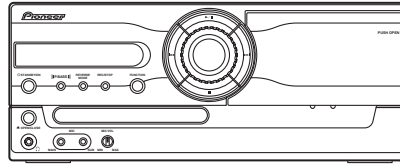


# Service Manual



XV-GX3

ORDER NO.  
**RRV3262**

**STEREO DVD CASSETTE DECK RECEIVER**

# XV-GX3

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

Model	Type	Power Requirement	Regional restriction codes (Region No.)	The voltage can be converted by the following method.	Remarks
XV-GX3	DFLXJ	AC 110-120V/220-230V/240V	3	With the voltage selector	
XV-GX3	DDXJ/RD	AC 110-127V/220-230V/240V	4	With the voltage selector	
XV-GX3	DDXJ/RB	AC 110-120V/220-230V/240V	2	With the voltage selector	
XV-GX3	MTXJ	AC 220-230V	3	—	



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

# 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

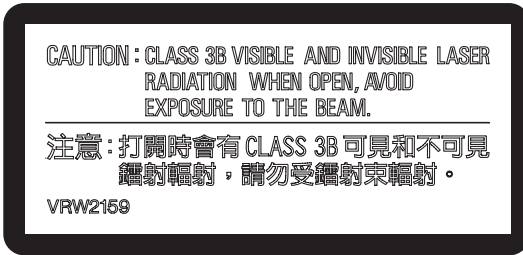
FOR DVD : MAXIMUM OUTPUT POWER : 5 mW  
WAVELENGTH : 650 nm  
FOR CD : MAXIMUM OUTPUT POWER : 7 mW  
WAVELENGTH : 780 nm

## LABEL CHECK

DDXJ/RB,  
DDXJ/RD,  
MTXJ type  
VRW1699



Printing on Rear Panel



DFLXJ type  
VRW2159

### Additional Laser Caution

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

\* : Refer to page 65.

## [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.

# CONTENTS

	SAFETY INFORMATION .....	2
	1. SPECIFICATIONS .....	5
A	2. EXPLODED VIEWS AND PARTS LIST .....	6
	2.1 PACKING SECTION .....	6
	2.2 EXTERIOR SECTION.....	8
	2.3 FRONT PANEL SECTION .....	10
	2.4 05 LOADER ASSY.....	12
	2.5 TRAVERSE MECHANISM ASSY-S .....	14
	2.6 DECK MECHANISM ASSY .....	15
	3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM.....	16
	3.1 BLOCK DIAGRAM .....	16
	3.2 OVERALL WIRING CONNECTION DIAGRAM and LOAB ASSY .....	18
	3.3 DVDM ASSY (1/2).....	20
	3.4 DVDM ASSY (2/2).....	22
B	3.5 MAIN ASSY (1/4).....	24
	3.6 MAIN ASSY (2/4).....	26
	3.7 MAIN ASSY (3/4).....	28
	3.8 MAIN ASSY (4/4).....	30
	3.9 DISPLAY and MIC ASSYS.....	32
	3.10 WAVEFORMS.....	34
	4. PCB CONNECTION DIAGRAM .....	35
	4.1 LOAB ASSY .....	35
	4.2 DVDM ASSY .....	36
	4.3 MAIN ASSY .....	38
	4.4 DISPLAY ASSY.....	42
	4.5 MIC ASSY .....	44
C	5. PCB PARTS LIST .....	46
	6. ADJUSTMENT .....	57
	6.1 DECK SECTION .....	57
	6.1.1 ADJUSTMENT CONDITION .....	57
	6.1.2 PLAYBACK and RECORDING SECTION .....	58
	6.2 DVD SECTION.....	60
	6.2.1 ADJUSTMENT ITEMS AND LOCATION .....	60
	6.2.2 JIG AND MEASURING INSTRUMENTS.....	60
	6.2.3 NECESSARY ADJUSTMENT POINTS .....	61
	6.2.4 TEST MODE.....	62
	6.2.5 MECHANISM ADJUSTMENT.....	63
D	7. GENERAL INFORMATION.....	65
	7.1 DIAGNOSIS .....	65
	7.1.1 TEST MODE.....	65
	7.1.2 DISPLAY SPECIFICATION OF THE TEST MODE.....	66
	7.1.3 FUNCTIONAL SPECIFICATION OF THE SHORTCUT KEY .....	67
	7.1.4 SPECIFICATION OF THE MODEL INFORMATION DISPLAY .....	68
	7.1.5 FUNCTIONAL SPECIFICATION OF THE SERVICE MODE .....	69
	7.1.6 SERVICE TEST MODE .....	70
	7.1.7 METHOD FOR DIAGNOSING DEGRADATION OF THE LDs ON THE PICKUP ASSY .....	72
	7.1.8 DVD TROUBLE SHOOTING.....	73
	7.1.9 ID NUMBER AND ID DATA SETTING .....	76
	7.1.10 DISASSEMBLY .....	79
E	7.2 PARTS.....	89
	7.2.1 IC .....	89
	8. PANEL FACILITIES .....	92



# 1. SPECIFICATIONS

- **Amplifier section**

Front . . . . . 100 W per channel  
(1 kHz, 10 % T.H.D., 6 Ω)

- **Disc section**

Digital audio characteristics . . . . . DVD fs: 96 kHz, 24-bit  
Type . . . DVD system, Video CD/Super VCD system  
system and Compact Disc digital audio system  
Frequency response . . . . . 4 Hz to 44 kHz  
S/N ratio . . . . . 107 dB  
Dynamic range . . . . . 94 dB  
Total harmonic distortion . . . . . 0.007 %  
Wow and Flutter . . . . . Limit of measurement  
(±0.001 % W.PEAK) or less (JEITA)

- **Cassette deck section**

Systems . . . . . 4 track, 2-channel stereo  
Heads . . . . . Recording/playback head x 1  
Erasing head x 1  
Motor . . . . . DC servo motor x 1  
Tape types . . . . . Type I (Normal)

- **FM tuner section**

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

- **AM tuner section**

Frequency range  
With 9kHz step . . . . . 1 kHz to 1,602 kHz  
With 10kHz step (Singapore, Malaysia,  
Taiwan, Indonesia and Philippines models  
only) . . . . . 530 kHz to 1,700 kHz  
Antenna . . . . . Loop antenna

“DTS” and “DTS 2.0” are trademarks of Digital Theater Systems, Inc.

Manufactured under license from Dolby Laboratories. “Dolby” and the double-D symbol are trademarks of Dolby Laboratories.

- **Miscellaneous**

Power requirements  
Singapore, Malaysia, Taiwan, Indonesia,  
Philippines, Mexico and South America  
models . . . AC 110-120/220-230/240 V  
(switchable), 50/60 Hz  
Power consumption . . . . . 124 W  
(0.32 W in standby)

Power requirements  
Thai model  
. . . AC 220-230V (non switchable), 50 Hz  
Power consumption . . . . . 120 W  
(0.32 W in standby)

Power requirements  
Middle East and South Africa models  
. . . AC 110-127/220-230/240 V  
(switchable), 50/60 Hz  
Power consumption . . . . . 126 W  
(0.32 W in standby)

Dimensions (Stereo DVD Cassette  
Deck Receiver) . . .360 (W) x 145 (H) x 364 (D) mm  
Weight (Stereo DVD Cassette Deck Receiver)  
. . . . . 6.6 kg

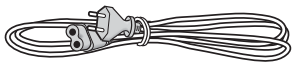
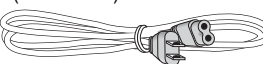

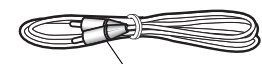



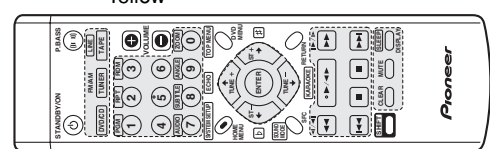
- **Accessories (Stereo DVD Cassette Deck Receiver)**

Remote control . . . . . 1  
Dry cell batteries (AA/R6) . . . . . 2  
Video cord . . . . . 1  
AM loop antenna . . . . . 1  
FM antenna . . . . . 1  
Power cord  
Singapore, Malaysia, Taiwan, Indonesia and  
Philippines models . . . . . 2  
All other models . . . . . 1  
Power Plug Adapter(DDXJ/RD only) . . . . . 1  
Operating instructions

 **Note**

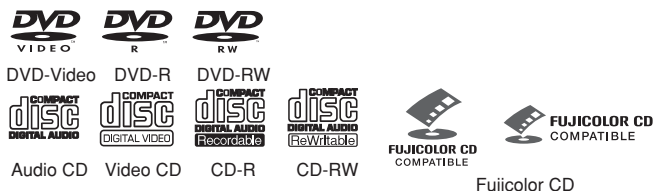
- Specifications and design subject to possible modification without notice, due to improvements.


- **Accessories**

<ul style="list-style-type: none"> <li>• Power cord (ADG1154)</li> </ul> 	<ul style="list-style-type: none"> <li>• Power cord DFLXJ only (ADG7097)</li> </ul> 	<ul style="list-style-type: none"> <li>• FM Antenna (ADH7030)</li> </ul> 	<ul style="list-style-type: none"> <li>• Video Cord (L = 1.5m) (XDE3046)</li> </ul>  <p>Yellow</p>	<ul style="list-style-type: none"> <li>• Power Plug Adapter DDXJ/RD only (XKM3001)</li> </ul> 
<ul style="list-style-type: none"> <li>• AM Loop Antenna (ATB7013)</li> </ul> 	<ul style="list-style-type: none"> <li>• Dry Cell Batteries</li> </ul> 	<ul style="list-style-type: none"> <li>• Remote Control (AXD7429)</li> </ul> 		

## 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.



-  is a trademark of Fuji Photo Film Co. Ltd.
- **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.





Super Video CD (Super VCD)

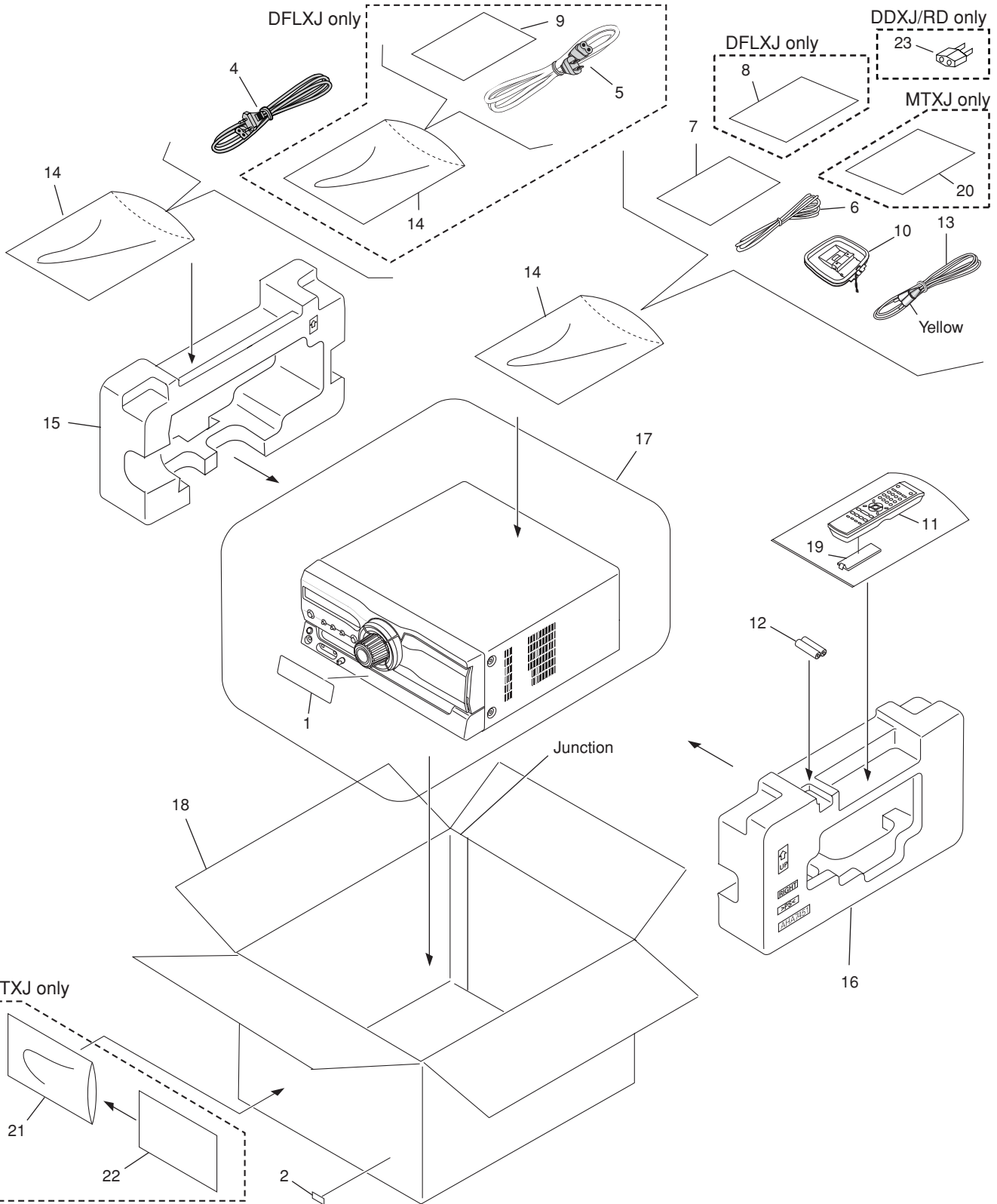
### About DualDisc playback

A DualDisc is a new two-sided disc, one side of which contains DVD content (video, audio, etc.) while the other side contains non-DVD content such as digital audio material. The non-DVD, audio side of the disc is not compliant with the CD Audio specification and therefore may not play. The DVD side of a DualDisc plays in this product (excluding DVD-Audio content). For more detailed information on the DualDisc specification, please refer to the disc manufacturer or disc retailer.

# 2. EXPLODED VIEWS AND PARTS LIST

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

## 2.1 PACKING SECTION



**(1) PACKING SECTION PARTS LIST**

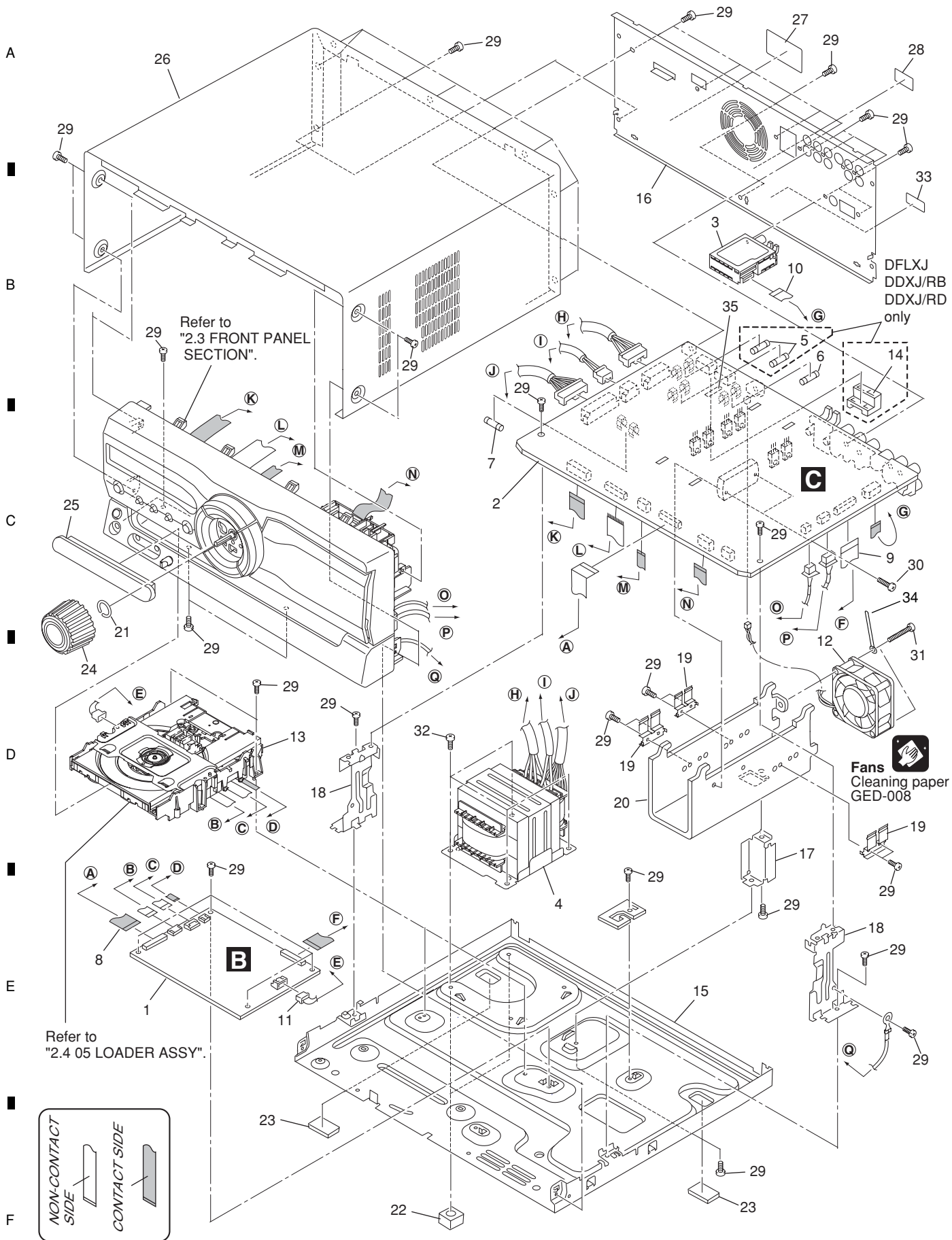
<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
NSP 1	Getter 2CH	See Contrast table (2)			
NSP 2	Label	VRW1629	16	Pad R	AHA7451
3	•••••		17	Packing Sheet	AHG7010
⚠ 4	Power Cord	ADG1154	18	Packing Case	See Contrast table (2)
⚠ 5	Power Cord	See Contrast table (2)	19	Battery Cover	VNK4998
			20	Service Map (Thai)	See Contrast table (2)
6	FM Antenna	ADH7030			
7	Operating Instructions (English)	See Contrast table (2)	21	Polyethylene Bag	See Contrast table (2)
8	Operating Instructions (Chinese)	See Contrast table (2)	NSP 22	Warranty Card (Thai)	See Contrast table (2)
9	Caution Card SB	See Contrast table (2)	23	Power Plug Adapter	See Contrast table (2)
10	AM Loop Antenna	ATB7013			
11	Remote Control	AXD7429			
NSP 12	Dry Cell Batteries (AA/R6)	VEM1031			
13	Video Cord	XDE3046			
NSP 14	Polyethylene Bag	Z21-038			
15	Pad L	AHA7450			

