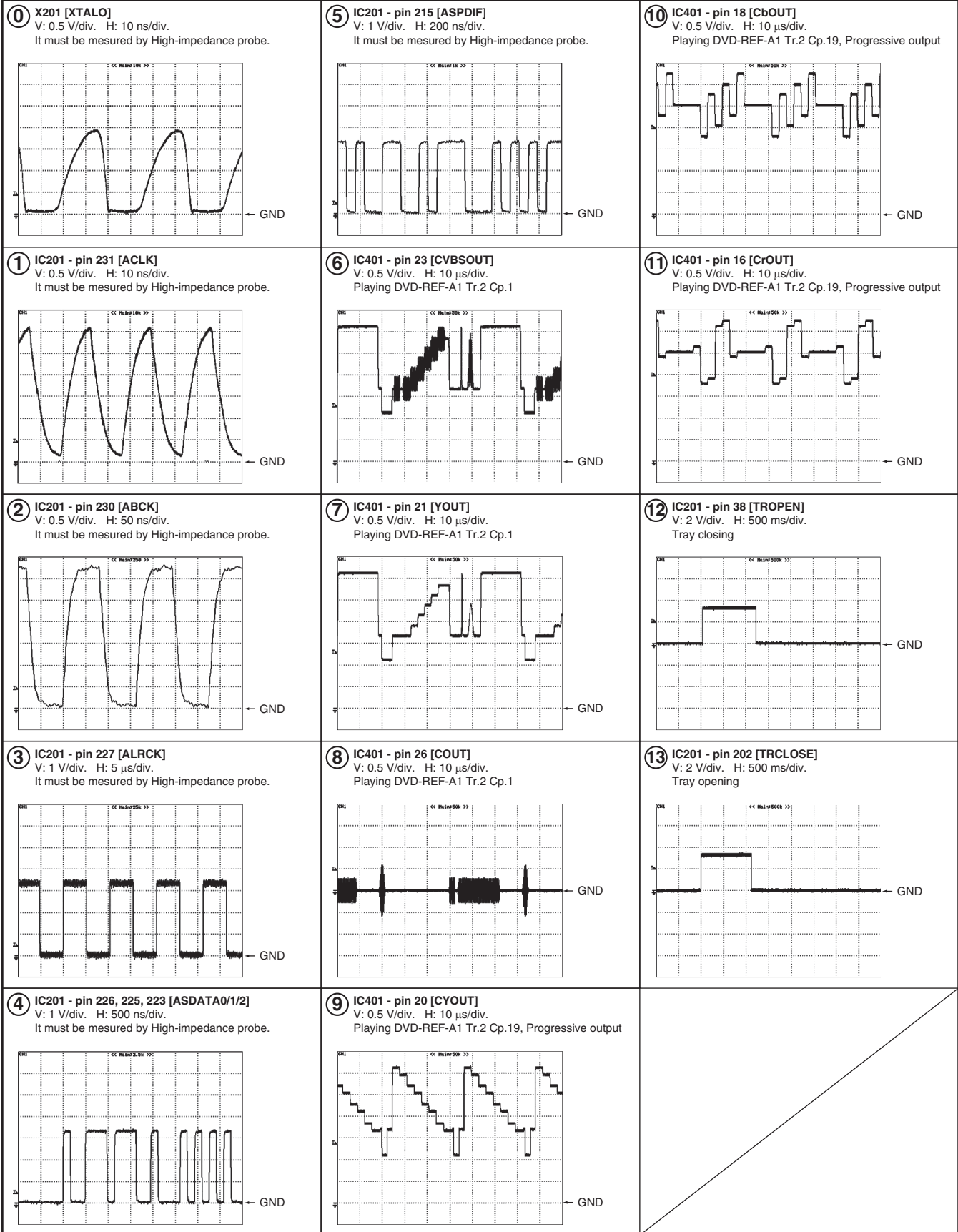


# 10.16 WAVEFORMS

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

A

## A 09 DVD M ASSY



B

C

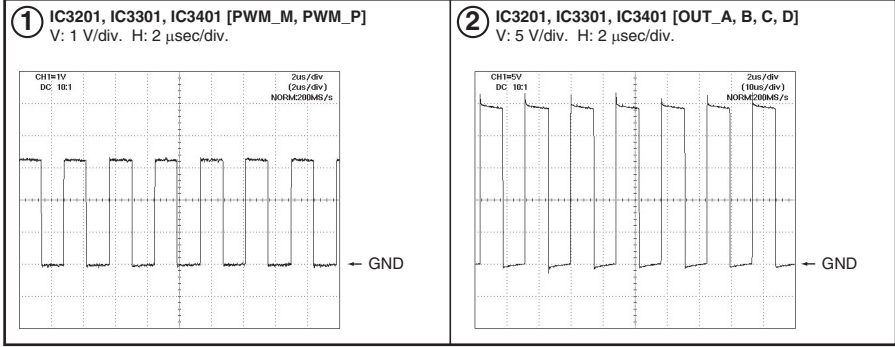
D

E

F



# D RHTS D-AMP ASSY



A  
B  
C  
D  
E  
F

# 11. PCB CONNECTION DIAGRAM

## 11.1 09 DVDM and RHTS USB ASSYS

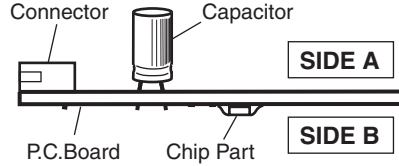
**SIDE A**

**SIDE A**

**NOTE FOR PCB DIAGRAMS :**

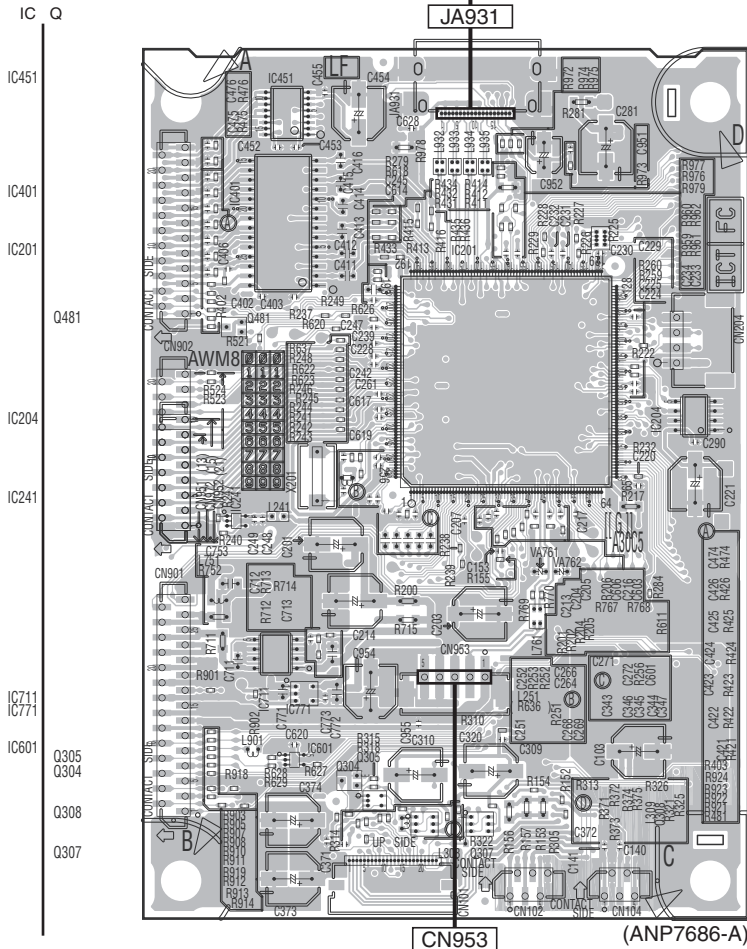
1. The parts mounted on this PCB include all necessary parts for several destinations.  
For further information for respective destinations, be sure to check with the schematic diagram.