**(2) CONTRAST TABLE**

DFLXJ, DDXJ/RB, DDXJ/RD and MTXJ are constructed the same except for the following:

<u>Mark</u>	<u>No.</u>	<u>Description</u>	<u>DFLXJ</u>	<u>DDXJ/RB</u>	<u>DDXJ/RD</u>	<u>MTXJ</u>
NSP	1	Getter 2CH	AAX8096	AAX8096	AAX8097	AAX8096
⚠	5	Power Cord	ADG7097	Not used	Not used	Not used
	7	Operating Instructions (English)	ARB7347	ARB7347	Not used	Not used
	7	Operating Instructions (Spanish)	Not used	Not used	ARC7653	Not used
	7	Operating Instructions (Thai)	Not used	Not used	Not used	ARC7654
	8	Operating Instructions (Chinese)	ARC7655	Not used	Not used	Not used
	9	Caution Card SB	ARM7064	Not used	Not used	Not used
	18	Packing Case	XHD3577	XHD3580	XHD3579	XHD3578
	20	Service Map (Thai)	Not used	Not used	Not used	XRY3005
	21	Polyethylene Bag	Not used	Not used	Not used	AHG7031
NSP	22	Warranty Card (Thai)	Not used	Not used	Not used	XRY3004
	23	Power Plug Adapter	Not used	Not used	XKM3001	Not used

# 2.2 EXTERIOR SECTION



**(1) EXTERIOR SECTION PARTS LIST**

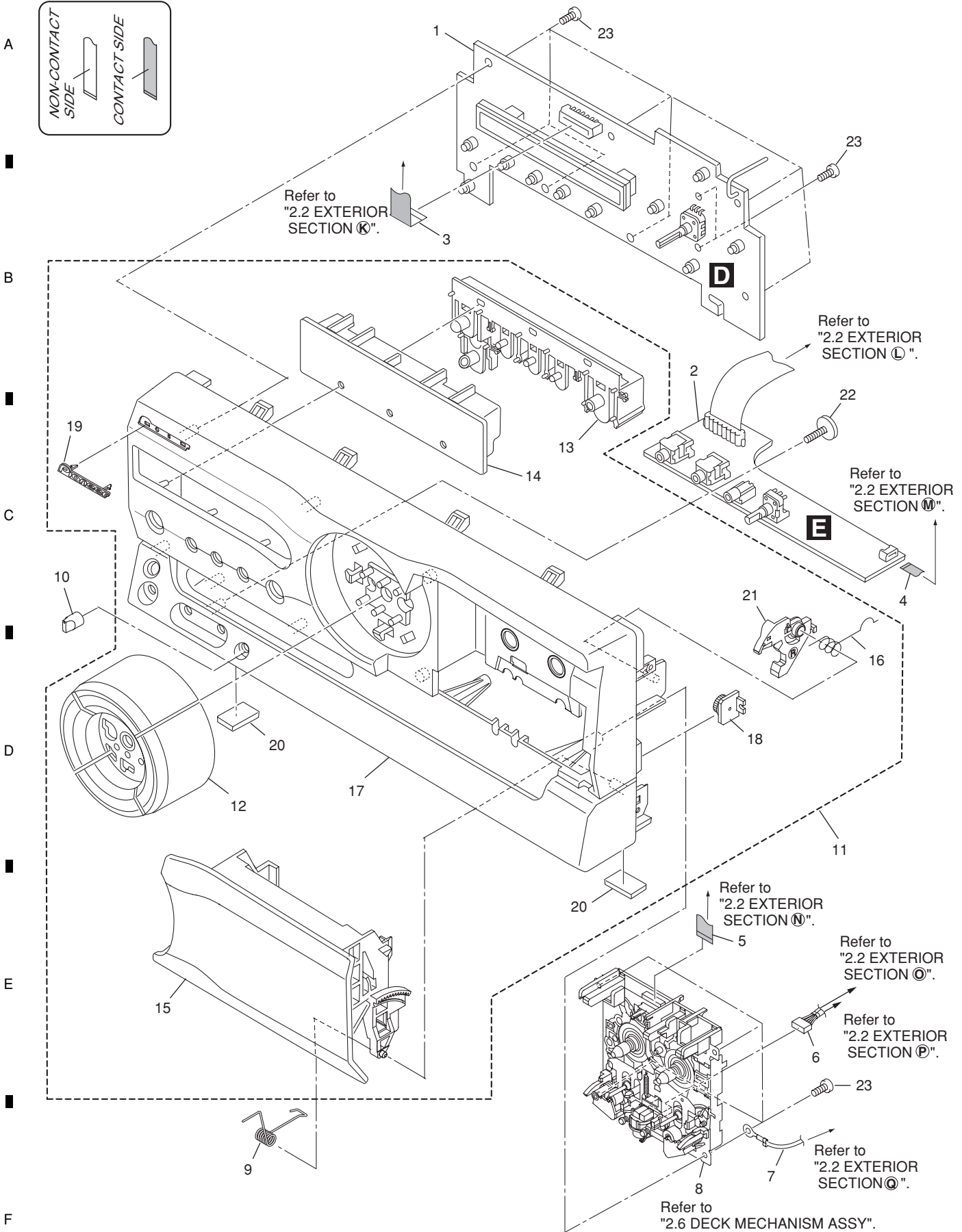
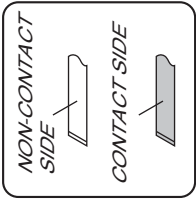
<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
1	DVDM Assy	AWM7966			
2	MAIN Assy	See Contrast table (2)	21	Ring	ABH7213
3	FM/AM TUNER Unit	AXX7173	22	S Cover	AEB7262
⚠ 4	Power Transformer	ATS7406	23	LEG Cushion	XEB3028
⚠ 5	Fuse (FU2, FU3)	See Contrast table (2)	24	VOL Knob Assy	AAB7263
			25	Tray Panel	AAK8304
⚠ 6	Fuse (FU1)	See Contrast table (2)			
⚠ 7	Fuse (FU4)	REK1029(T5A)	26	Bonnet Case	AZN8013
8	25P F.F.C/60V	ADD7520	27	Caution Label	See Contrast table (2)
9	27P F.F.C/60V	ADD7521	NSP 28	ID Label Assy	VXW1002
10	11P F.F.C/60V	ADD7523	29	Screw	BBZ30P080FNI
			30	Screw	BBZ30P140FTC
11	Connector Assy	PG05KK-E45			
12	DC Fan Motor	XXM3009	31	Screw	BBZ30P300FTC
NSP 13	05 LOADER Assy	VWT1219	32	Screw	BCZ40P060FNI
14	VS Knob	See Contrast table (2)	NSP 33	Label	VRW1629
NSP 15	Bottom Chassis	ANA7186	34	Cord Clamper	RNH-184
			35	Fuse Card	See Contrast table (2)
16	Rear Panel DFL	See Contrast table (2)			
17	Heatsink Holder	AND7079			
18	Side Angle A	ANG7336			
19	FET Bracket A	ANG7418			
NSP 20	Heat Sink	ANH7184			

**(2) CONTRAST TABLE**

DFLXJ and DDXJ/RB and DDXJ/RD and MTXJ are constructed the same except for the following:

<b>Mark</b>	<b>No.</b>	<b>Description</b>	<b>DFLXJ</b>	<b>DDXJ/RB</b>	<b>DDXJ/RD</b>	<b>MTXJ</b>
	2	MAIN Assy	AWM8013	AWM8016	AWM8013	AWM8015
⚠	5	Fuse (FU2, FU3)	REK1025(T2A)	REK1025(T2A)	REK1025(T2A)	Not used
⚠	6	Fuse (FU1)	REK1028(T4A)	REK1028(T4A)	REK1028(T4A)	REK1025(T2A)
	14	VS Knob	AAD7690	AAD7690	AAD7690	Not used
	16	Rear Panel	ANC8357	ANC8370	ANC8369	ANC8368
	27	Caution Label	VRW2159	VRW1699	VRW1699	VRW1699
NSP	35	Fuse Card	Not used	Not used	Not used	AAX2357

# 2.3 FRONT PANEL SECTION



5 6 7 8

## FRONT PANEL SECTION PARTS LIST

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
1	DISPLAY Assy	AWU8275
2	MIC Assy	AWU8276
3	17P F.F.C/30V	ADD7410
4	5P F.F.C/60V	ADD7522
5	11P F.F.C/60V	ADD7523
6	Cable Assy	ADE7118
NSP 7	Cord With Plug	DE010VE0
8	DECK Mechanism Unit	XYM3019
9	Door Spring_R	XBH3002
10	MIC Knob	AAK8309
11	Front Panel Assy	AXG7277
12	Button Center (PLS)	ADD7750
13	Button L	ADD7751
14	Display Window	AAK8303
15	Deck Door	AAN7231
16	Ratch Spring R	ABH7131
17	Front Panel	AMB7904
18	Damper Assy	AXA7052
19	Pioneer Name Plate	VAM1129
20	LEG Cushion	XEB3028
21	Ratch Mold R	XMR3002
22	Screw with Washer	ABA7124
23	Screw	PPZ30P080FNI

A  
B  
C  
D  
E  
F



## 2.4 05 LOADER ASSY

### Note :



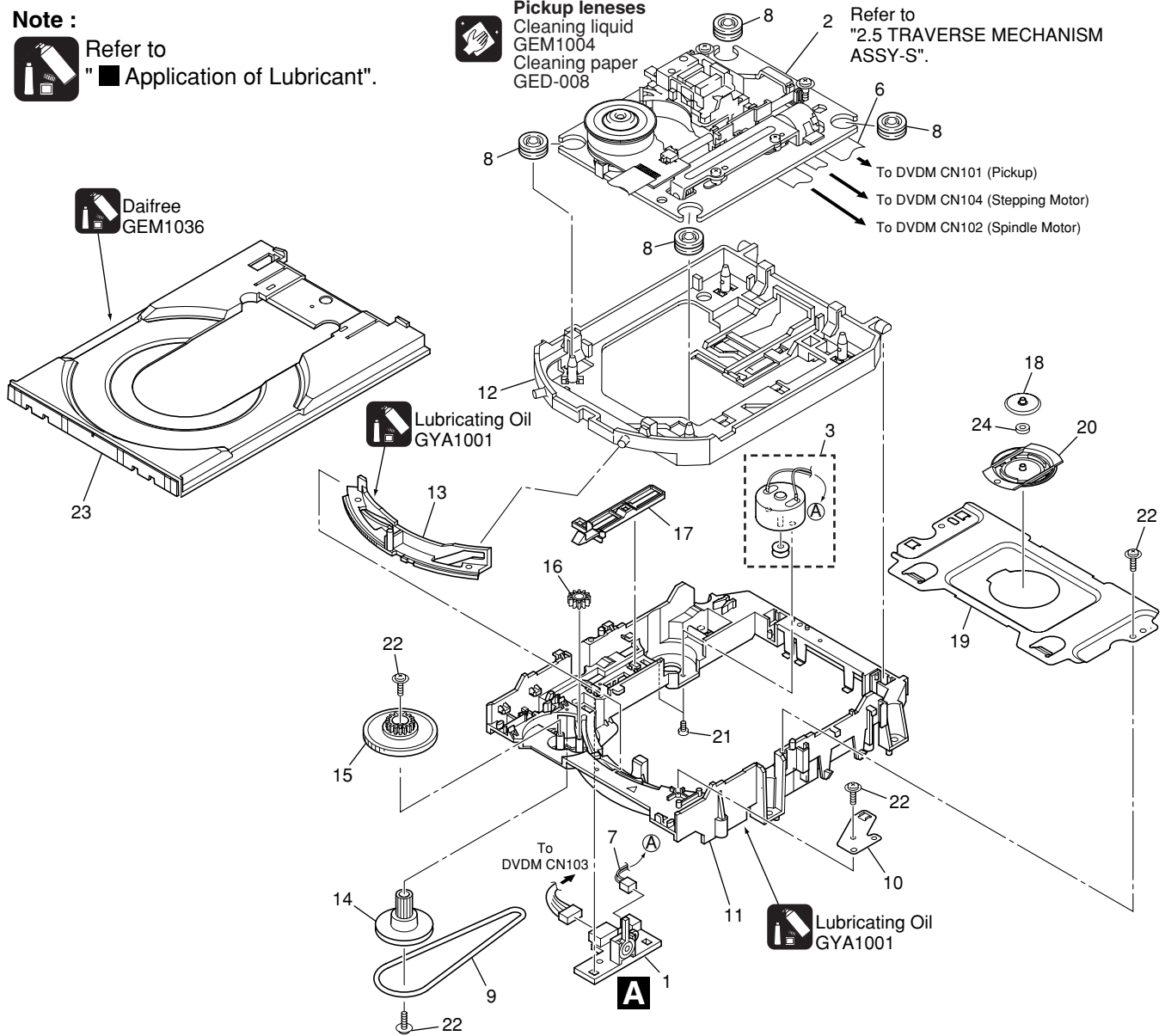
Refer to "Application of Lubricant".



### Pickup lenses

Cleaning liquid  
GEM1004  
Cleaning paper  
GED-008

Refer to "2.5 TRAVERSE MECHANISM ASSY-S".