2. View point of PCB diagrams.

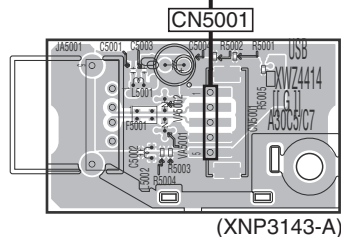


**A 09 DVDM ASSY**

HDMI OUTPUT



**C RHTS USB ASSY**



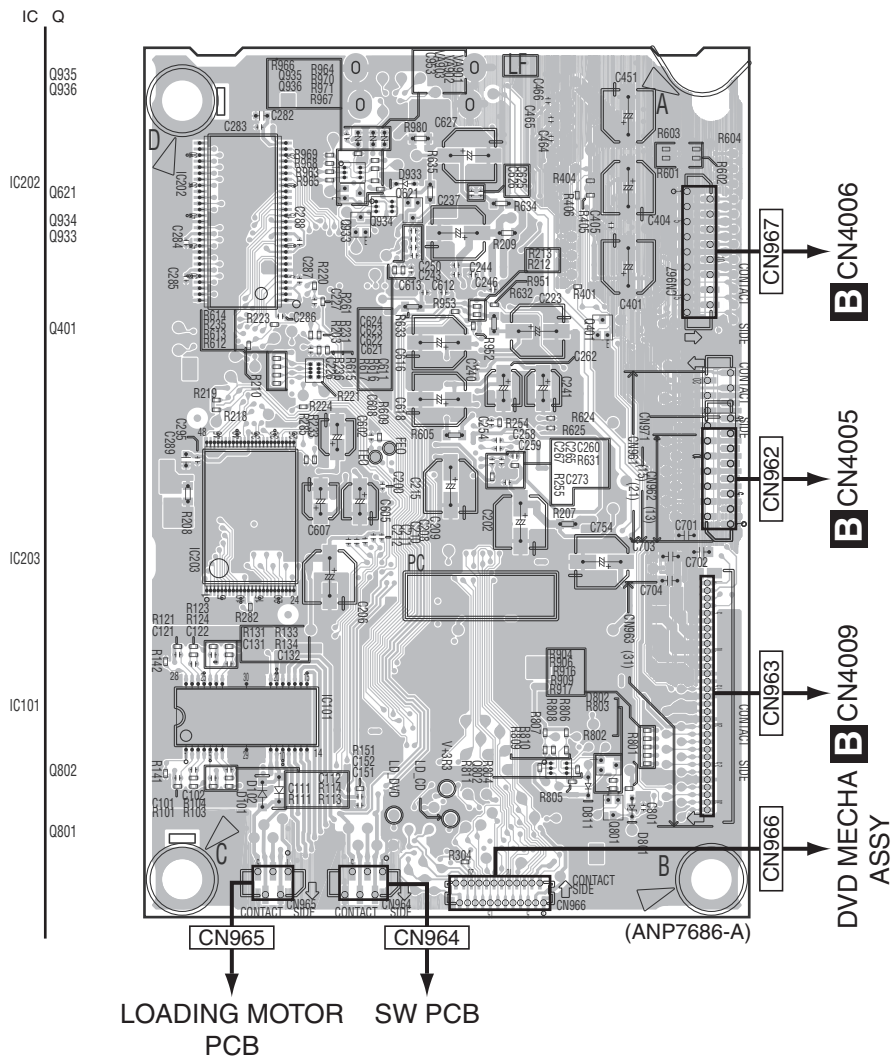
**A C**

**A C**

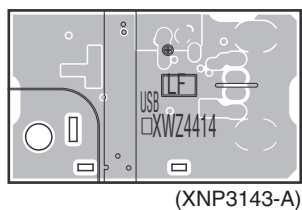
SIDE B

SIDE B

# A 09 DVDM ASSY



# C RHTS USB ASSY



A C

A C

# 11.2 RHTS SYSMAIN ASSY

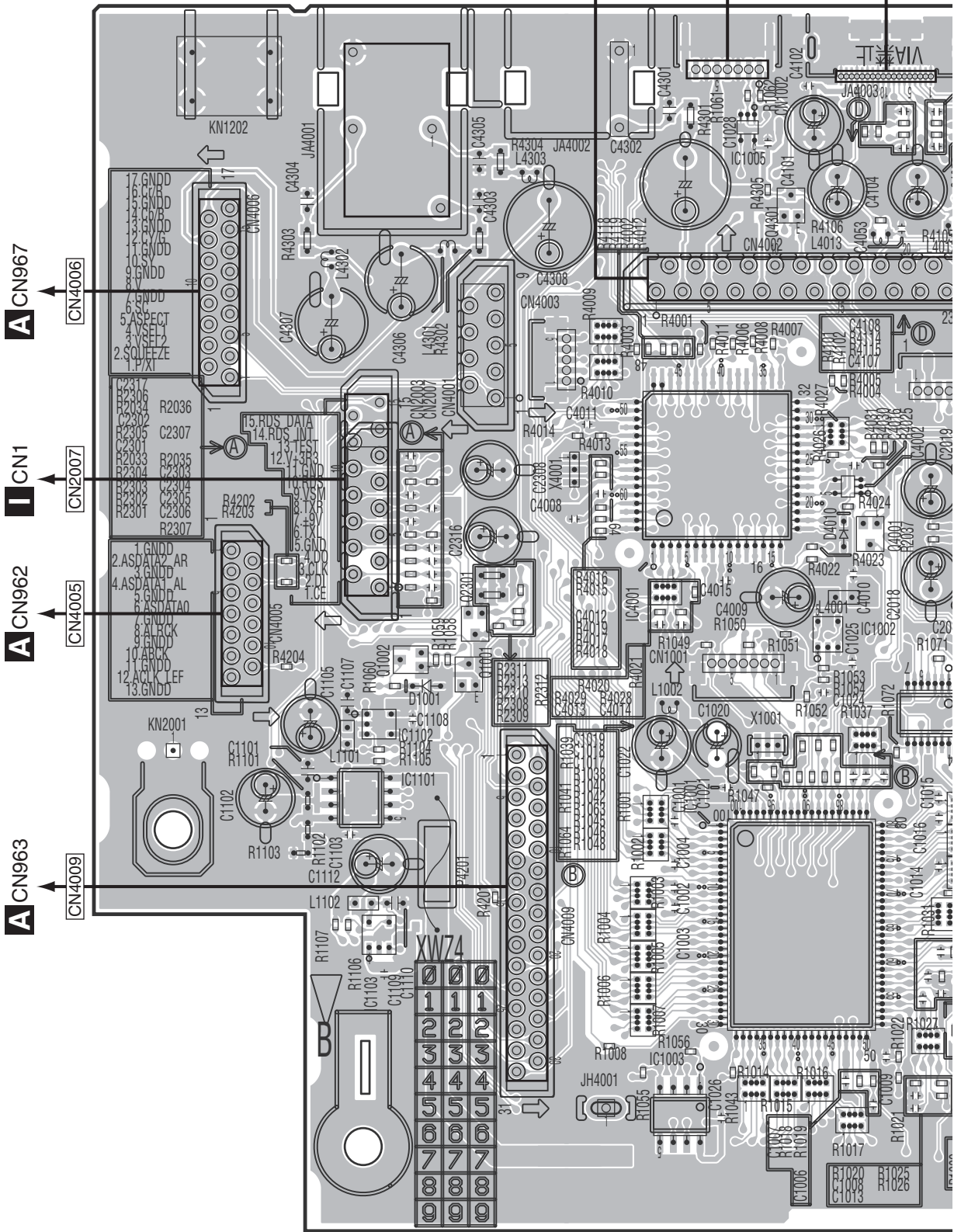
**SIDE A**

## **B** RHTS SYSMAIN ASSY

**F** CN461 u-COM DOWNLOAD BLUE TOOTH

A  
B  
C  
D  
E  
F

IC Q  
IC4501 04501  
IC1005 04101  
IC2102 04301  
IC2003 02001  
IC2101 02005  
IC4002 02004  
IC2001 02301  
IC4001 02302  
IC2301 02302  
IC1002 01001 01002  
IC2002 02003  
IC1102 01102  
IC2201 01101  
IC1101 01302 01303 01304  
Q1104 Q1106  
Q1102 Q1301 Q1307  
Q1306 Q1308  
Q1103 Q1202  
Q1101  
IC1103 01201 01105  
Q1203  
IC1003 01204



**B**

**SIDE A**

A

B

C

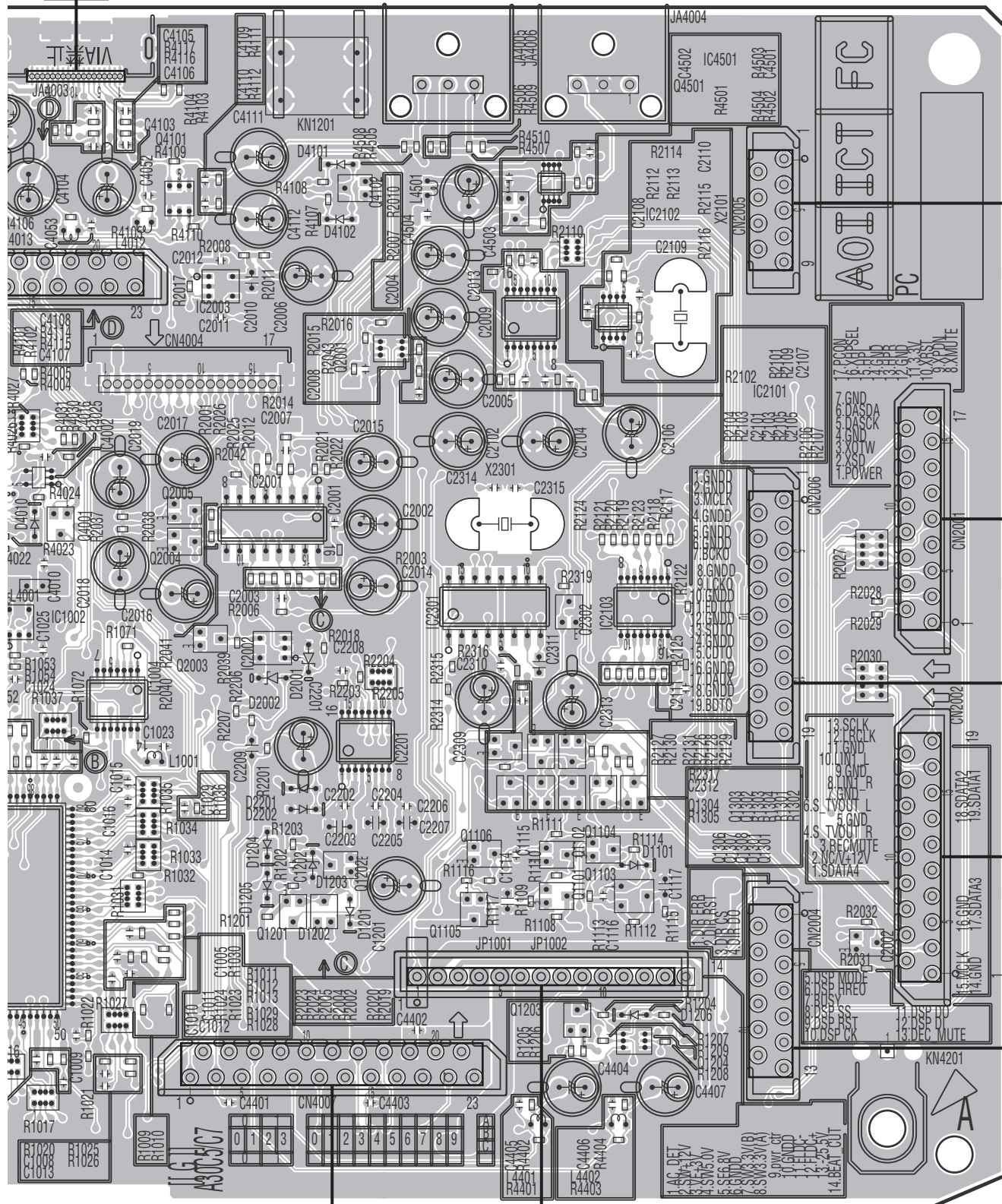
D

E

F

BLUE  
TOOTH

JA4003



CN2005

**G** CN901

CN2001

**D** CN3101

CN2006

**G** CN701

CN2002

**D** CN3102

CN2004

**G** CN951

CN4007

**E** CN9401

JP1002  
JP1001

**H** CN3

XV-DV590

(XNP3143-A)