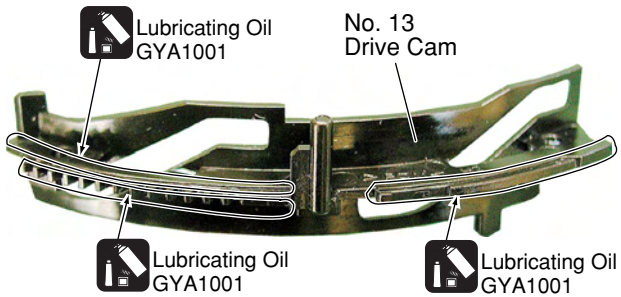
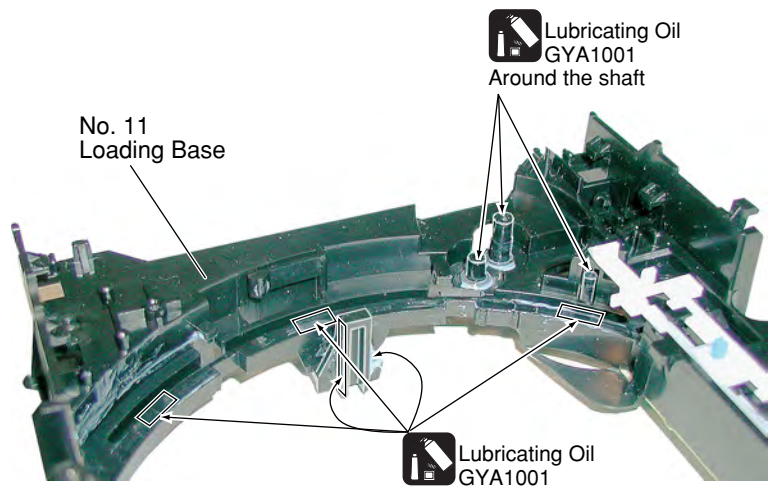


## 05 LOADER ASSY PARTS LIST

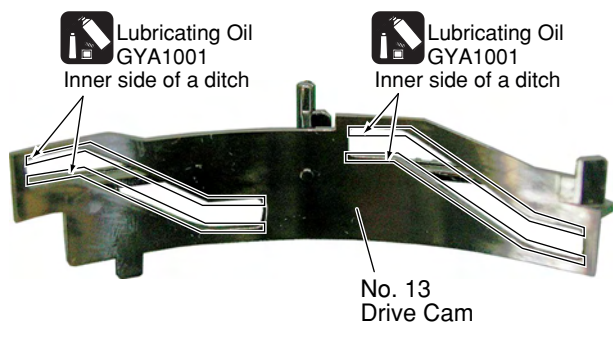
Mark No.	Description	Part No.	Mark No.	Description	Part No.
NSP 1	LOAB Assy	VWG2346			
2	Traverse Mechanism Assy-S	DXX2568	16	Drive Gear	VNL1923
3	Loading Motor Assy	VXX2912	17	SW Lever	VNL1925
4	.....		18	Clamper Plate 04	VNE2342
5	.....		19	Bridge 04	VNE2343
			20	Clamper 04	VNL1969
6	Flexible Cable (24P)	VDA2008	21	Screw	JGZ17P028FTC
7	Connector Assy 2P	VKP2253	22	Screw	VBA1094
8	Floating Rubber	VEB1351	23	Tray	VNL1920
9	Belt	VEB1358	24	Clamp Magnet	VMG1029
10	Stabilizer	VNE2253			
11	Loading Base	VNL1917			
12	Float Base 04	VNL1968			
F 13	Drive Cam	VNL1919			
14	Gear Pulley	VNL1921			
15	Loading Gear	VNL1922			



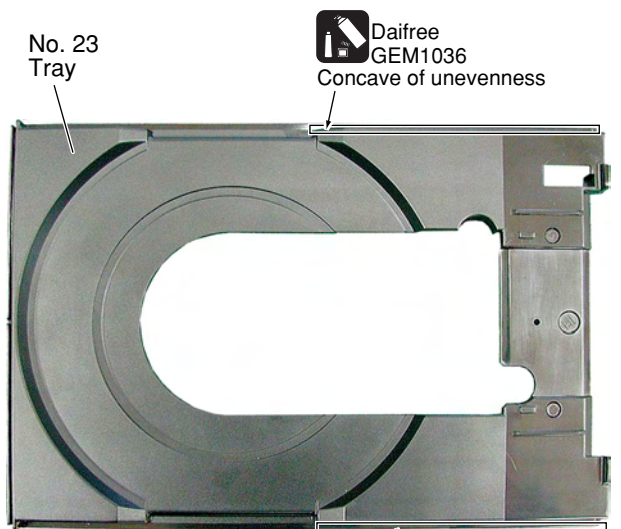
# Application of Lubricant



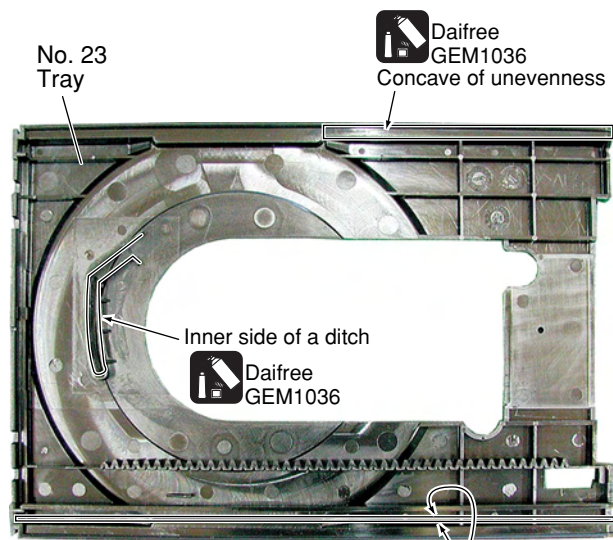
● Front View



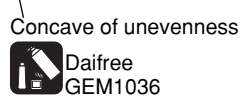
● Rear View



● Top View



● Bottom View



# 2.5 TRAVERSE MECHANISM ASSY-S

**Note :**

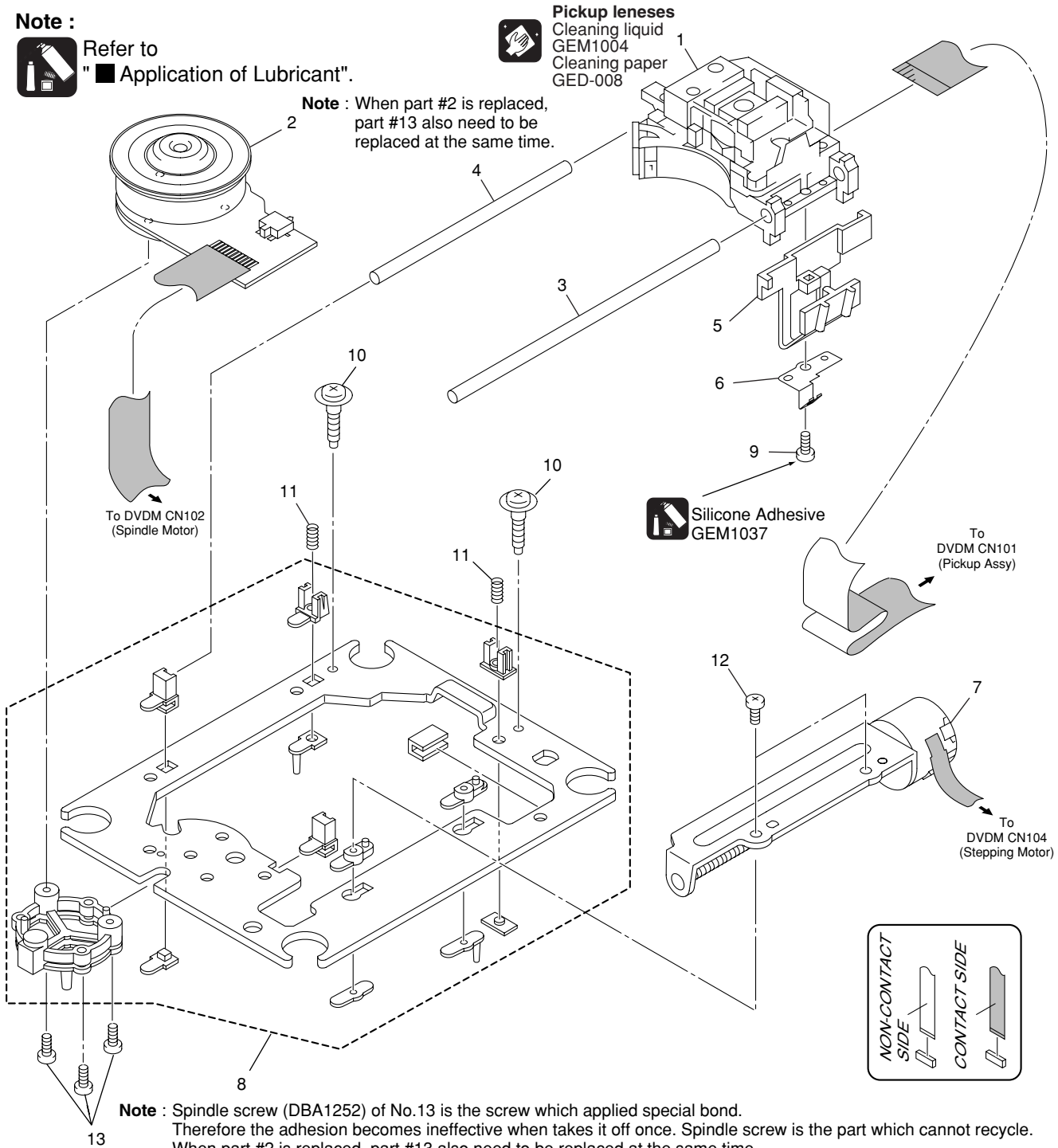


Refer to "Application of Lubricant".



**Pickup lenses**  
Cleaning liquid GEM1004  
Cleaning paper GED-008

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

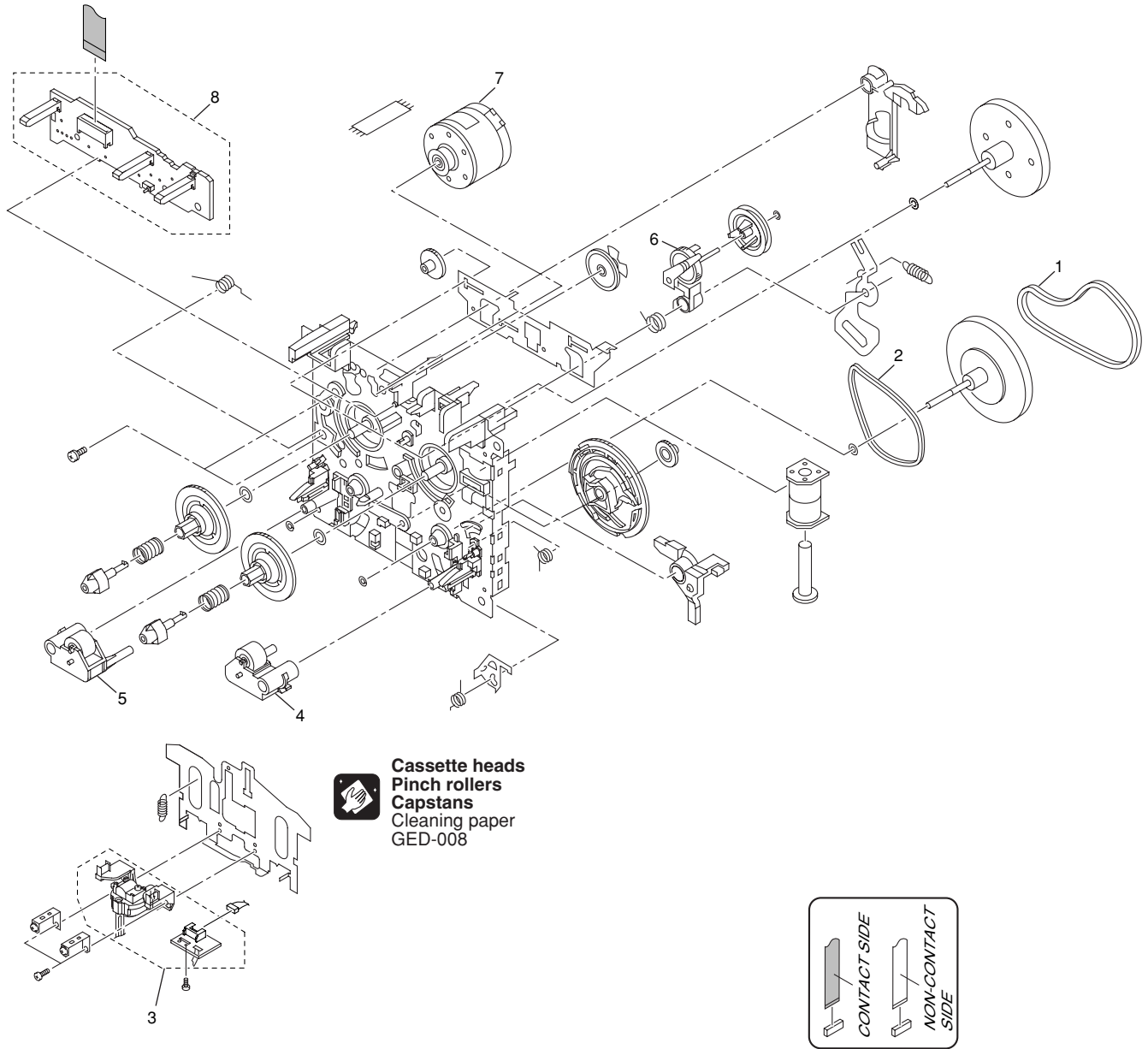


**Note :** Spindle screw (DBA1252) of No.13 is the screw which applied special bond. Therefore the adhesion becomes ineffective when takes it off once. Spindle screw is the part which cannot recycle. When part #2 is replaced, part #13 also need to be replaced at the same time.

## TRAVERSE MECHANISM ASSY-S PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
⚠ 1	05SD Pickup Assy-S	OXX8014	10	Skew Screw VK1	DBA1211
2	Spindle Motor N200	DXM1197	11	Skew Spring VK1	DBH1516
NSP 3	Guide Shaft VK1	DLA1940	NSP 12	Stepping Screw	DBA1205
NSP 4	Sub Guide Shaft VK1	DLA1941	13	Spindle Screw VK1(for Service)	DBA1252
NSP 5	Joint VK1B	DNK4272			
NSP 6	Joint Spring VK1	DBK1235			
7	Stepping Motor VK1	DXM1201			
NSP 8	Mechanism Frame VK1	DNK4160			
9	Precision Screw VK1	DBA1209			

## 2.6 DECK MECHANISM ASSY



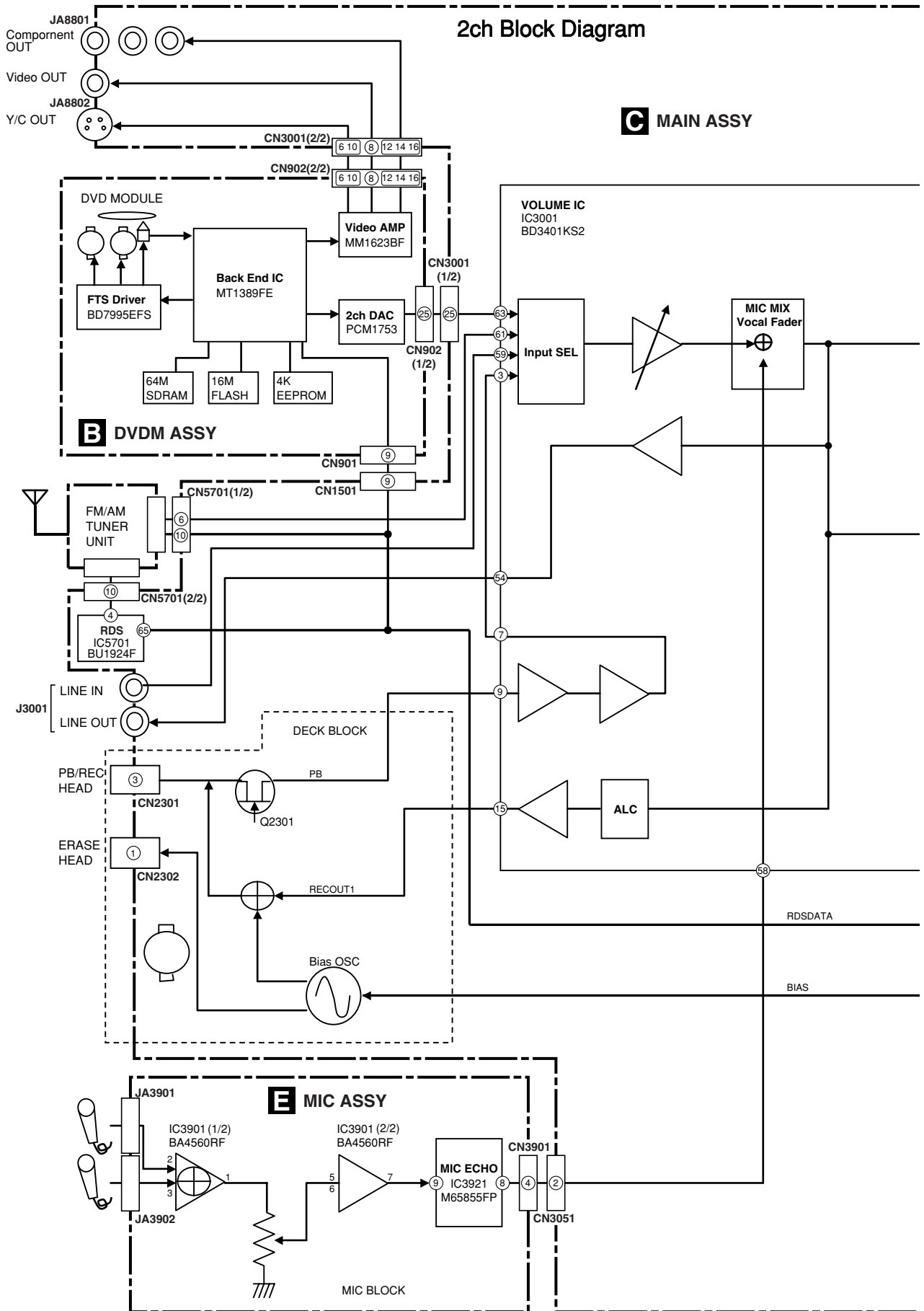
### DECK MECHANISM ASSY PARTS LIST

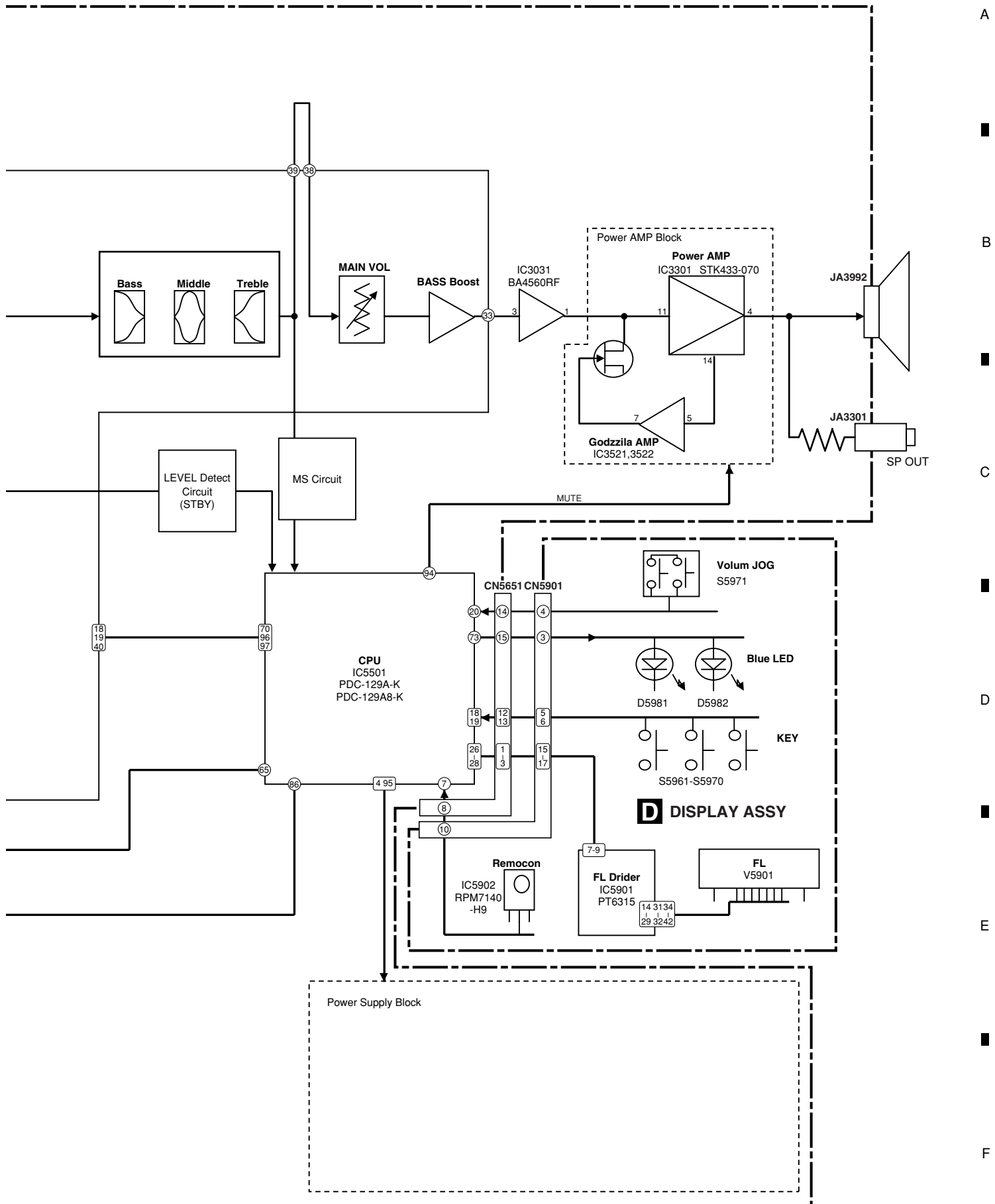
Mark No.	Description	Part No.
1	Main Belt	FF20B-13A
2	F/R Belt	FF19S-31
3	Plate HD Blk	F513-926
4	Roller Pinch Blk R	F514-133
5	Roller Pinch Blk L	F514-134
6	Clutch Assy Blk	F522-063
7	Motor Main Blk	F525-394
8	PCB Control Blk	F567-747

# 3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

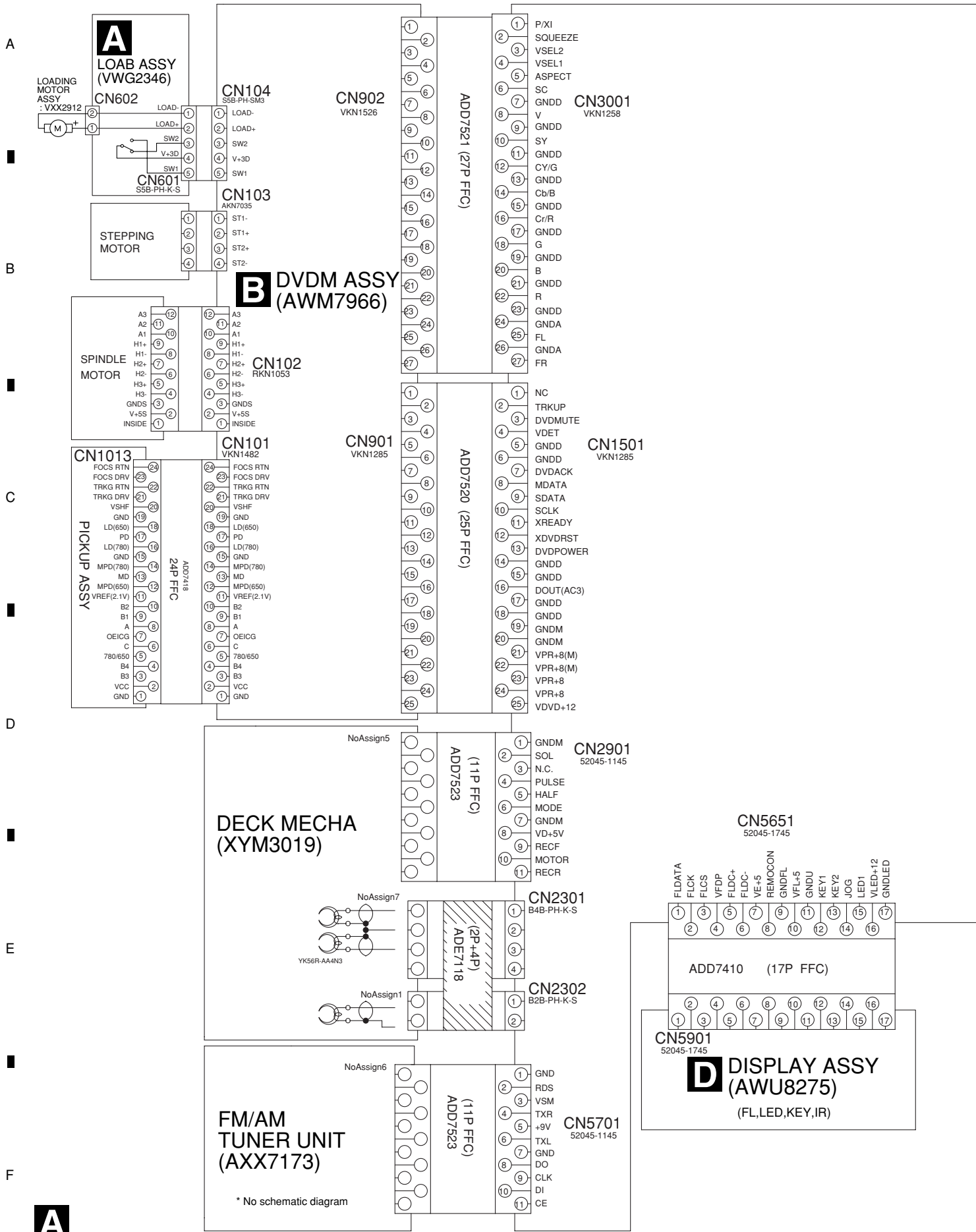
## 3.1 BLOCK DIAGRAM

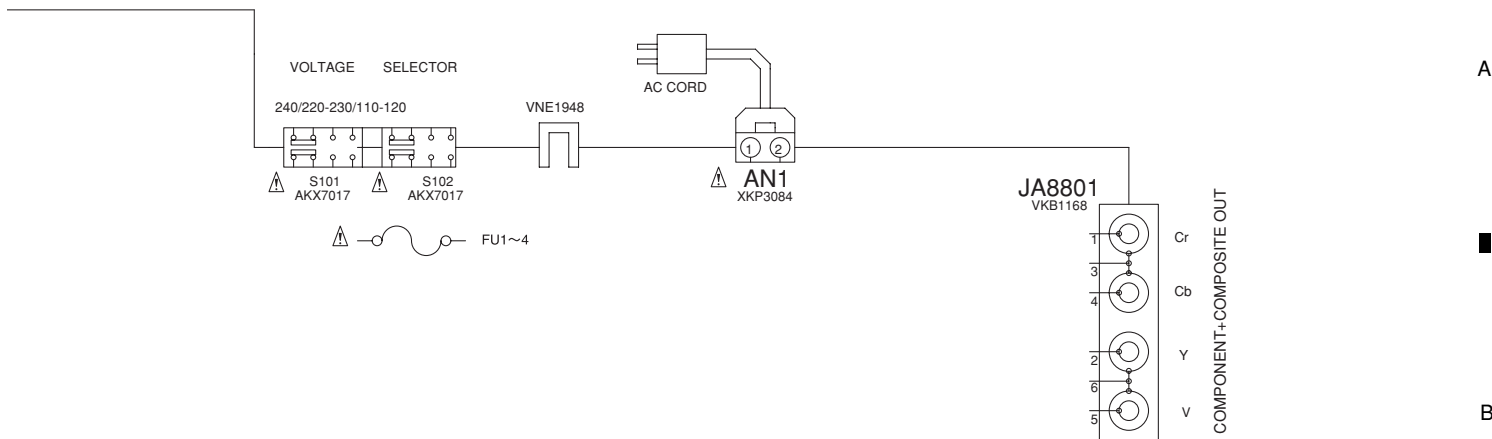
A  
B  
C  
D  
E  
F





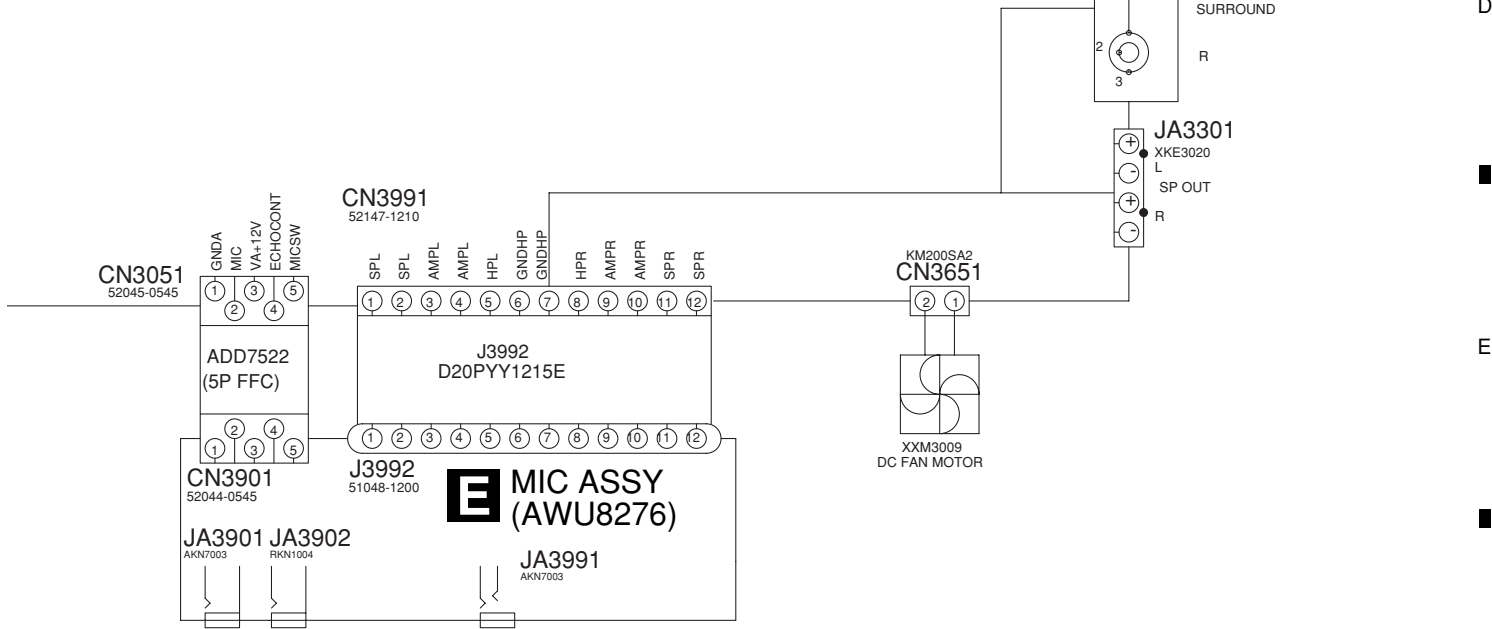
# 3.2 OVERALL WIRING CONNECTION DIAGRAM and LOAB ASSY