**B**

**SIDE B**

**B** RHTS SYSMAIN ASSY

A

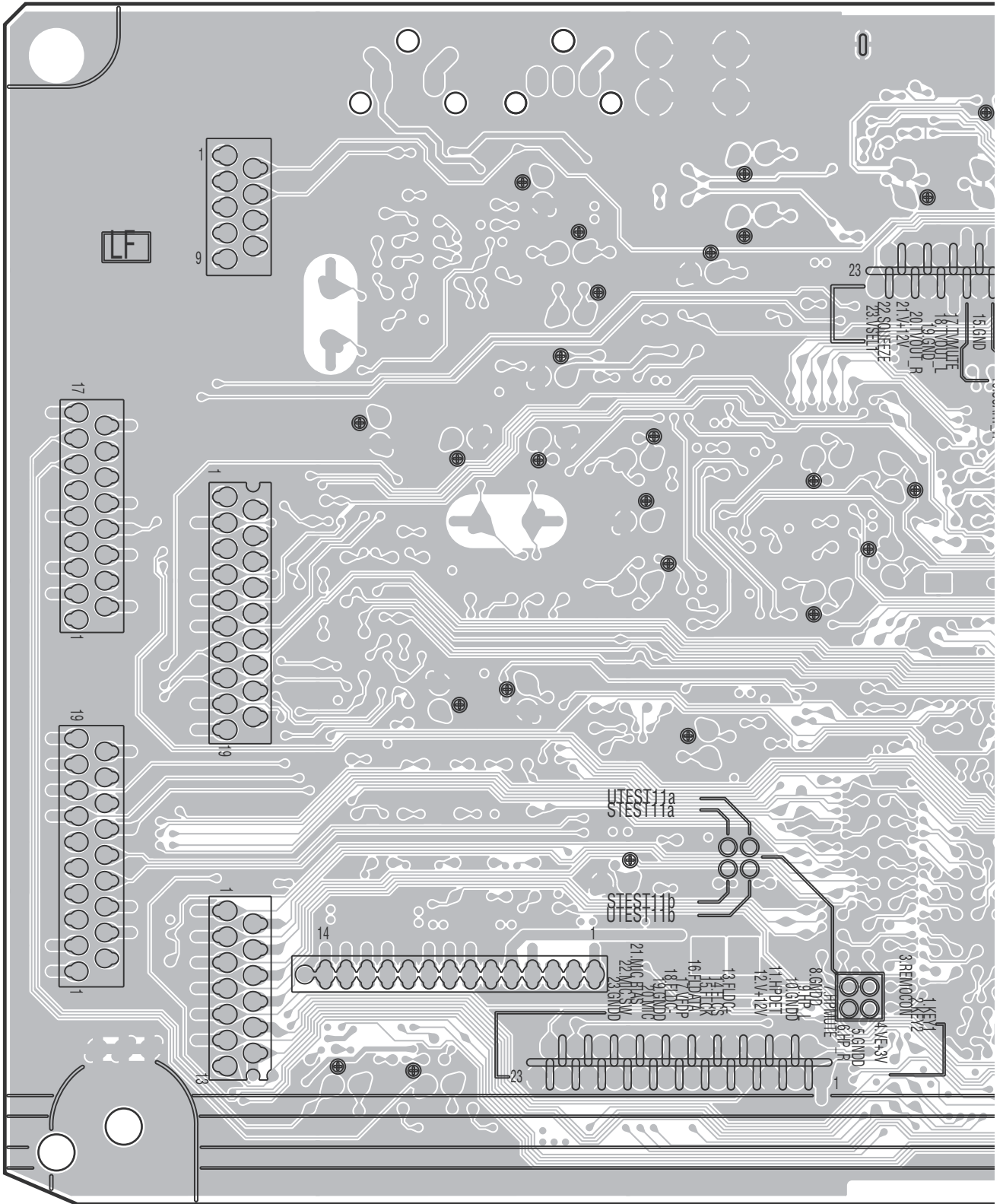
B

C

D

E

F

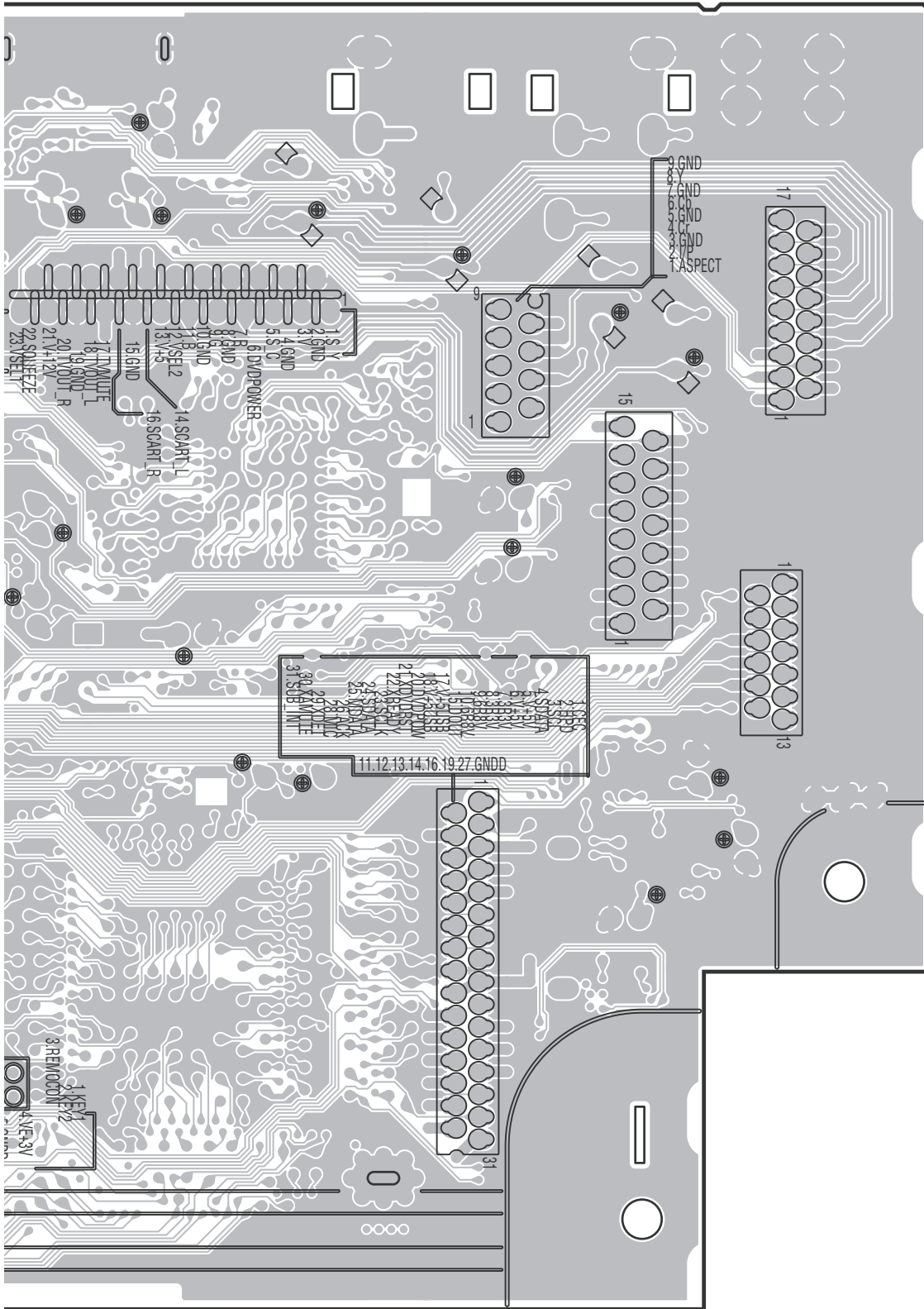


(XNP3143-A)

**B**

**SIDE B**

A  
B  
C  
D  
E  
F

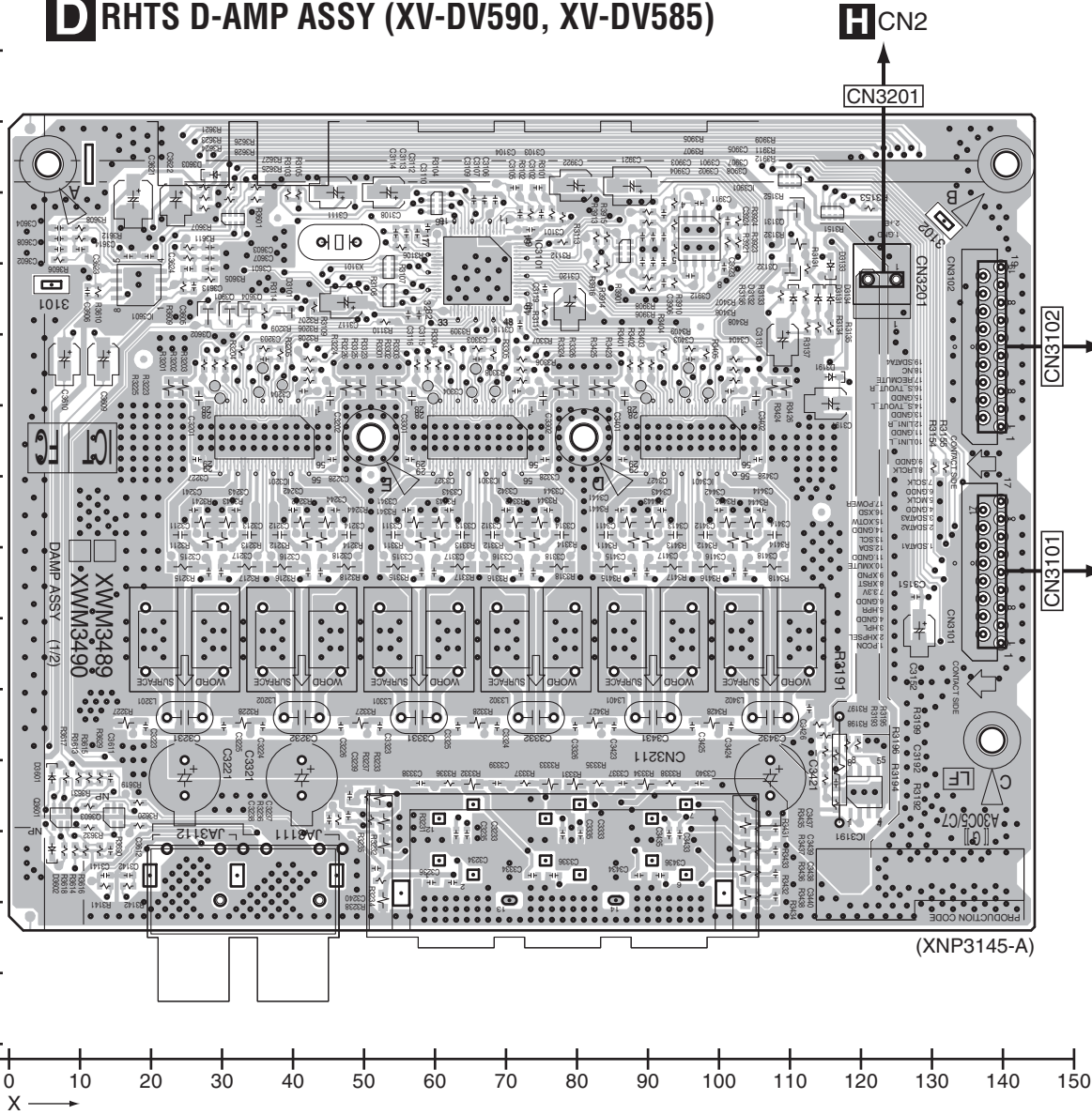


# 11.3 RHTS D-AMP ASSY

SIDE A

SIDE A

## D RHTS D-AMP ASSY (XV-DV590, XV-DV585)



(XNP3145-A)

D

D

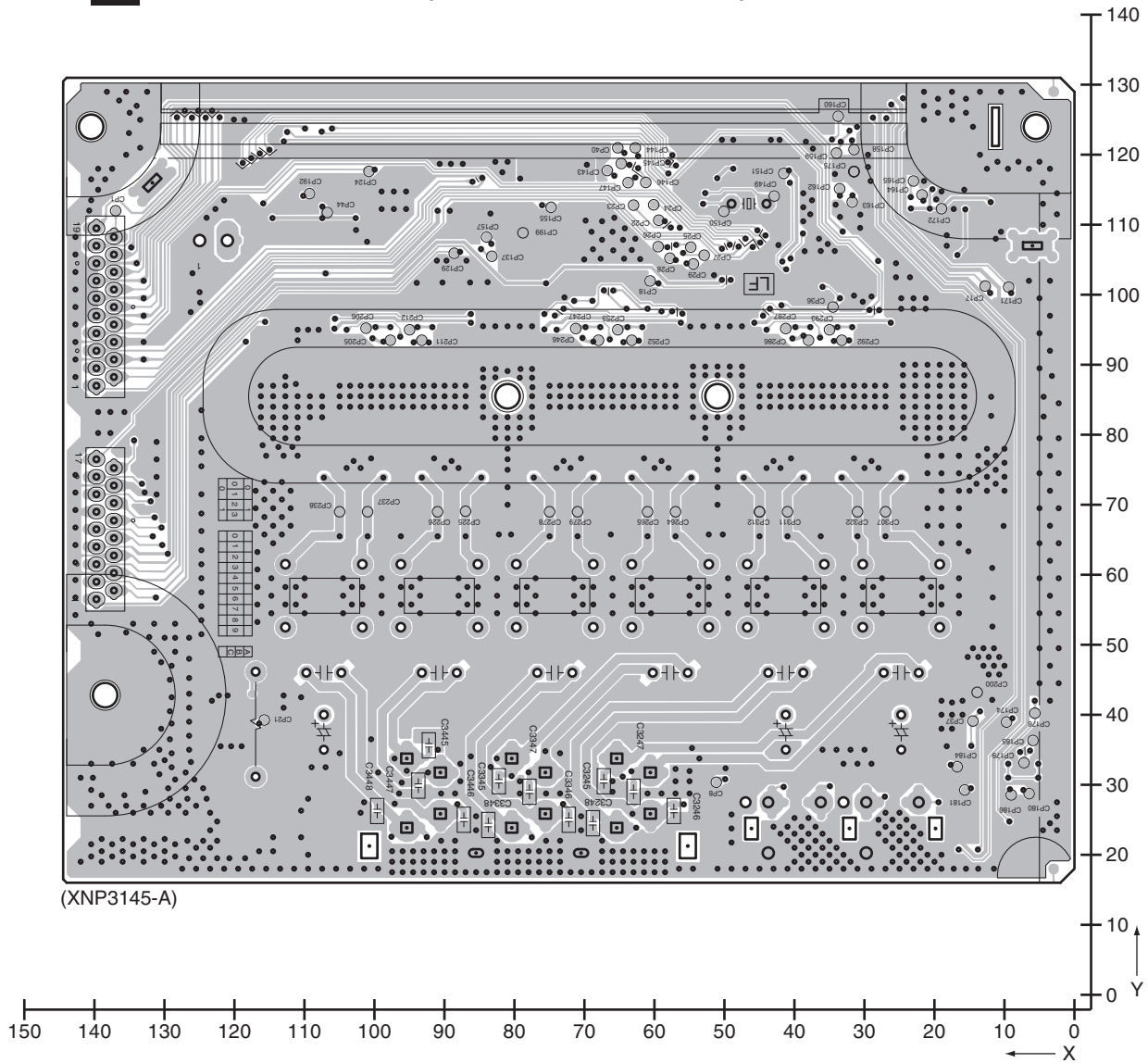


SIDE B

SIDE B

A

# D RHTS D-AMP ASSY (XV-DV590, XV-DV585)



B

C

D

E

F

D

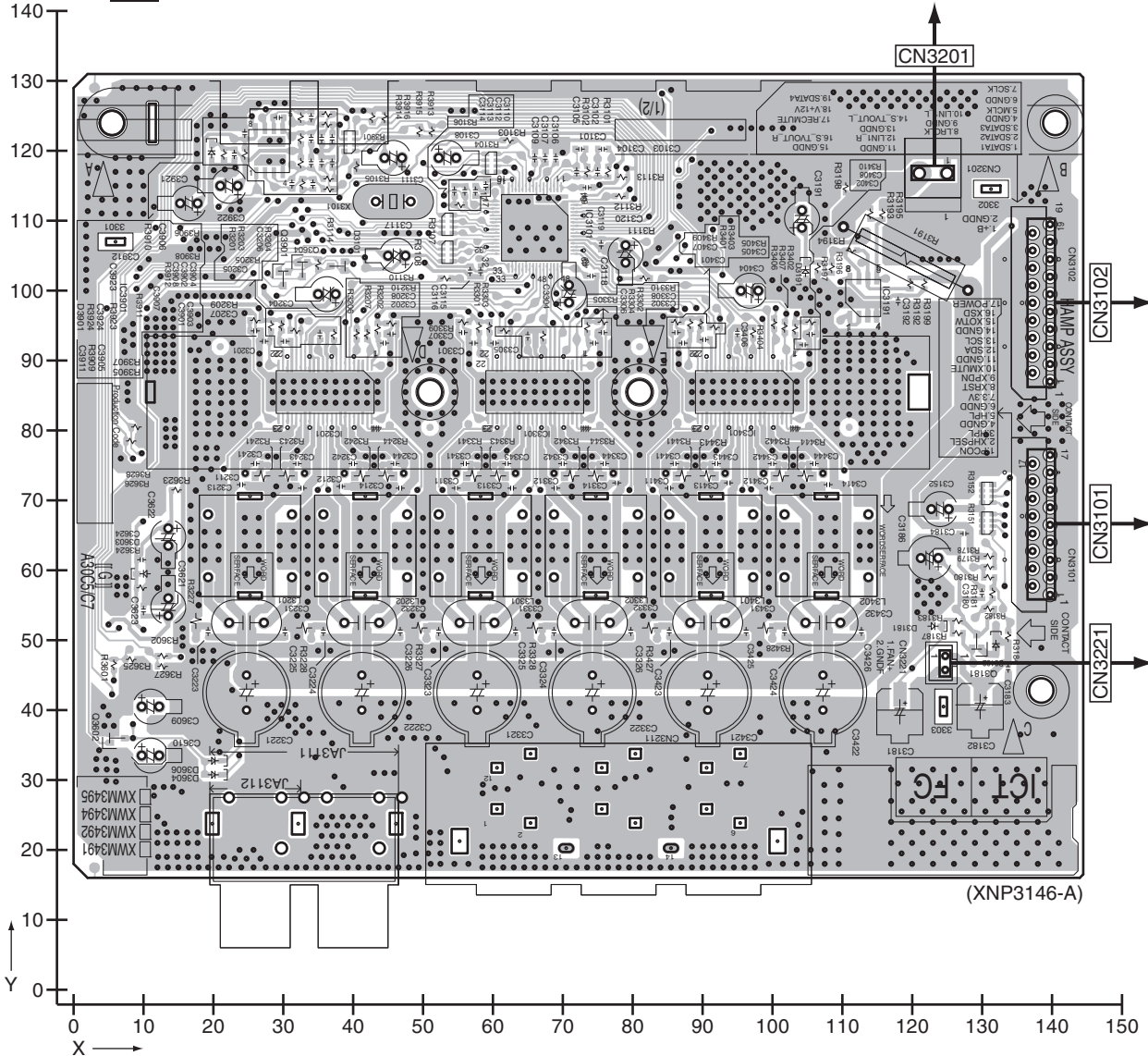
D

# 11.4 RHTS H-AMP ASSY

SIDE A

SIDE A

## D RHTS H-AMP ASSY (XV-DV30FS, XV-DV595K)



D

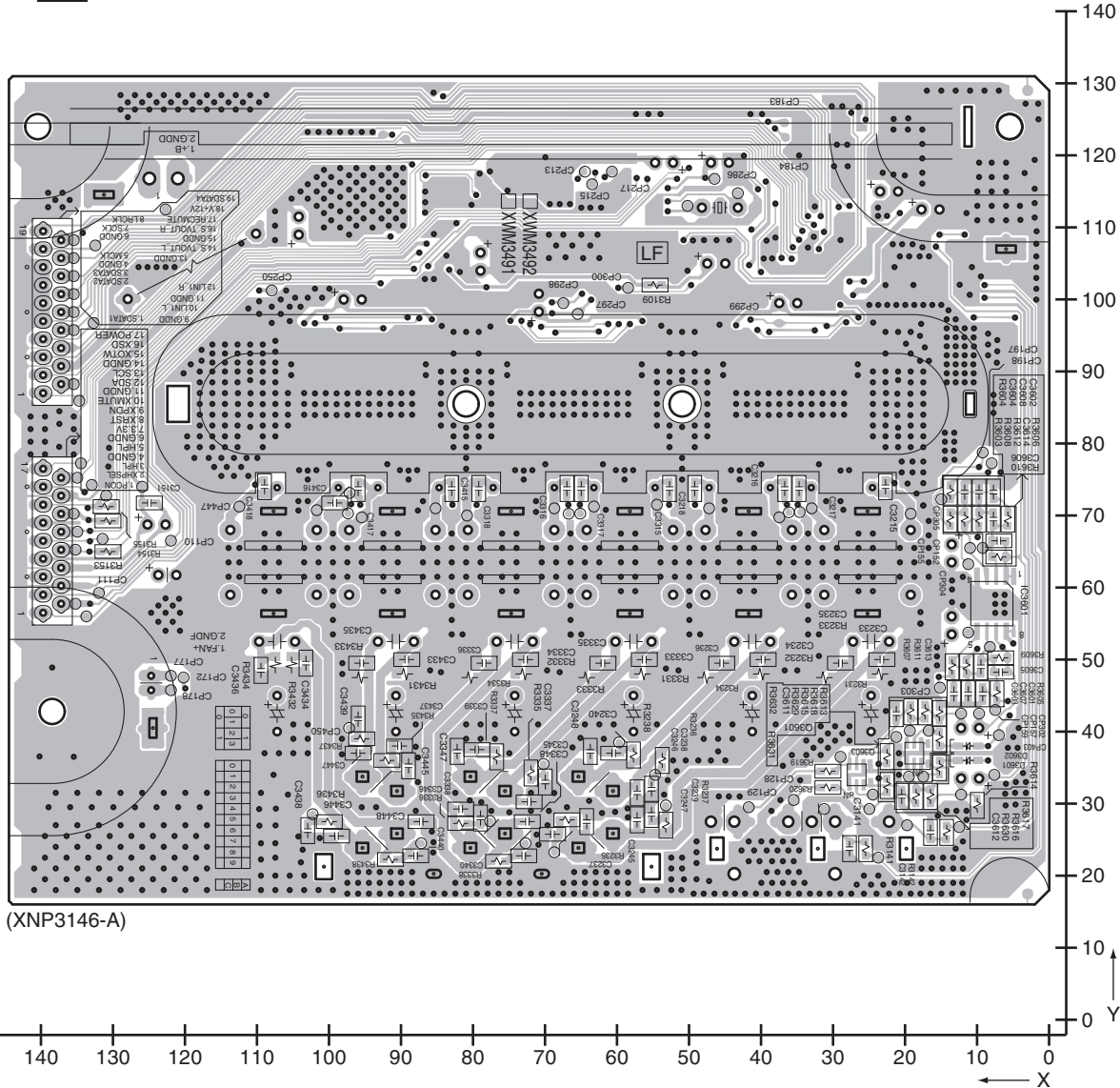
D

SIDE B

SIDE B

A

# D RHTS H-AMP ASSY (XV-DV30FS, XV-DV595K)



B

C

D

E

F

D

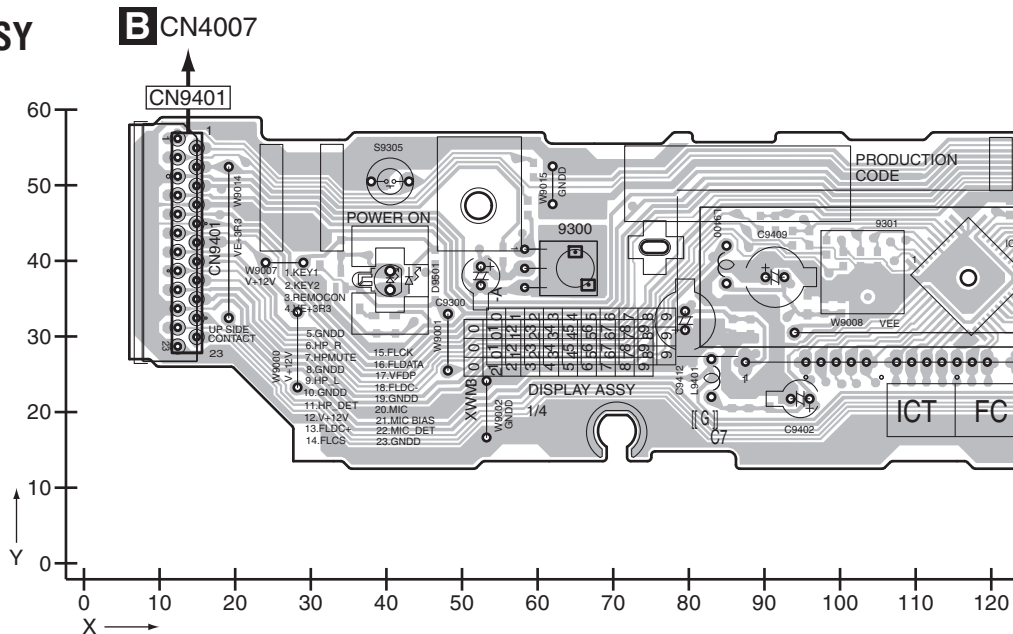