**C** MAIN ASSY (C1/4 - C4/4)  
 (AWM8013) (AWM8015)  
 (AWM8016)

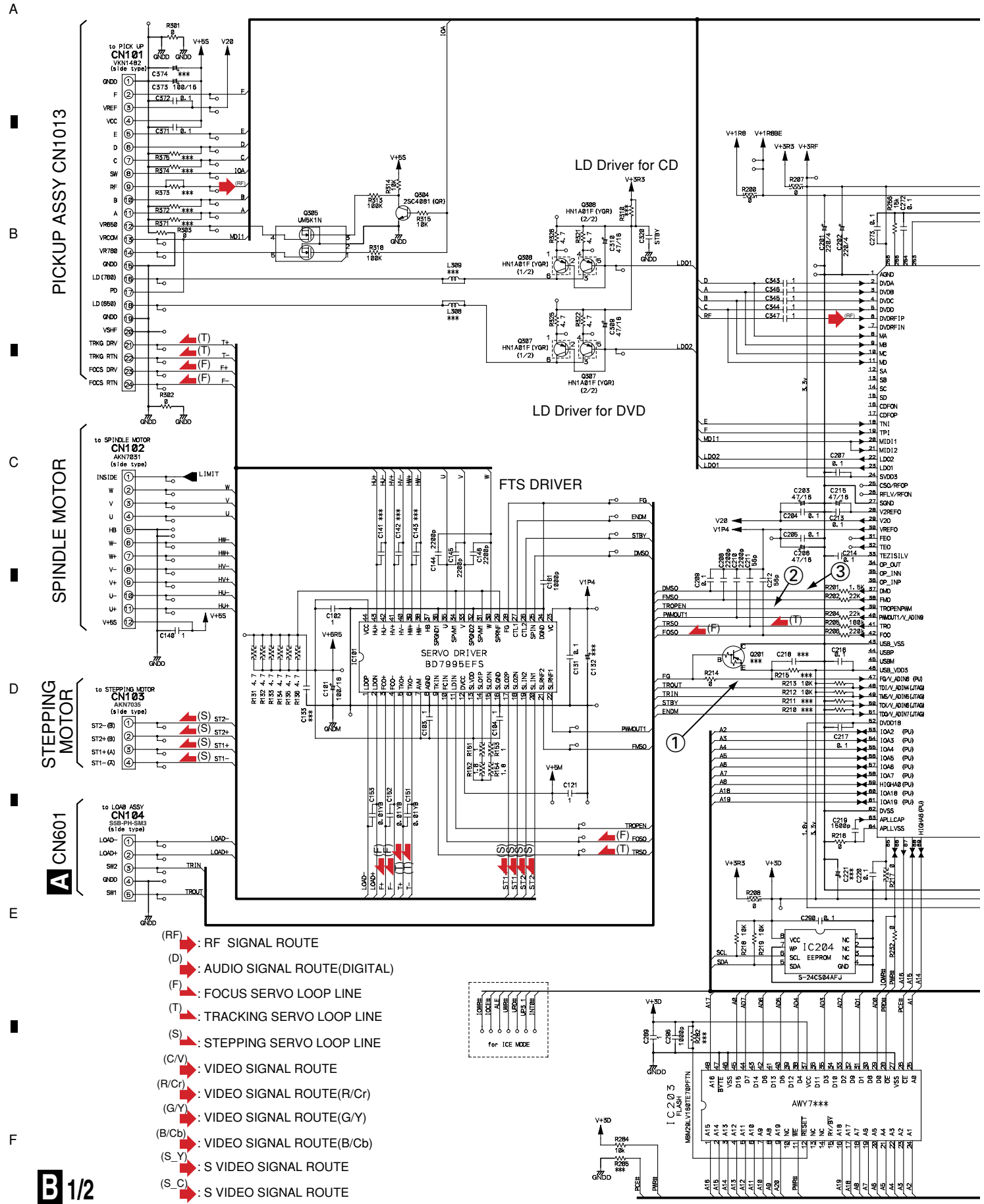
Model	XV-GX3			
	/DFLXJ	/DDXJ/RD	/MTXJ	/DDXJ/RB
	Singapore Malaysia Taiwan Philippines Indonesia	Mexico Middle & South America	Thailand	South Africa Middle East
MAIN ASSY	AWM8013	AWM8013	AWM8015	AWM8016
SUB ASSY	AWM8014	AWM8014	AWM8014	AWM8014
DISPLAY ASSY	AWU8275	AWU8275	AWU8275	AWU8275
MIC ASSY	AWU8276	AWU8276	AWU8276	AWU8276
FU1	REK1028	REK1028	REK1025	REK1028
FU2,3	REK1025	REK1025	—	REK1025
FU4	REK1029	REK1029	REK1029	REK1029
Main Trans(T1)	ATS7406	ATS7406	ATS7406	ATS7406



- When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
-  : The power supply is shown with the marked box.



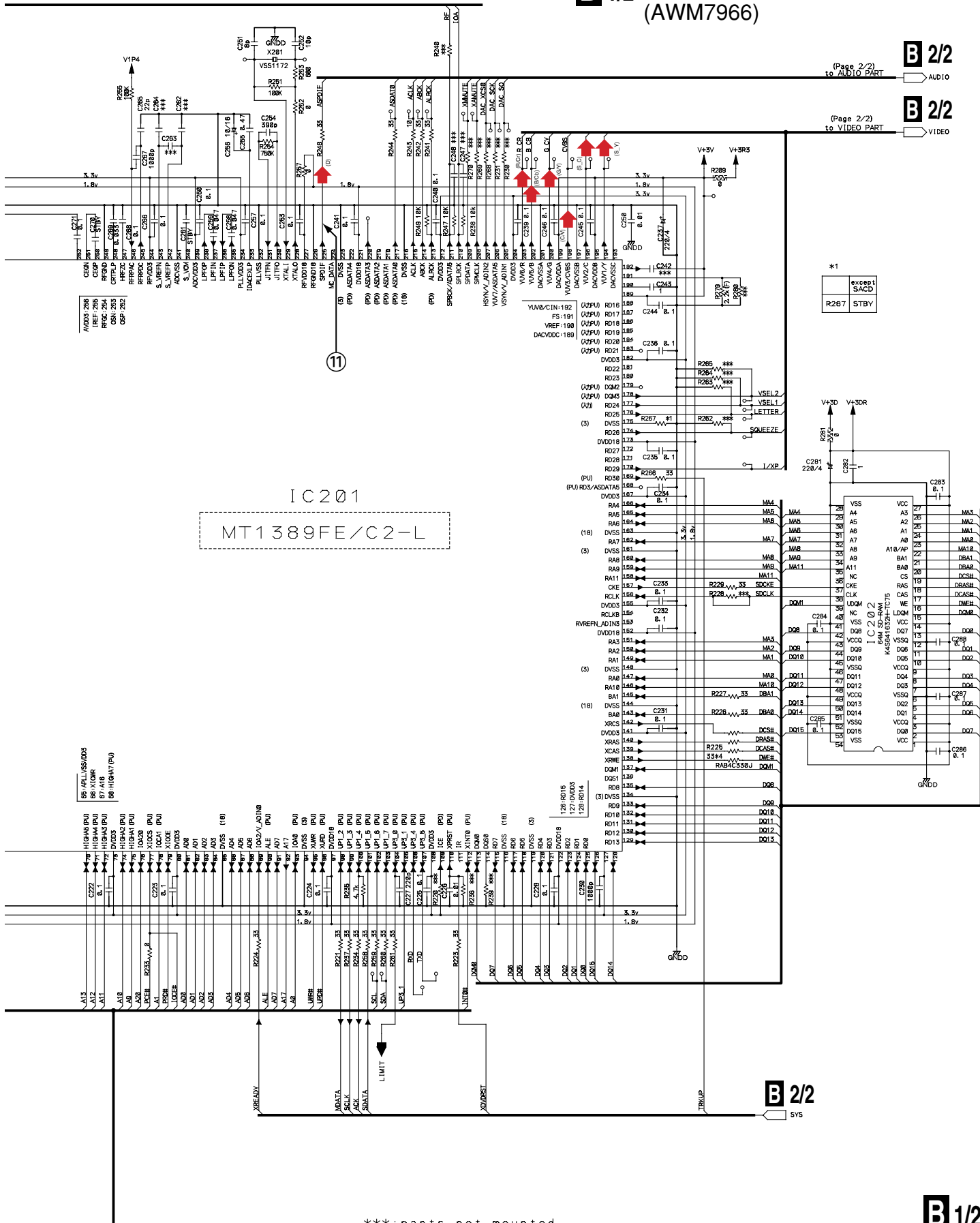
# 3.3 DVDM ASSY (1/2)



- (RF) : RF SIGNAL ROUTE
- (D) : AUDIO SIGNAL ROUTE(DIGITAL)
- (F) : FOCUS SERVO LOOP LINE
- (T) : TRACKING SERVO LOOP LINE
- (S) : STEPPING SERVO LOOP LINE
- (C/V) : VIDEO SIGNAL ROUTE
- (R/Cr) : VIDEO SIGNAL ROUTE(R/Cr)
- (G/Y) : VIDEO SIGNAL ROUTE(G/Y)
- (B/Cb) : VIDEO SIGNAL ROUTE(B/Cb)
- (S.Y) : S VIDEO SIGNAL ROUTE
- (S.C) : S VIDEO SIGNAL ROUTE



# B 1/2 DVD M ASSY (AWM7966)



B 2/2

(Page 2/2) to AUDIO PART AUDIO

B 2/2

(Page 2/2) to VIDEO PART VIDEO

IC201  
MT1389FE/C2-L

B 2/2

B 1/2

\*\*\*: parts not mounted

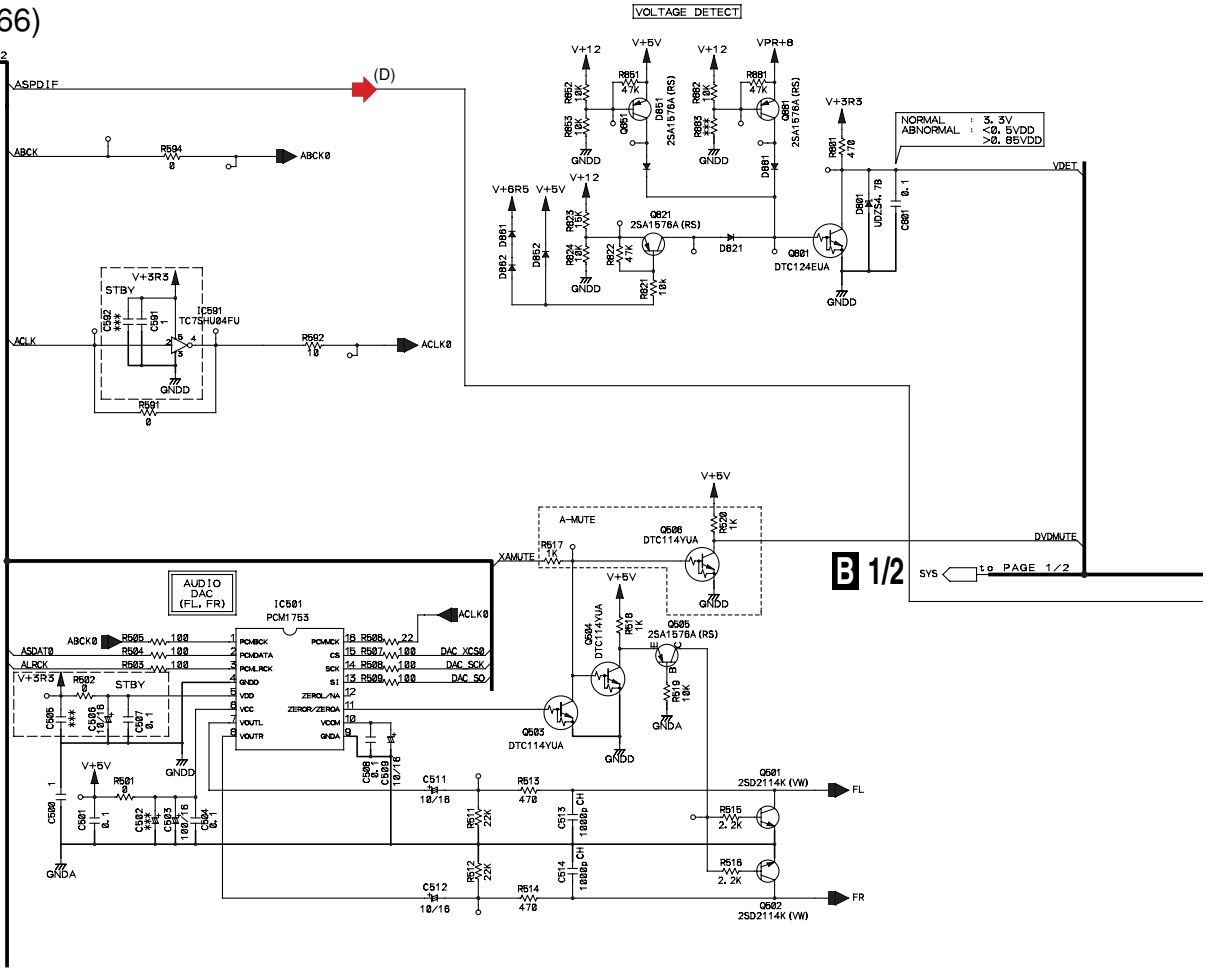
# 3.4 DVDM ASSY (2/2)

## B 2/2 DVDM ASSY (AWM7966)

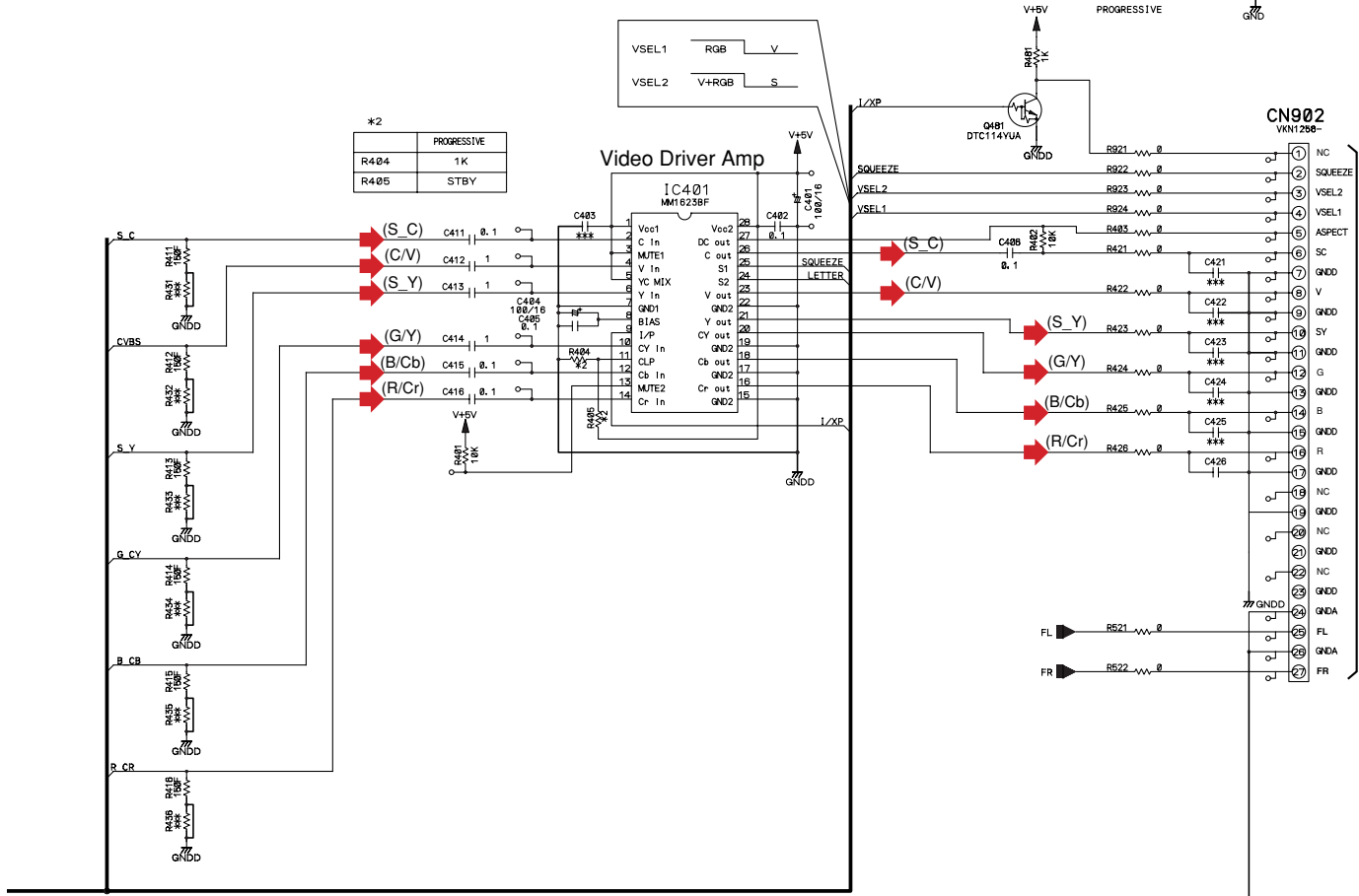
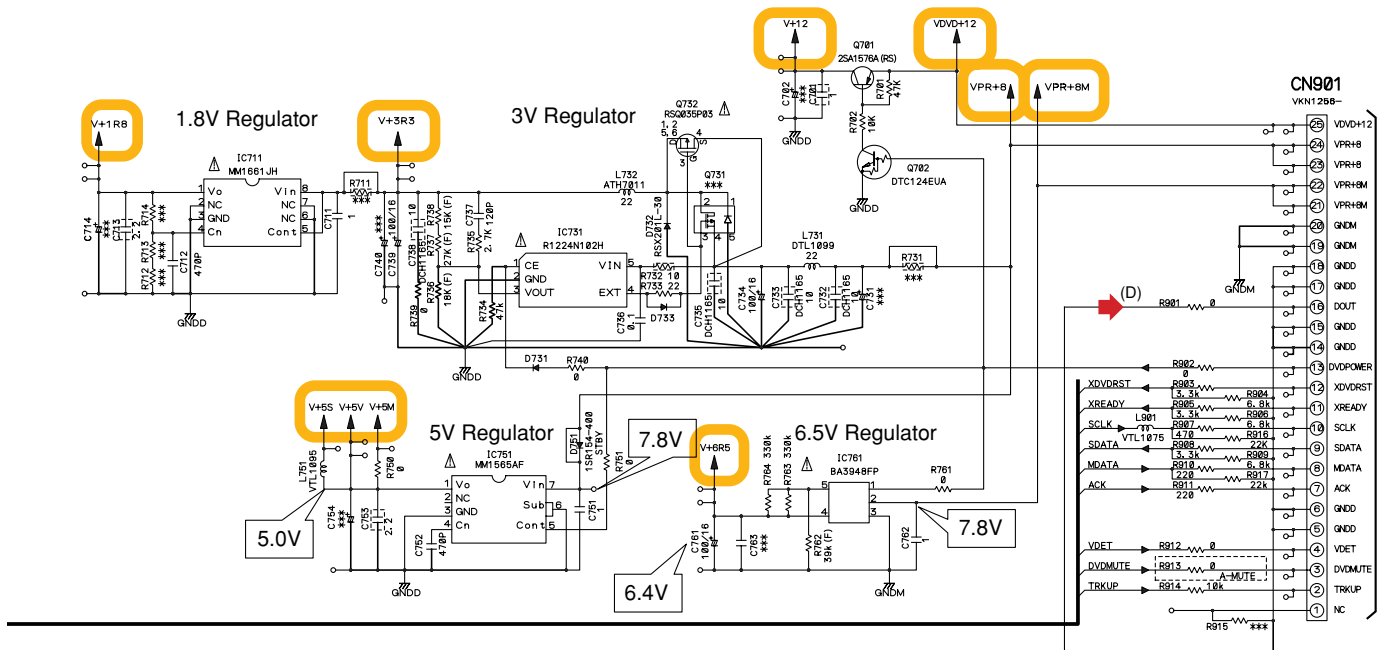
A  
B  
C  
D  
E  
F