XV-DV590

D

# 11.5 RHTS DISPLAY ASSY

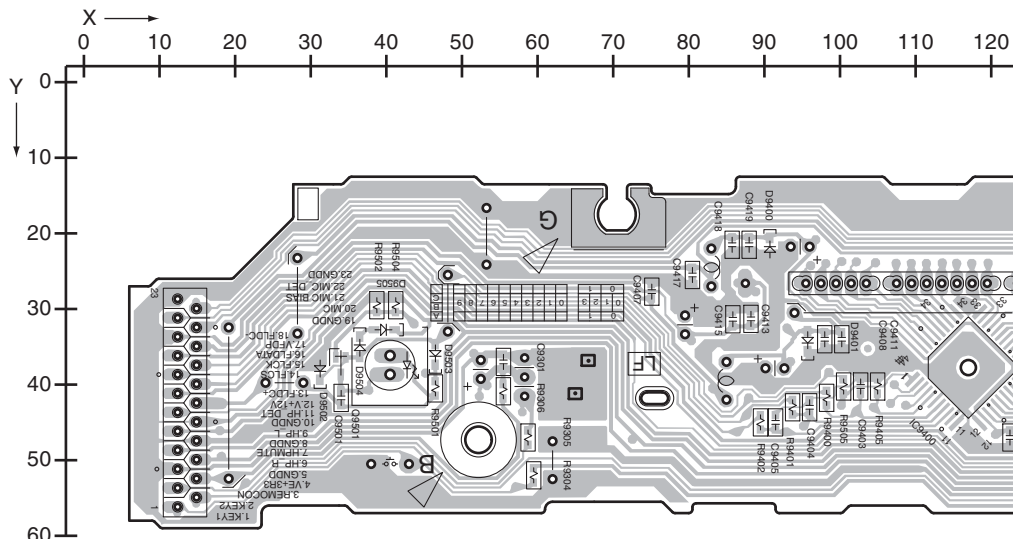
**SIDE A**

## RHTS DISPLAY ASSY



**SIDE B**

## RHTS DISPLAY ASSY

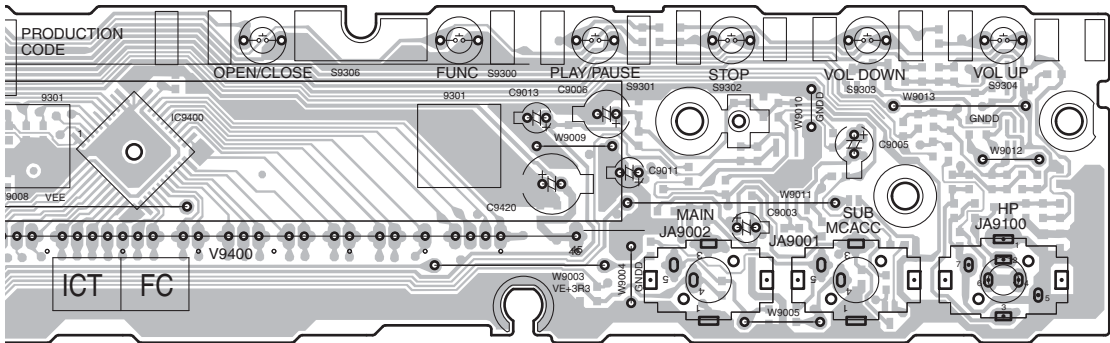


**E**  
100

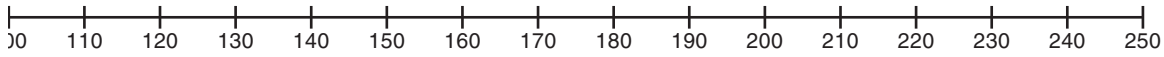
XV-DV590

**SIDE A**

A



(XNP3144-B)

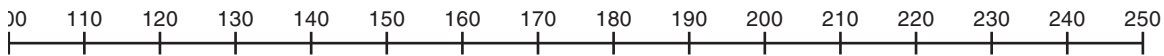


B

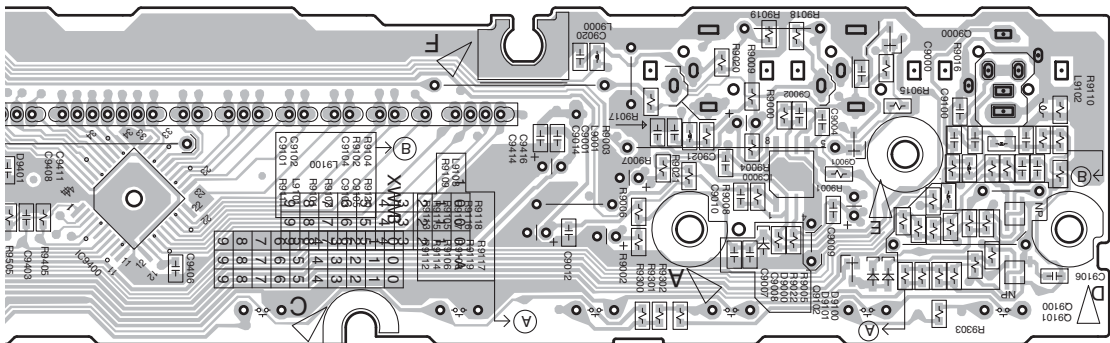
C

**SIDE B**

D



E



(XNP3144-B)

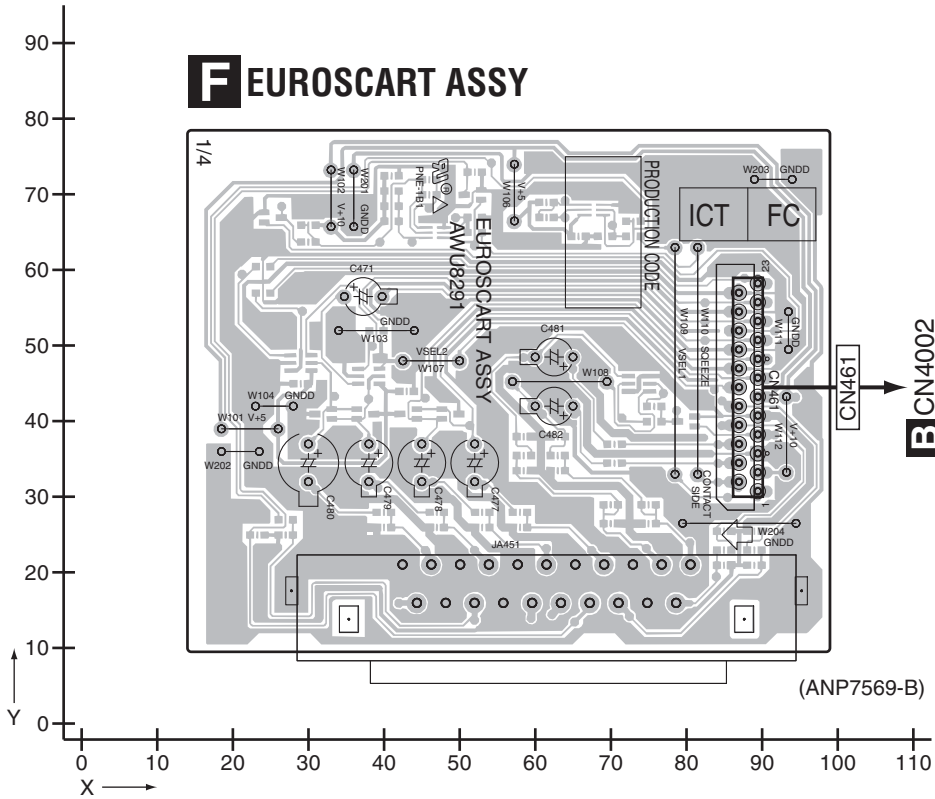
F



# 11.6 EUROSCART ASSY

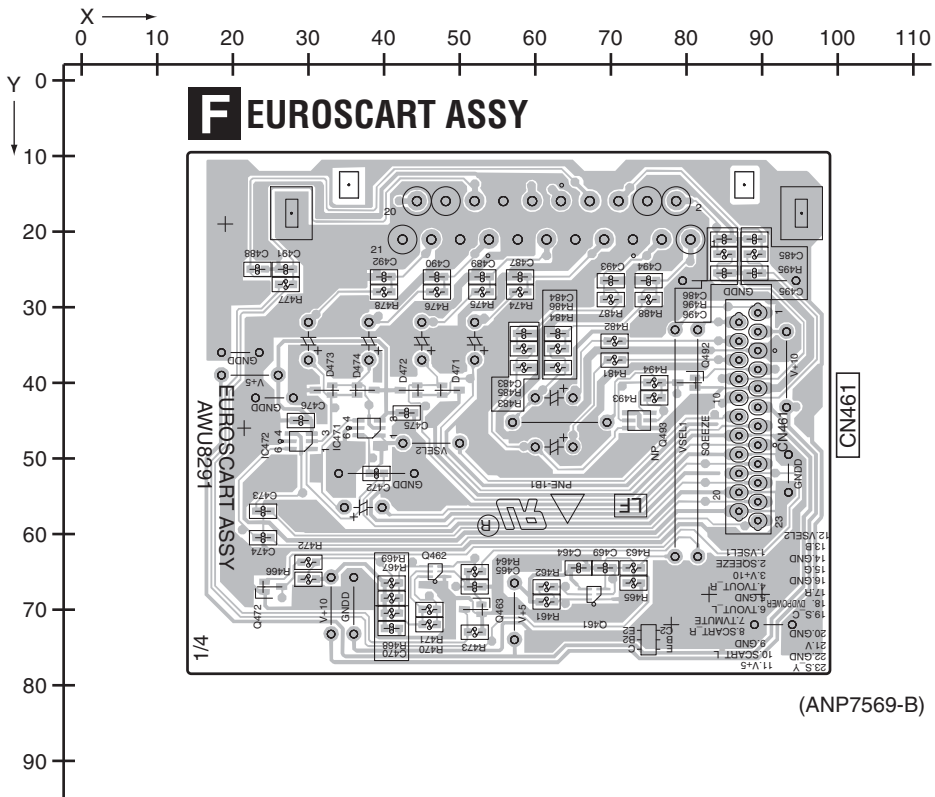
SIDE A

SIDE A



SIDE B

SIDE B

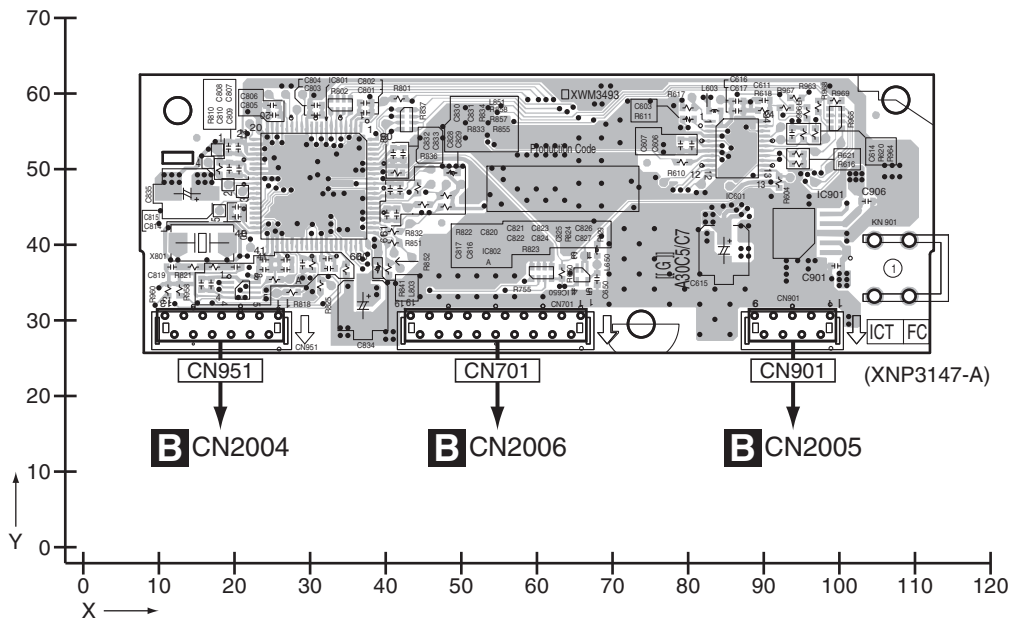


# 11.7 RHTS DSP ASSY

**SIDE A**

**SIDE A**

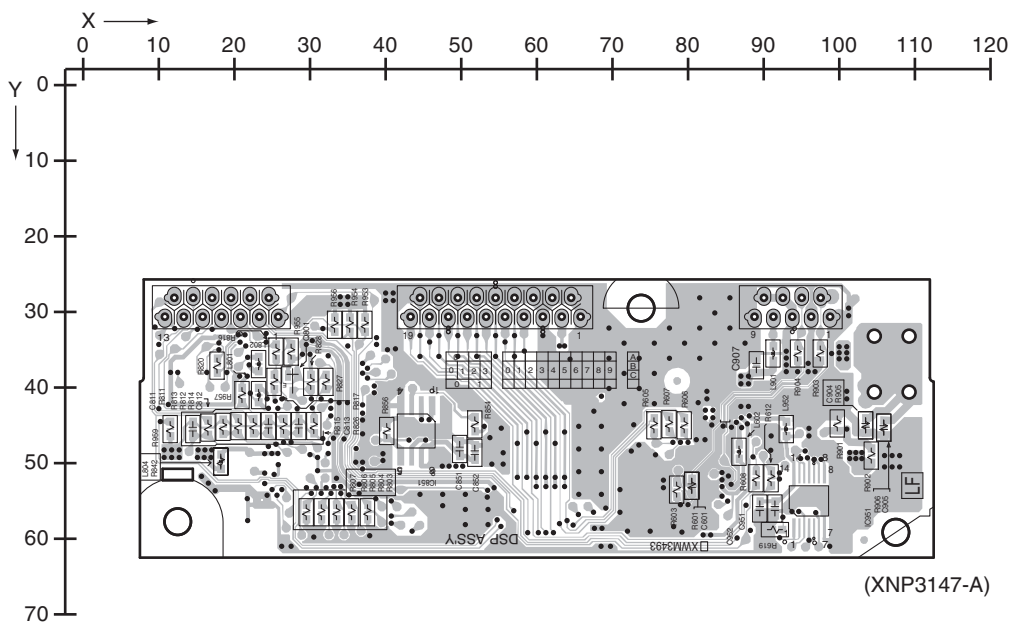
## **G** RHTS DSP ASSY



**SIDE B**

**SIDE B**

## **G** RHTS DSP ASSY

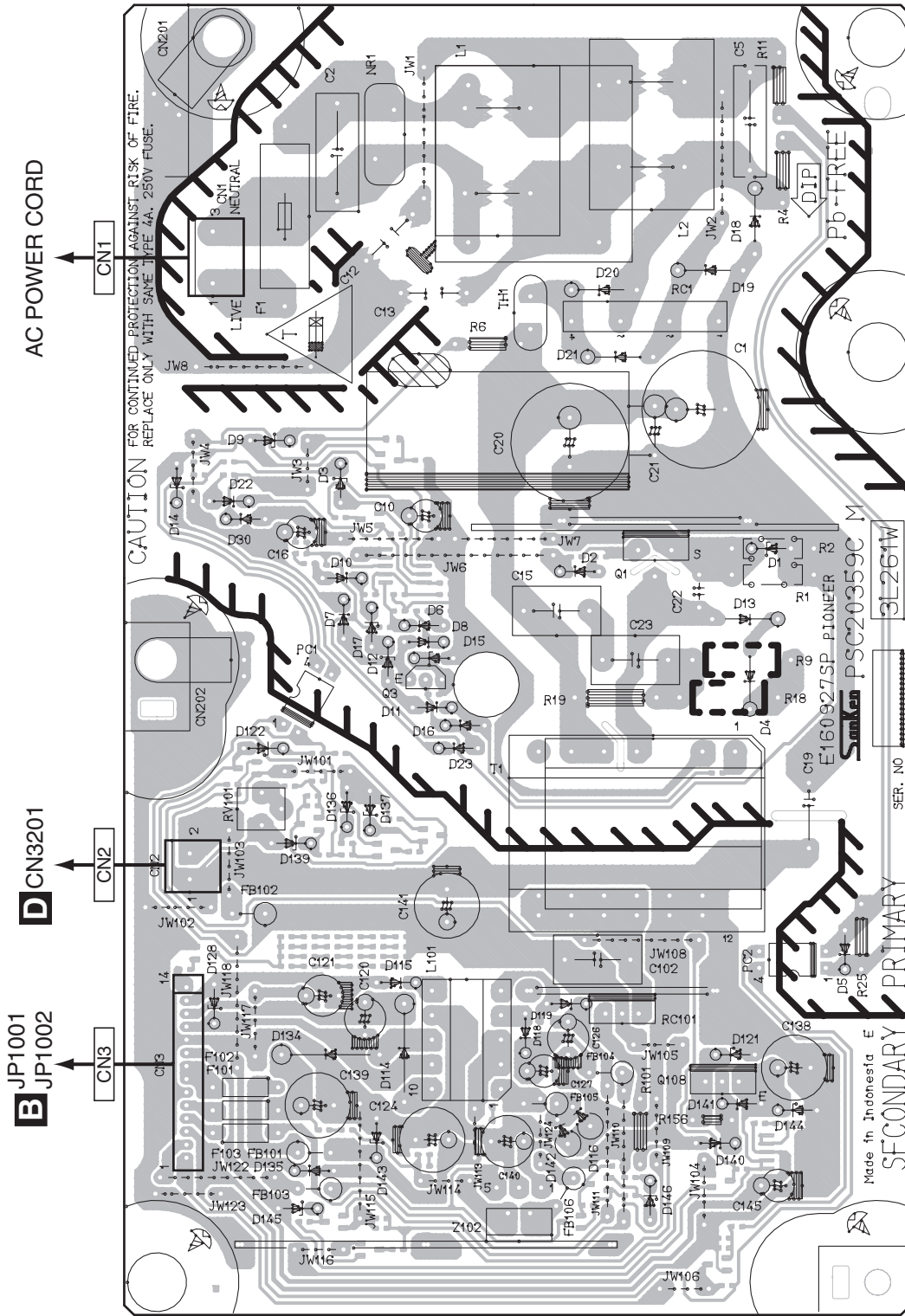


# 11.8 POWER SUPPLY UNIT

SIDE A

SIDE A

## POWER SUPPLY ASSY

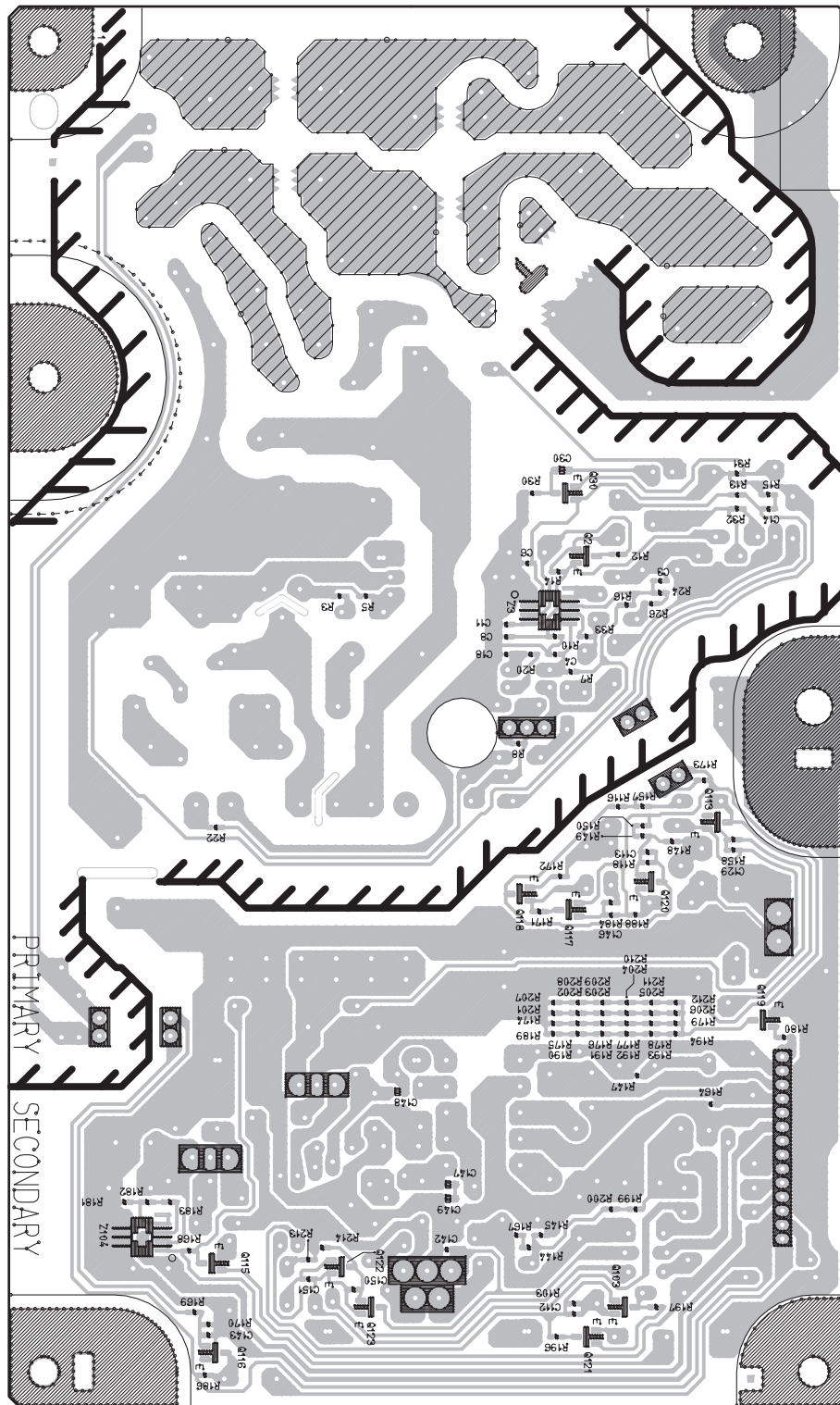




SIDE B

SIDE B

# H POWER SUPPLY ASSY



# 12. PCB PARTS LIST

NOTES: ● Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.

● The  $\Delta$  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 47 k ohm (tolerance is shown by J = 5%, and K = 10%).

560  $\Omega$   $\rightarrow$  56  $\times 10^1$   $\rightarrow$  561 ..... RD1/APU  $\begin{matrix} \boxed{5} & \boxed{6} & \boxed{7} & J \end{matrix}$

47 k $\Omega$   $\rightarrow$  47  $\times 10^3$   $\rightarrow$  473 ..... RD1/APU  $\begin{matrix} \boxed{4} & \boxed{7} & \boxed{3} & J \end{matrix}$

0.5  $\Omega$   $\rightarrow$  R50 ..... RN2H  $\begin{matrix} \boxed{R} & \boxed{5} & \boxed{0} & K \end{matrix}$

1  $\Omega$   $\rightarrow$  1R0 ..... RSIP  $\begin{matrix} \boxed{7} & \boxed{R} & \boxed{0} & K \end{matrix}$

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62 k $\Omega$   $\rightarrow$  562  $\times 10^1$   $\rightarrow$  5621 ..... RN1/4PC  $\begin{matrix} \boxed{5} & \boxed{6} & \boxed{2} & \boxed{7} & F \end{matrix}$

● Meaning of the figures and others in the parentheses in the parts list.

Example) IC 301 is on the point (face A, 91 of x-axis, and 111 of y-axis) of the corresponding PC board.

IC 301 (A, 91, 111) IC NJM2068V

## LIST OF ASSEMBLIES

Mark	Symbol and Description	XV-DV590/YXJ5	XV-DV585/YXJ5	XV-DV30FS/YXJ5	XV-DV595K/SXJ5
NSP	1..NHTS JACK ASSY	AWM8034	AWM8034	AWM8034	AWM8034
	2..EUROSCART ASSY	AWU8291	AWU8291	AWU8291	AWU8291
	1..09 DVDM ASSY	AWM8177	AWM8177	AWM8177	AWM8134
C	1..RHTS DISPLAY ASSY	XWM3487	XWM3487	XWM3488	XWM3484
	1..RHTS D-AMP ASSY	XWM3489	XWM3489	Not used	Not used
	1..RHTS H-AMP ASSY	Not used	Not used	XWM3495	XWM3494
	1..RHTS DSP ASSY	XWM3493	XWM3493	XWM3493	XWM3493
	1..RHTS MAIN ASSY	XWM3503	XWM3502	XWM3504	XWM3507
	2..RHTS USB ASSY	XWZ4414	XWZ4414	XWZ4414	XWZ4414
	2..RHTS SYSMAIN ASSY	XWZ4432	XWZ4431	XWZ4433	XWZ4436
$\Delta$	1..POWER SUPPLY UNIT	XWR3020	XWR3020	XWR3021	XWR3021
D	1..FM/AM TUNER UNIT	XXX3085	XXX3085	XXX3085	XXX3085

## CONTRAST OF PCB ASSEMBLIES

### **A** 09 DVDM ASSY

AWM8177 and AWM8134 are constructed the same except for the following:

Mark	Symbol and Description	AWM8177	AWM8134
	IC241	Not used	TC7SH08FUS1
	L241	Not used	QTL1013
	CN962	Not used	VKN1472
	R240-R242,R244-R246	Not used	RS1/16SS330J
	R243	Not used	RS1/16SS100J
	C248	Not used	CKSSYB104K16
	C249	Not used	CCSSCH471J16

## PCB PARTS LIST FOR XV-DV590/YXJ5 UNLESS OTHER WISE NOTED

Mark No.	Description	Part No.	Mark No.	Description	Part No.
				IC 101	BA5984FP
				IC 201	MT1389FE/S-L
				IC 202	K4S641632N-LC75
				IC 203	AYW7274
				IC 204	S-24CS64A01

### **A** 09 DVDM ASSY

#### SEMICONDUCTORS





























Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