AUD10 from PAGE 1/2

### B 1/2



B 1/2 from PAGE 1/2



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

\*\*\*:parts not mounted

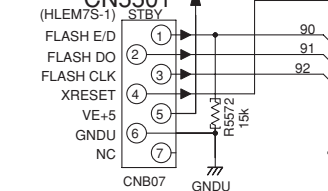
**B** 2/2

# 3.5 MAIN ASSY (1/4)

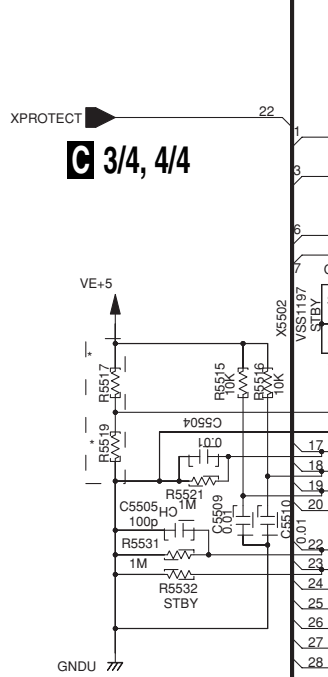
## C 1/4 MAIN ASSY (AWM8013 : DFLXJ, DDXJ/RD) (AWM8015 : MTXJ) (AWM8016 : DDXJ/RB)

	AWM8013	AWM8015	AWM8016
	DDXJ/RD,DFLXJ	MTXJ	DDXJ/RB
for RDS	R5505 STBY	STBY	STBY
	R5553 STBY	STBY	STBY
	R5554 STBY	STBY	STBY
for SIMUKE	R5517 STBY	47k	39k
	R5519 47k	STBY	22k

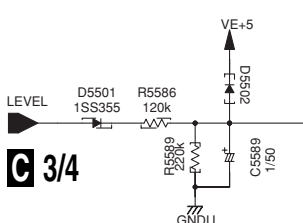
### FLASH U P



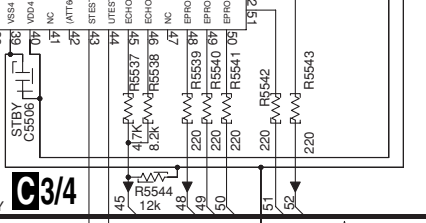
### C 3/4, 4/4



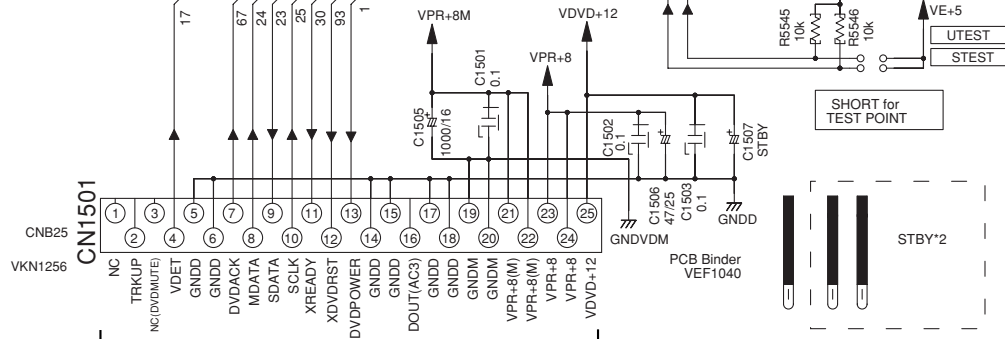
### C 3/4



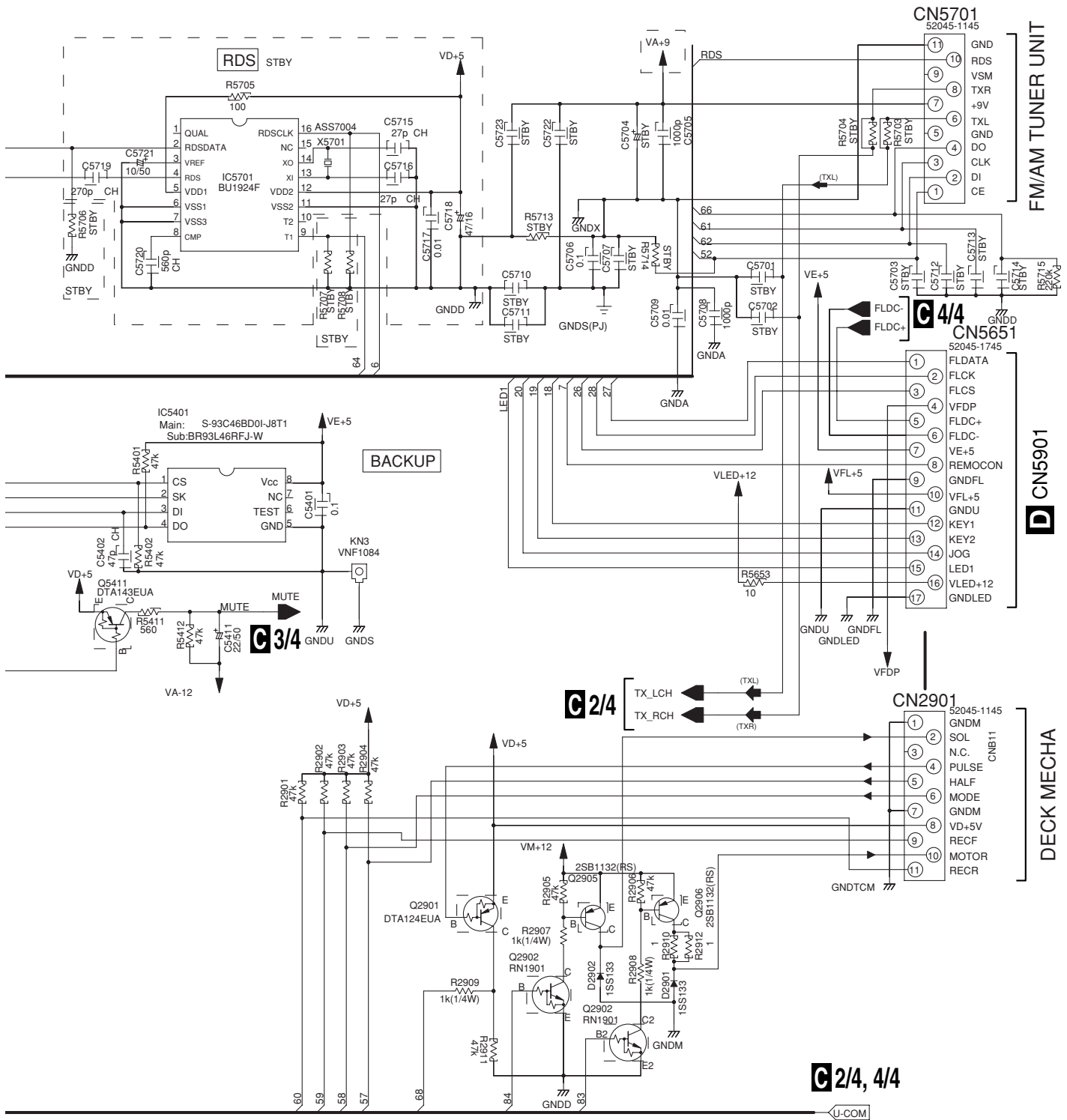
### C 3/4



### B 2/2 CN901



### C 1/4



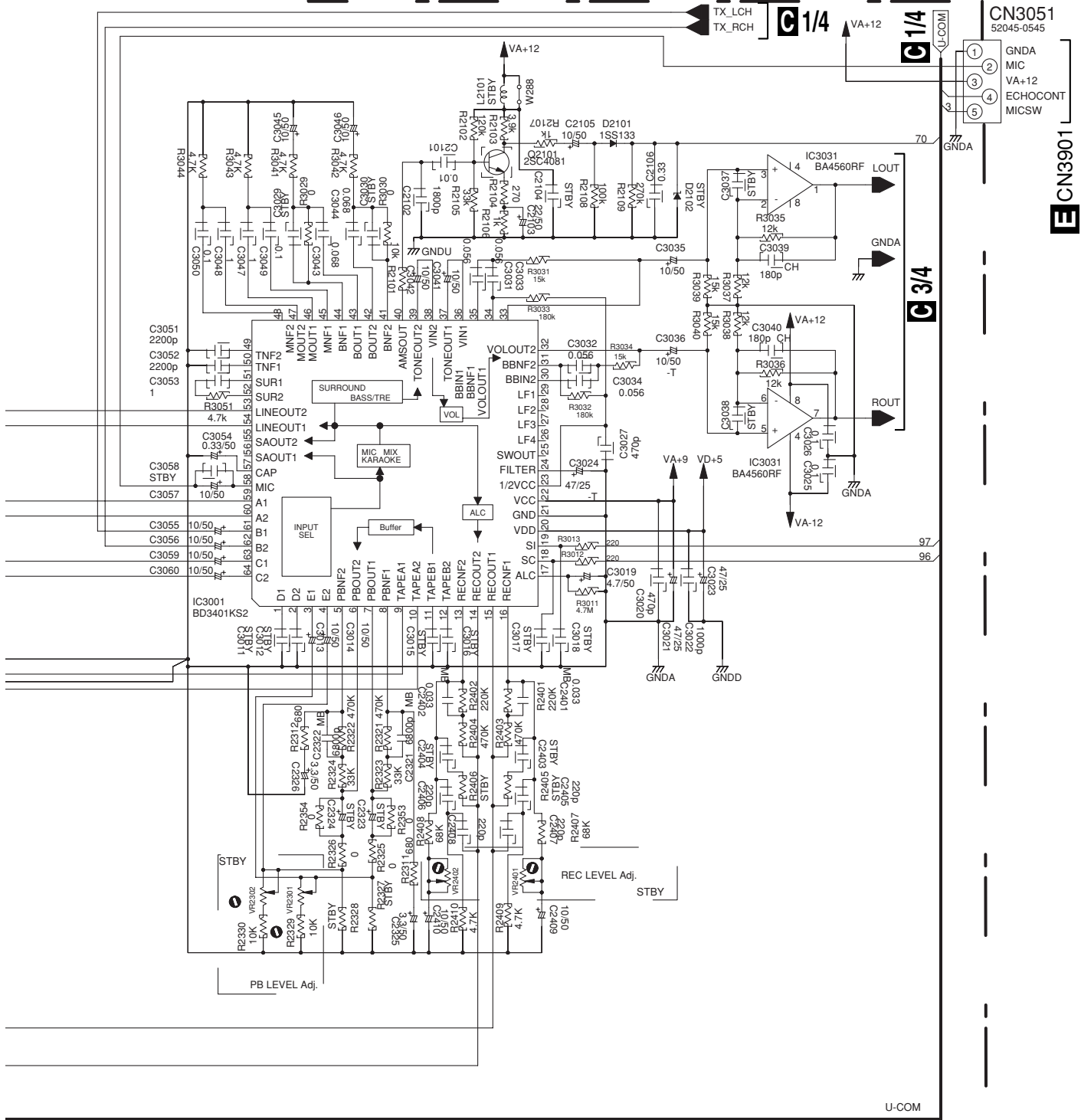
**NOTES**

ALL CAPACITORS ARE IN  $\mu$ F  
 UNLESS OTHERWISE SPECIFIED  
 CH:CCSRCH\*\*\*  
 OTHER:CKSRyb\*\*\*  
 TS:CE\*\*\*\*M##-TS  
 AL:CEAL\*\*\*\*M##-  
 (OTHER:CEAT\*\*\*\*M##)  
 ALL INDUCTORS ARE IN  $\mu$ H  
 UNLESS OTHERWISE SPECIFIED  
 LAU\*\*\*J  
 ALL RESISTORS ARE IN  
 UNLESS OTHERWISE SPECIFIED  
 $\Delta$ X7: -1/16W     $\Delta$ X7: -1/4WPU  
 NoAssign1    NoAssign2  
 (1/2W): RD1/2PM\*\*J