A	Q 9101	(B,234,48) TRANSISTOR	IMX9	R 9119	(B,228,47)		RS1/10SR222J
	Q 9102	(B,212,48) CHIP DIGITAL TRANS.	LTA124EUB	R 9120	(B,240,35)		RS1/10SR0R0J
	Q 9501	(B,34,38) TRANSISTOR	LSC4081UB	R 9300	(B,184,53)		RS1/10SR222J
	D 9501	(A,40,39) LED(BLUE)	NSPB320BS-6734	R 9301	(B,187,53)		RS1/10SR332J
	D 9503	(B,47,36) DIODE	UDZS10(B)	R 9302	(B,189,53)		RS1/10SR562J
	D 9504	(B,37,35) DIODE	1SS352	R 9303	(B,224,53)		RS1/10SR103J
	D 9505	(B,40,33) DIODE	1SS352	R 9304	(B,60,52)		RS1/10SR222J
	L 9000	(B,178,19) INDUCTOR	CTF1306	R 9305	(B,59,47)		RS1/10SR101J
	L 9001	(B,191,30) INDUCTOR	CTF1306	R 9306	(B,55,41)		RS1/10SR470J
	L 9100	(B,232,31) INDUCTOR	CTF1306	R 9400	(B,98,42)		RS1/10SR221J
	L 9101	(B,228,34) INDUCTOR	CTF1306	R 9401	(B,94,43)		RS1/10SR221J
	L 9103	(B,225,38) INDUCTOR	CTF1306	R 9402	(B,90,45)		RS1/10SR221J
L 9400	(A,85,37) AXIAL INDUCTOR	LAU100J	R 9405	(B,105,40)		RS1/10SR823J	
L 9401	(A,83,27) AXIAL INDUCTOR	LAU220J	R 9501	(B,47,41)		RS1/10SR680J	
JA 9001	(A,213,21) MIC JACK	XKN3018	R 9502	(B,39,30)		RS1/10SR560J	
JA 9002	(A,193,21) MIC JACK	XKN3018	<b>CAPACITORS</b>				
JA 9100	(A,232,21) MINITURE JACK	XKN3019	C 9000	(B,213,21)		CCSRCH101J50	
V 9400	(A,88,27) FL TUBE	AAV7104	C 9001	(B,189,29)		CCSRCH101J50	
S 9300	(A,158,53) SWITCH	VSG1024	C 9002	(B,205,27)		CCSRCH220J50	
S 9301	(A,176,53) SWITCH	VSG1024	C 9003	(A,197,28)		CEJQ2R2M50	
S 9302	(A,194,53) SWITCH	VSG1024	C 9006	(A,181,43)		CEAL470M16	
S 9303	(A,212,53) SWITCH	VSG1024	C 9007	(B,196,45)		CKSRYB104K16	
S 9304	(A,230,53) SWITCH	VSG1024	C 9008	(B,198,45)		CCSRCH101J50	
S 9305	(A,43,51) SWITCH	VSG1024	C 9010	(B,197,38)		CCSRCH820J50	
S 9306	(A,132,53) SWITCH	VSG1024	C 9012	(B,175,42)		CKSRYB104K16	
CN9401	(A,12,56) CONNECTOR	9607S-23F	C 9020	(B,176,19)		CKSRYB223K50	
9301	FL SPACER	AEB7367	C 9021	(B,195,33)		CKSRYB104K16	
9300	(A,65,39) REMOTE RECEIVER UNIT	GP1UE274XKC1	C 9100	(B,226,26)		CKSRYB103K50	

**RESISTORS**

R 9000	(B,203,27)	RS1/10SR473J
R 9001	(B,210,35)	RS1/10SR103J
R 9002	(B,184,44)	RS1/10SR332J
R 9003	(B,193,30)	RS1/10SR332J
R 9004	(B,199,31)	RS1/10SR332J
R 9006	(B,184,40)	RS1/10SR332J
R 9008	(B,200,38)	RS1/10SR473J
R 9015	(B,218,26)	RS1/10SR682J
R 9016	(B,217,21)	RS1/10SR103J
R 9017	(B,185,25)	RS1/10SR272J
R 9018	(B,205,16)	RS1/10SR822J
R 9019	(B,201,16)	RS1/10SR682J
R 9021	(B,190,35)	RS1/10SR0R0J
R 9022	(B,202,43)	RS1/10SR103J
R 9101	(B,231,34)	RS1/10SR680J
R 9102	(B,237,30)	RS1/10SR680J
R 9103	(B,233,34)	RS1/10SR680J
R 9104	(B,240,30)	RS1/10SR680J
R 9105	(B,223,42)	RS1/10SR680J
R 9106	(B,224,48)	RS1/10SR680J
R 9107	(B,225,42)	RS1/10SR680J
R 9108	(B,226,48)	RS1/10SR680J
R 9109	(B,223,38)	RS1/10SR680J
R 9112	(B,219,48)	RS1/10SR680J
R 9113	(B,219,41)	RS1/10SR680J
R 9114	(B,221,48)	RS1/10SR680J
R 9115	(B,221,42)	RS1/10SR680J
R 9116	(B,228,41)	RS1/10SR222J
R 9117	(B,231,45)	RS1/10SR222J
R 9118	(B,230,41)	RS1/10SR222J

**F EUROSCART ASSY**

**MISCELLANEOUS**

IC 471	(B,38,46) VIDEO SW IC	MM1505XN
IC 472	(B,29,48) VIDEO SW IC	MM1507XN
Q 461	(B,68,68) CHIP TRANSISTOR	RT3WLMM
Q 462	(B,47,65) CHIP TRANSISTOR	RT3WLMM
Q 463	(B,52,70) DIGITAL TR(SC-70)	RT1P441M
Q 472	(B,25,67) TRANSISTOR	RT1N241M
Q 492	(B,80,40) DIGITAL TR(SC-70)	RT1P241M
Q 493	(B,74,45) TRANSISTOR	IMX9
D 471	(B,49,41) DIODE	MC2846-11
D 472	(B,43,41) DIODE	MC2848-11



**Mark No. Description Part No.**

D 473 (B,32,41) DIODE MC2846-11  
 D 474 (B,38,41) DIODE MC2848-11  
 JA 451 (A,62,8) CONNECTOR XKB3054  
 CN461 (A,89,31) CONNECTOR CKS3388

**RESISTORS**

R 461 (B,62,69) RS1/16S223J  
 R 462 (B,62,67) RS1/16S122J  
 R 463 (B,73,65) RS1/16S472J  
 R 464 (B,52,65) RS1/16S472J  
 R 465 (B,73,67) RS1/16S563J  
  
 R 466 (B,30,66) RS1/16S103J  
 R 467 (B,41,69) RS1/16S122J  
 R 468 (B,41,71) RS1/16S122J  
 R 469 (B,41,67) RS1/16S102J  
 R 470 (B,46,72) RS1/16S821J  
  
 R 471 (B,46,70) RS1/16S561J  
 R 472 (B,30,64) RS1/16S223J  
 R 473 (B,52,73) RS1/16S563J  
 R 474 (B,58,28) CHIP RESISTOR RS1/16S75R0F  
 R 475 (B,53,28) CHIP RESISTOR RS1/16S75R0F  
  
 R 476 (B,47,28) CHIP RESISTOR RS1/16S75R0F  
 R 477 (B,27,27) CHIP RESISTOR RS1/16S75R0F  
 R 478 (B,40,28) CHIP RESISTOR RS1/16S75R0F  
 R 481 (B,71,37) RS1/16S102J  
 R 482 (B,71,35) RS1/16S102J  
  
 R 483 (B,59,38) RS1/16S473J  
 R 484 (B,63,38) RS1/16S473J  
 R 485 (B,59,36) RS1/16S471J  
 R 486 (B,63,36) RS1/16S471J  
 R 493 (B,76,42) RS1/16S472J  
  
 R 494 (B,76,40) RS1/16S472J  
 R 495 (B,89,23) RS1/16S331J  
 R 496 (B,85,23) RS1/16S331J

**CAPACITORS**

C 464 (B,66,65) CKSRYB104K50  
 C 470 (B,41,73) CKSRYB104K50  
 C 471 (A,35,57) CEAT100M50  
 C 472 (B,39,52) CKSRYB104K50  
 C 473 (B,24,57) CKSRYB104K50  
  
 C 474 (B,24,61) CKSRYB104K50  
 C 475 (B,43,44) CKSRYB104K50  
 C 476 (B,29,45) CKSRYB104K50  
 C 477 (A,52,37) ELECT. CAPACITOR CEAT471M6R3  
 C 478 (A,45,37) ELECT. CAPACITOR CEAT471M6R3  
  
 C 479 (A,38,37) ELECT. CAPACITOR CEAT471M6R3  
 C 480 (A,30,37) ELECT. CAPACITOR CEAT102M6R3  
 C 481 (A,65,49) CEAT100M50  
 C 482 (A,65,42) CEAT100M50  
 C 483 (B,59,34) CCSRCH331J50  
  
 C 484 (B,63,34) CCSRCH331J50  
 C 485 (B,89,21) CCSRCH101J50  
 C 486 (B,85,21) CCSRCH101J50  
 C 487 (B,58,26) CCSRCH470J50  
 C 488 (B,23,25) CKSRYB104K50  
  
 C 489 (B,53,26) CCSRCH470J50  
 C 490 (B,47,26) CCSRCH470J50  
 C 491 (B,27,25) CCSRCH470J50  
 C 492 (B,40,26) CCSRCH470J50

**Mark No. Description Part No.**

**G RHTS DSP ASSY**

**MISCELLANEOUS**

IC 601 (A,87,53) DIR IC AK4117VF  
 IC 650 (A,66,36) IC TC7SH08FUS1  
 IC 801 (A,31,48) DSP IC DSPC56371AF180  
 IC 802 (A,21,34) IC TC7WU04FU  
 IC 851 (B,44,46) FLASH ROM IC PDC184A8  
  
 △ IC 901 (A,95,42) LDO REGULATOR BD00KA5WFP  
 Q 801 (B,28,40) TRANSISTOR RT1N241M  
 L 602 (B,87,49) CHIP SOLID INDUCTOR QTL1013  
 L 603 (A,84,58) CHIP SOLID INDUCTOR QTL1013  
 L 650 (A,68,39) CHIP SOLID INDUCTOR QTL1013  
  
 L 801 (B,23,41) CHIP SOLID INDUCTOR QTL1013  
 L 802 (B,23,37) CHIP SOLID INDUCTOR QTL1013  
 L 803 (A,39,37) CHIP SOLID INDUCTOR ATL7002  
 L 804 (B,18,50) CHIP SOLID INDUCTOR ATL7002  
 L 901 (B,91,36) CHIP SOLID INDUCTOR ATL7002  
  
 KN 901 SCREW PLATE VNE1948  
 X 801 (A,16,40) CRYSTAL RESONATOR XSS3003  
 CN 701 (A,66,31) 19P SOCKET XKP3054  
 CN 901 (A,99,31) 9P SOCKET XKP3088  
 CN 951 (A,26,31) 13P SOCKET XKP3053

**RESISTORS**

R 601 (B,81,53) RS1/10SR471J  
 R 603 (B,79,54) RS1/10SR471J  
 R 604 (A,92,48) RS1/10SR151J  
 R 605 (B,76,45) RS1/10SR101J  
 R 606 (B,80,45) RS1/10SR101J  
  
 R 607 (B,78,45) RS1/10SR470J  
 R 608 (B,89,52) RS1/10SR470J  
 R 610 (A,79,51) RS1/10SR470J  
 R 612 (B,91,52) RS1/10SR101J  
 R 616 (A,95,51) RS1/10SR103J  
  
 R 617 (A,80,58) RS1/10SR123J  
 R 755 (A,61,36) RESISTOR ARRAY RAB4C104J  
 R 801 (A,42,59) RS1/10SR470J  
 R 802 (A,34,59) RAB4C101J  
 R 803 (B,38,57) RS1/10SR103J  
  
 R 804 (B,36,57) RS1/10SR103J  
 R 805 (B,34,57) RS1/10SR103J  
 R 806 (B,32,57) RS1/10SR103J  
 R 807 (B,30,57) RS1/10SR473J  
 R 810 (A,18,50) RS1/10SR473J  
  
 R 811 (B,17,45) RS1/10SR101J  
 R 812 (B,21,45) RS1/10SR101J  
 R 813 (B,19,45) RS1/10SR472J  
 R 814 (B,23,45) RS1/10SR101J  
 R 815 (B,27,45) RS1/10SR101J  
  
 R 816 (B,26,35) RS1/10SR101J  
 R 817 (B,25,39) RS1/10SR103J  
 R 818 (A,28,34) RS1/10SR470J  
 R 821 (A,15,37) RS1/10SR471J  
 R 822 (A,17,37) RS1/10SR105J  
  
 R 823 (A,25,35) RS1/10SR101J  
 R 825 (A,31,35) RS1/10SR101J  
 R 827 (B,32,39) RS1/10SR0R0J  
 R 828 (B,30,39) RS1/10SR103J

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
	R 829	(A,35,37)	RS1/10SR473J	C 832	(A,41,52)	CCSRCH471J50	
	R 832	(A,41,42)	RS1/10SR470J	C 833	(A,42,52)	CKSRYP104K16	
A	R 833	(A,45,45)	RS1/10SR470J	C 851	(B,50,48)	CKSRYP104K16	
	R 834	(A,44,48)	RS1/10SR470J	C 901	(A,100,37)	CKSRYP105K6R3	
	R 836	(A,41,50)	RS1/10SR470J	C 906	(A,104,46)	CKSRYP105K6R3	
	R 837	(A,43,57)	RAB4C470J				
	R 851	(A,41,40)	RS1/10SR470J				
	R 852	(A,40,37)	RS1/10SR222J				
	R 855	(A,48,45)	RS1/10SR103J				
	R 856	(B,40,46)	RS1/10SR103J				
	R 857	(A,48,47)	RS1/10SR103J				
	R 858	(A,49,50)	RS1/10SR0R0J				
B	R 901	(B,100,45)	RS1/10SR333J				
	R 902	(B,104,49)	RS1/10SR2202F				
	R 903	(B,98,36)	RS1/10SR104J				
	R 953	(B,37,32)	RS1/10SR104J				
	R 954	(B,35,32)	RS1/10SR104J				
	R 955	(B,28,35)	RS1/10SR104J				
	R 956	(B,33,32)	RS1/10SR104J				
	R 957	(B,21,41)	RS1/10SR104J				
	R 958	(A,13,34)	RS1/10SR104J				
	R 959	(B,12,46)	RS1/10SR104J				
	R 960	(A,11,34)	RS1/10SR104J				
C	R 966	(A,96,57)	RS1/10SR0R0J				
	R 967	(A,93,58)	RS1/10SR0R0J				
	R 968	(A,97,58)	RS1/10SR0R0J				
	R 969	(A,100,59)	RS1/10SR0R0J				



### POWER SUPPLY UNIT

POWER SUPPLY UNIT has no service part.



### FM/AM TUNER UNIT

FM/AM TUNER UNIT has no service part.

### CAPACITORS

	C 603	(A,80,57)	CKSRYP103K50
	C 606	(A,81,53)	CKSRYP104K16
	C 611	(A,90,59)	CKSRYP104K16
	C 614	(A,94,55)	CKSRYP102K50
	C 617	(A,87,58)	CKSRYP104K16
D	C 650	(A,68,35)	CKSRYP104K16
	C 801	(A,37,57)	CCSRCH471J50
	C 802	(A,37,59)	CKSRYP104K16
	C 803	(A,31,57)	CKSRYP105K6R3
	C 805	(A,25,57)	CCSRCH471J50
	C 806	(A,25,58)	CKSRYP104K16
	C 807	(A,21,53)	CCSRCH471J50
	C 808	(A,19,53)	CKSRYP104K16
	C 809	(A,21,50)	CKSRYP105K6R3
	C 811	(B,15,46)	CCSRCH221J50
E	C 813	(B,29,45)	CCSRCH221J50
	C 814	(A,20,44)	CCSRCH471J50
	C 815	(A,20,45)	CKSRYP104K16
	C 816	(A,17,35)	CCSRCH471J50
	C 817	(A,16,35)	CKSRYP104K16
	C 819	(A,12,37)	CCSRCH5R0C50
	C 820	(A,20,37)	CCSRCH5R0C50
	C 821	(A,24,38)	CCSRCH471J50
	C 822	(A,24,37)	CKSRYP104K16
	C 823	(A,27,38)	CKSRYP105K6R3
	C 825	(A,29,37)	CKSRYP103K50
	C 826	(A,32,38)	CKSRYP105K6R3
F	C 828	(A,40,44)	CCSRCH471J50
	C 829	(A,41,44)	CKSRYP104K16
	C 830	(A,41,47)	CKSRYP105K6R3