**C 1/4**



**C 2/4** MAIN ASSY  
 (AWM8013 : DFLXJ, DDXJ/RD)  
 (AWM8015 : MTXJ) (AWM8016 : DDXJ/RB)



ALL RESISTORS ARE IN  
 UNLESS OTHERWISE SPECIFIED  
 ΔΔΔ 1/16W ΔΔΔΔ 1/4WPU

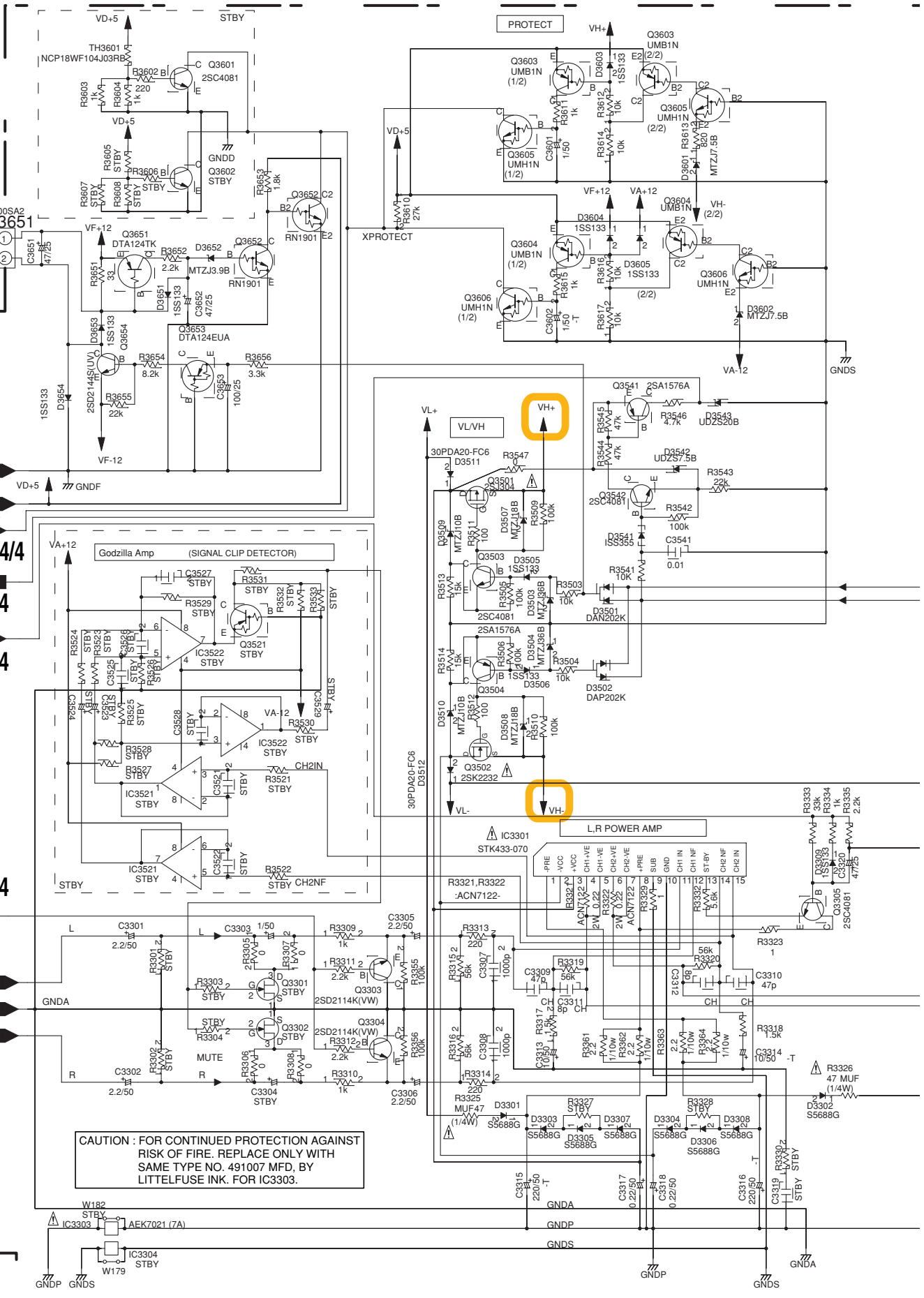
ALL COILS ARE IN μH  
 UNLESS OTHERWISE SPECIFIED  
 ~~~ LAU\*\*\*J

ALL DIODES ARE 1SS133  
 UNLESS OTHERWISE SPECIFIED  
 → 1SS133  
 → MTZJ\*\*\*  
 DZ



# 3.7 MAIN ASSY (3/4)

A  
B  
C  
D  
E  
F



CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE NO. 491007 MFD, BY LITTELFUSE INK. FOR IC3303.

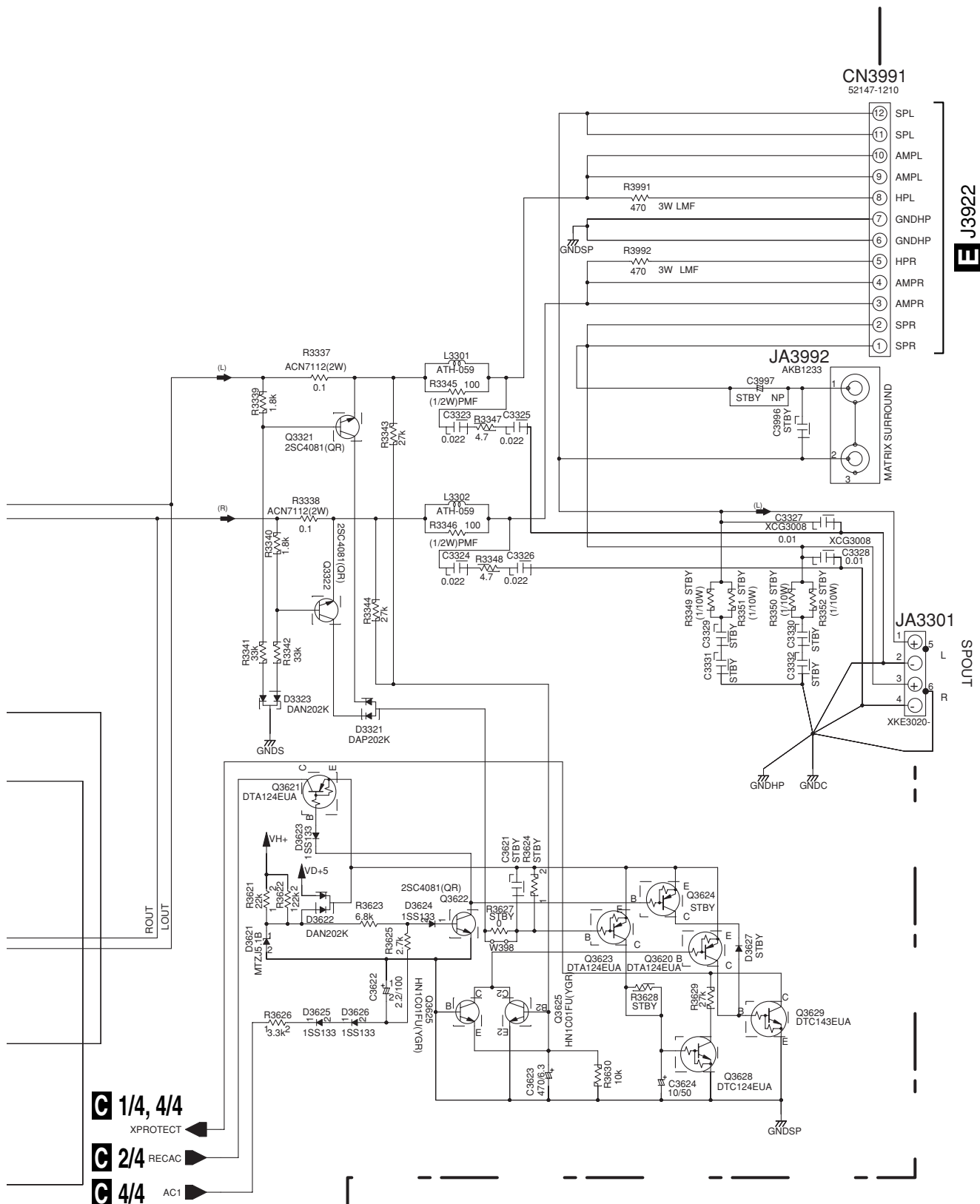
TO FAN  
FAN+  
FAN-  
GNDP  
VD+5  
XPROTECT  
VA+12  
LEVEL  
RELAY  
MUTE  
L  
GNDNA  
ROUT  
R  
GNDP  
GNDNA  
GNDP  
GNDNA

C 4/4  
C 1/4, 4/4  
C 1/4  
C 1/4  
C 1/4  
C 2/4  
C 3/4

1 2 3 4



**C 3/4** MAIN ASSY  
 (AWM8013 : DFLXJ, DDXJ/RD)  
 (AWM8015 : MTXJ) (AWM8016 : DDXJ/RB)



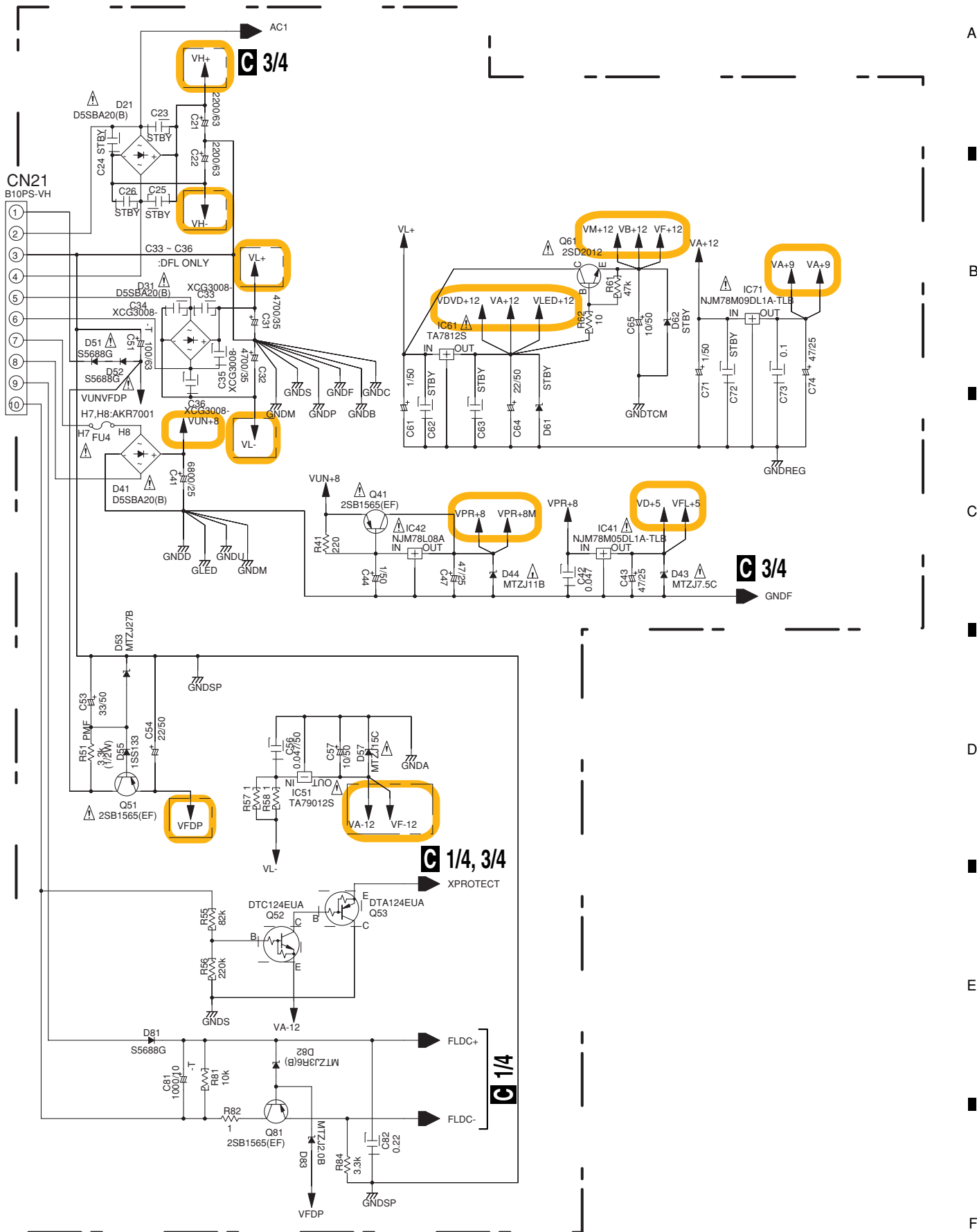
- C 1/4, 4/4** XPROTECT
- C 2/4** RECAC
- C 4/4** AC1

**E** J3922

JA3301  
 SPOUT  
 L  
 R

**C 3/4**



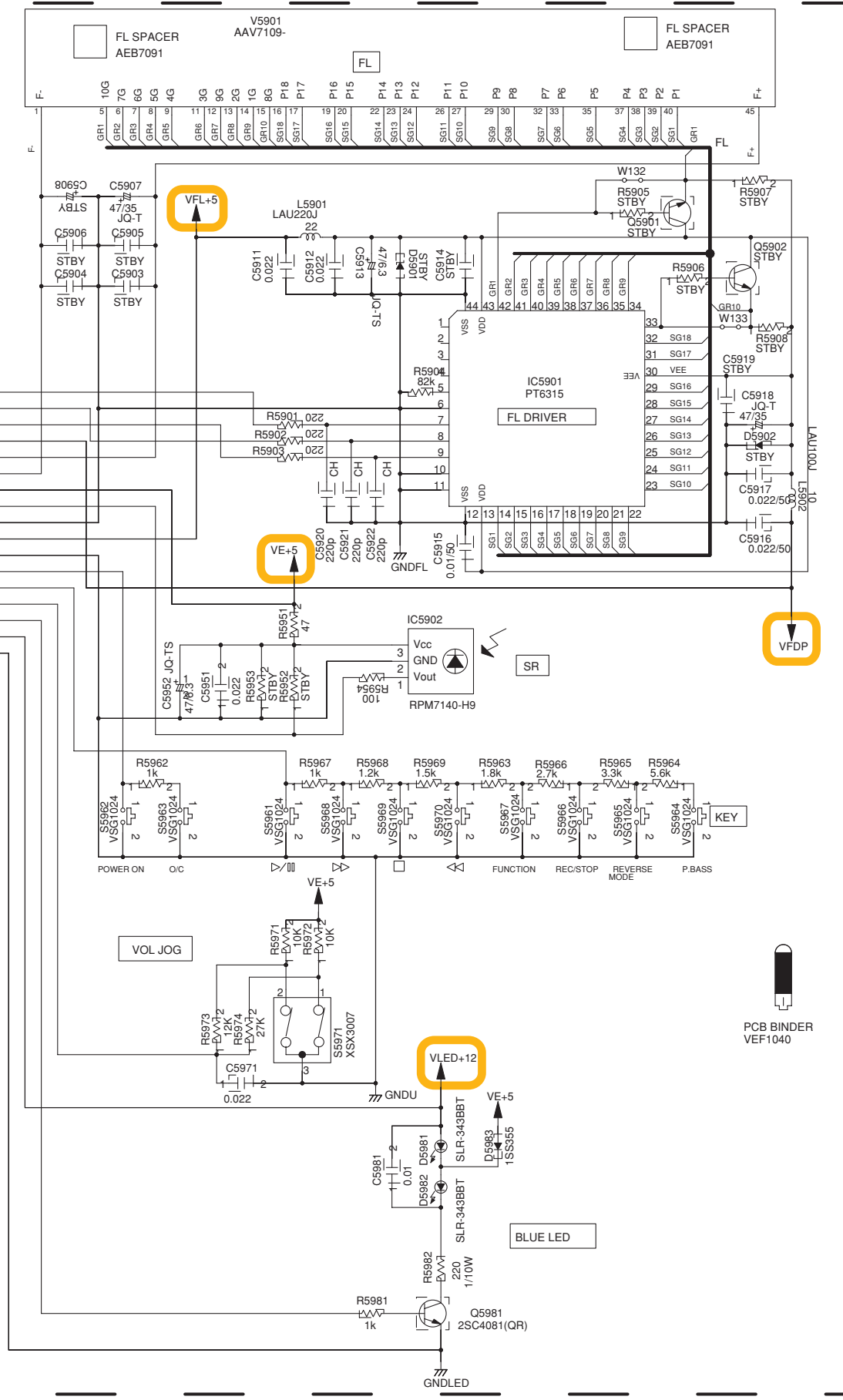


# 3.9 DISPLAY and MIC ASSYS

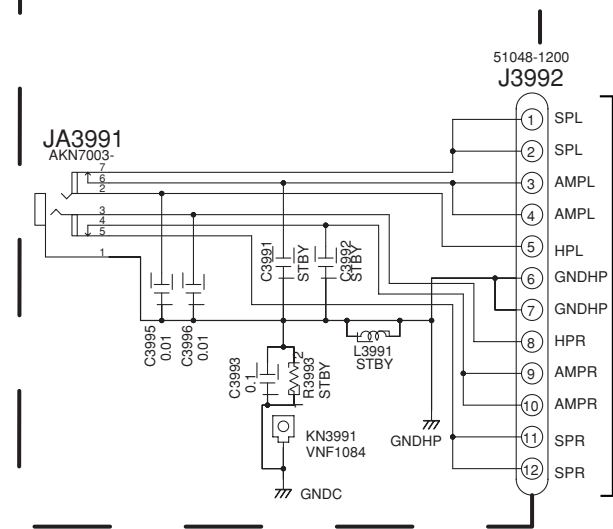
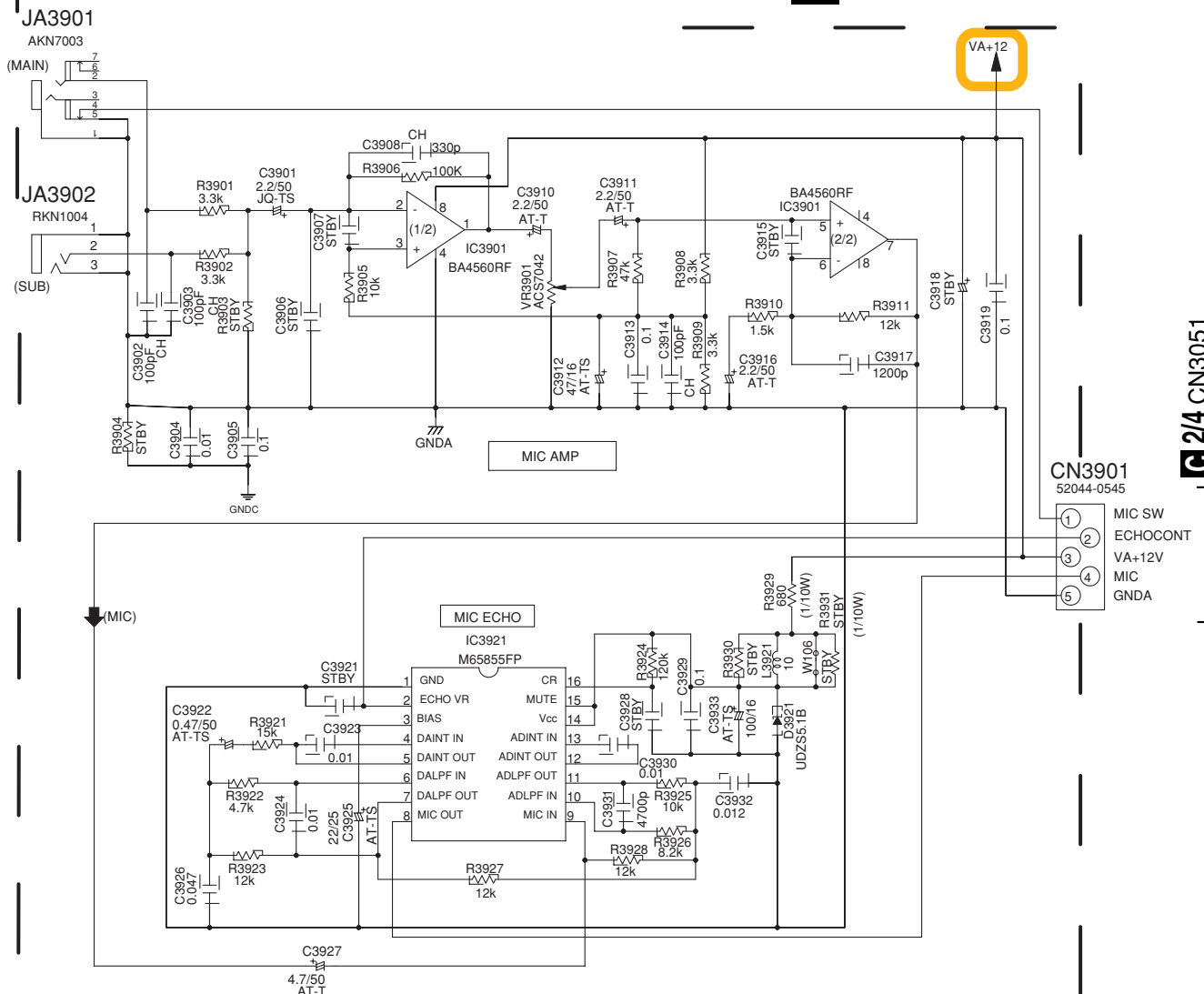
## D DISPLAY ASSY (AWU8275)

A  
B  
C  
D  
E  
F

C 1/4 CN5651



# MIC ASSY (AWU8276)



## 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
- LAU\*\*\*J-TA

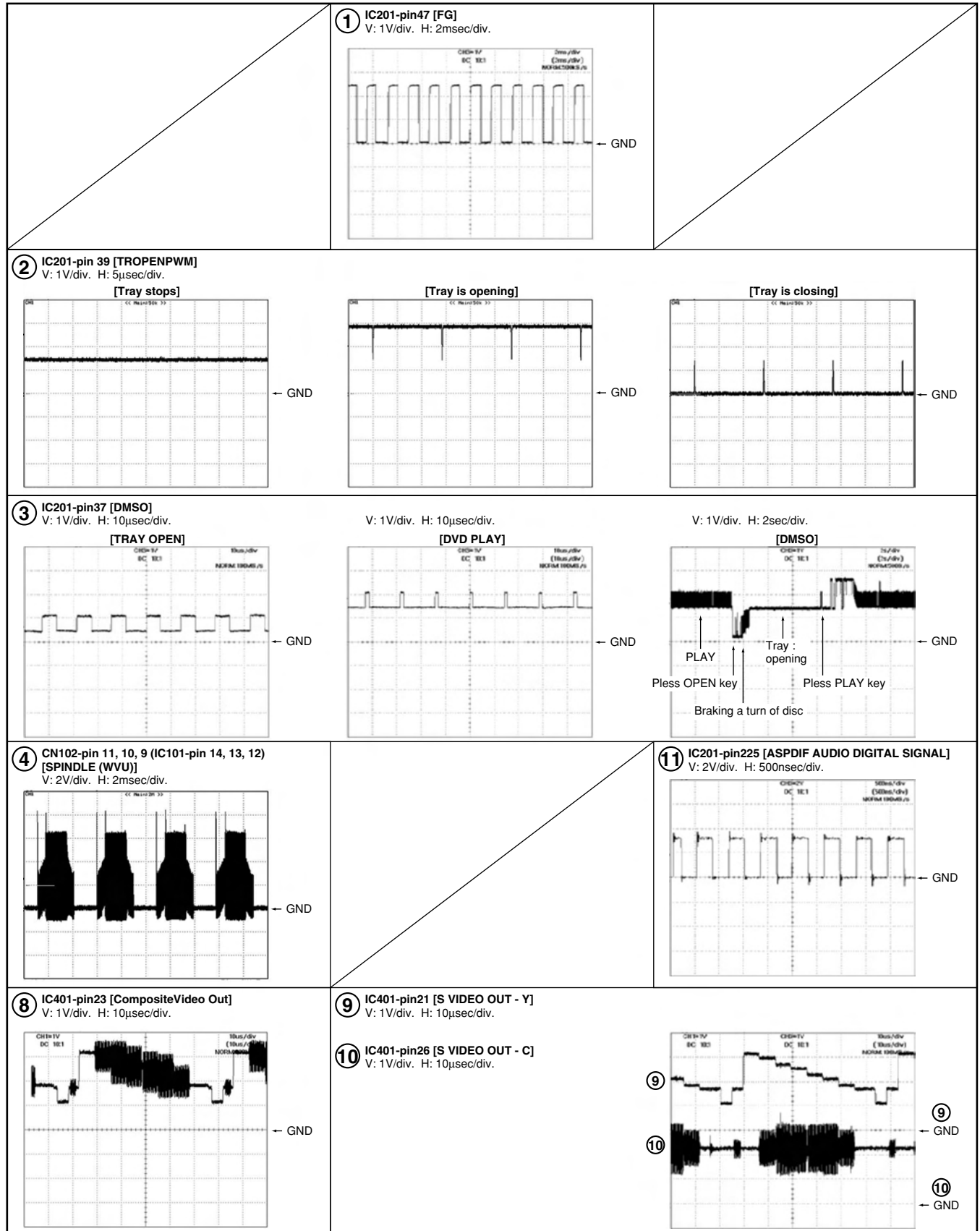
# 3.10 WAVEFORMS

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

## B DVDM ASSY

### Measurement condition ;




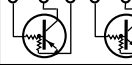






- No. 1 to 10 : reference A1 (DVD), T2-chp 19, Color-bar
- No. 11 to 14 : reference A1 (DVD), T1



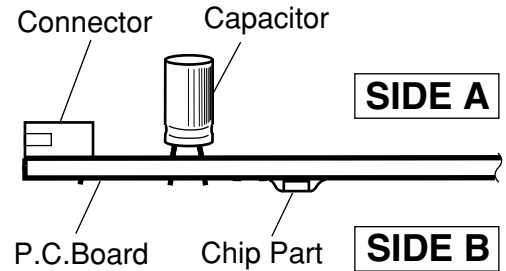
# 4. PCB CONNECTION DIAGRAM

## NOTE FOR PCB DIAGRAMS :

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

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

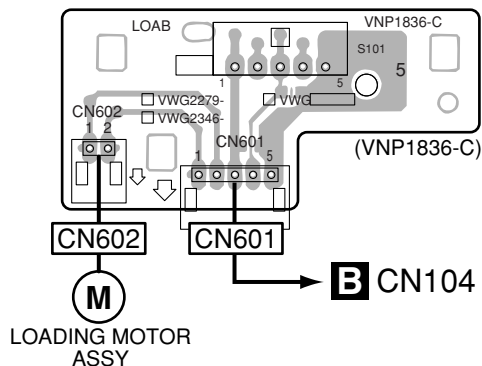
3. The parts mounted on this PCB include all necessary parts for several destinations.
- For further information for respective destinations, be sure to check with the schematic diagram.
4. View point of PCB diagrams.



## 4.1 LOAB ASSY

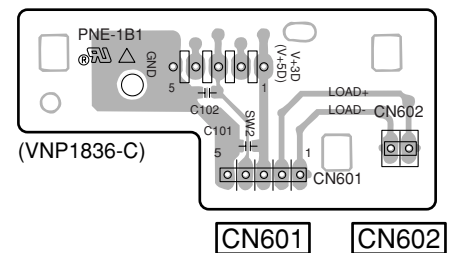
**SIDE A**

### **A** LOAB ASSY



**SIDE B**

### **A** LOAB ASSY



**A**

**A**



# 4.2 DVDM ASSY

**SIDE A**

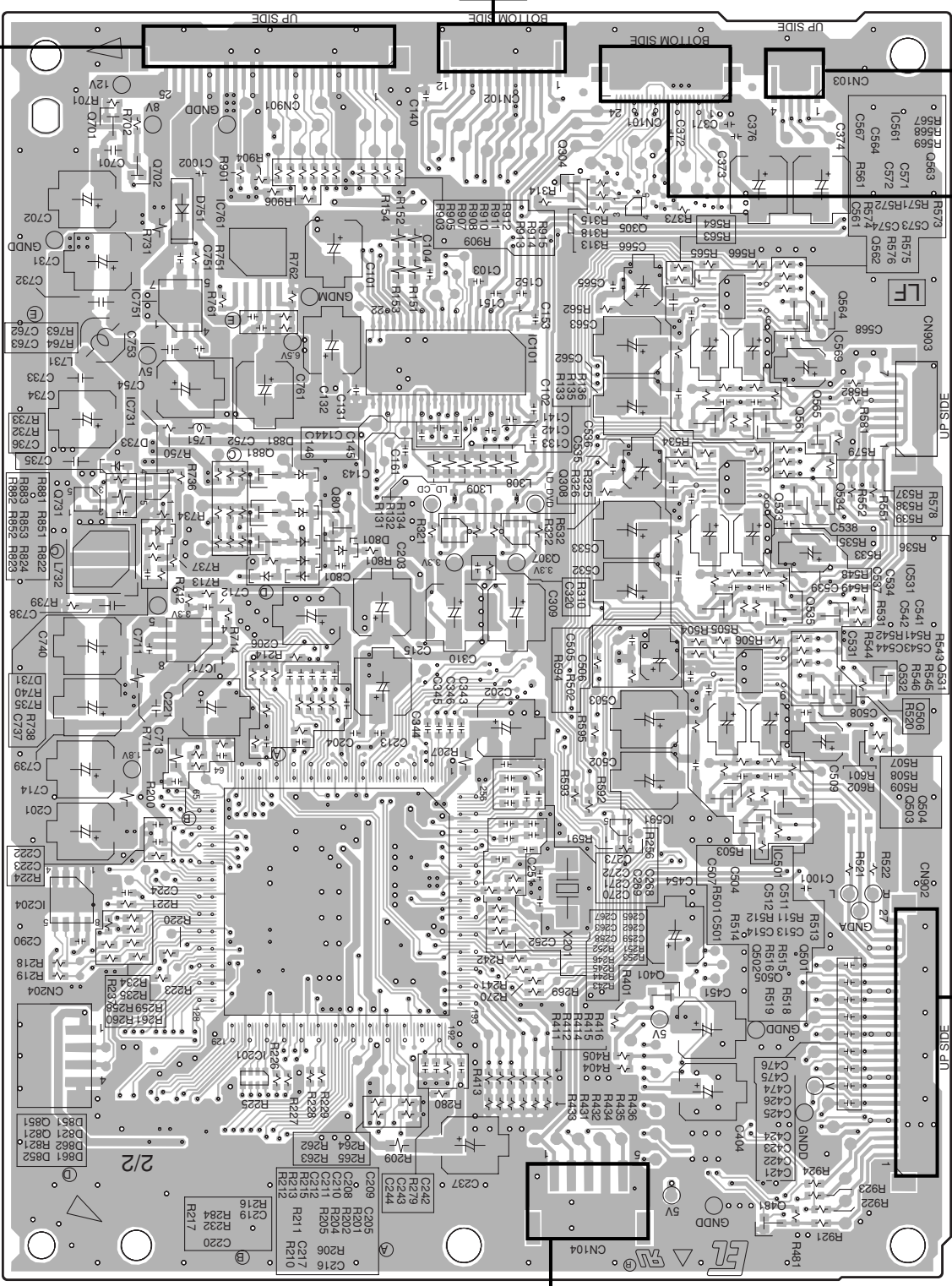
**SIDE A**

**B** DVDM ASSY

To STEPPING MOTOR

To SPINDLE MOTOR

A  
B  
C  
D  
E  
F



**C** CN1501

To PICKUP ASSY

**C** CN3001

CN104

(ANP7527-A)

**B**

**A** CN601

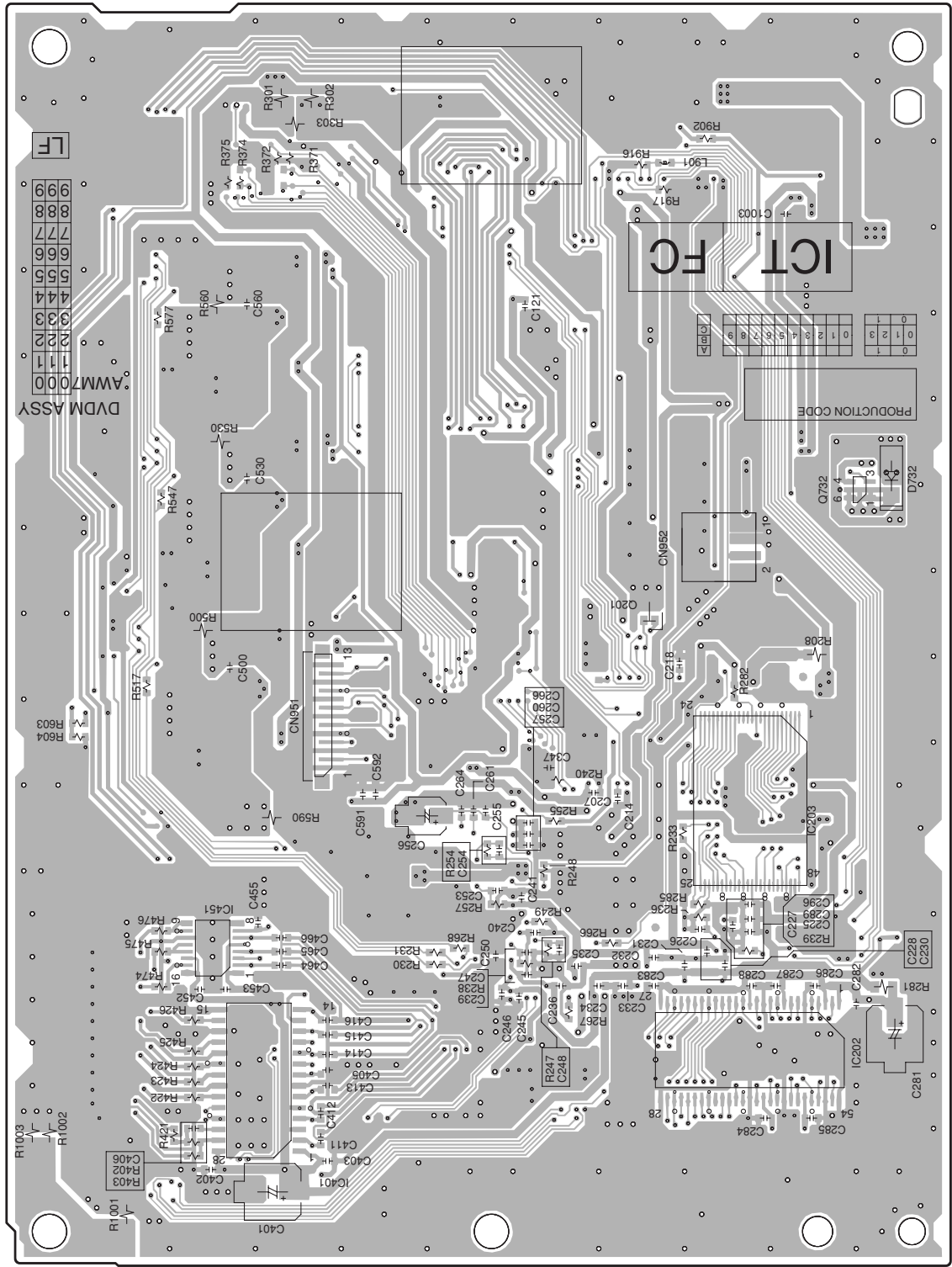
**B**



**SIDE B**

**SIDE B**

# B DVDM ASSY



(ANP7527-A)

**B**

**B**

# 4.3 MAIN ASSY

**SIDE A**

**C MAIN ASSY**

DI P

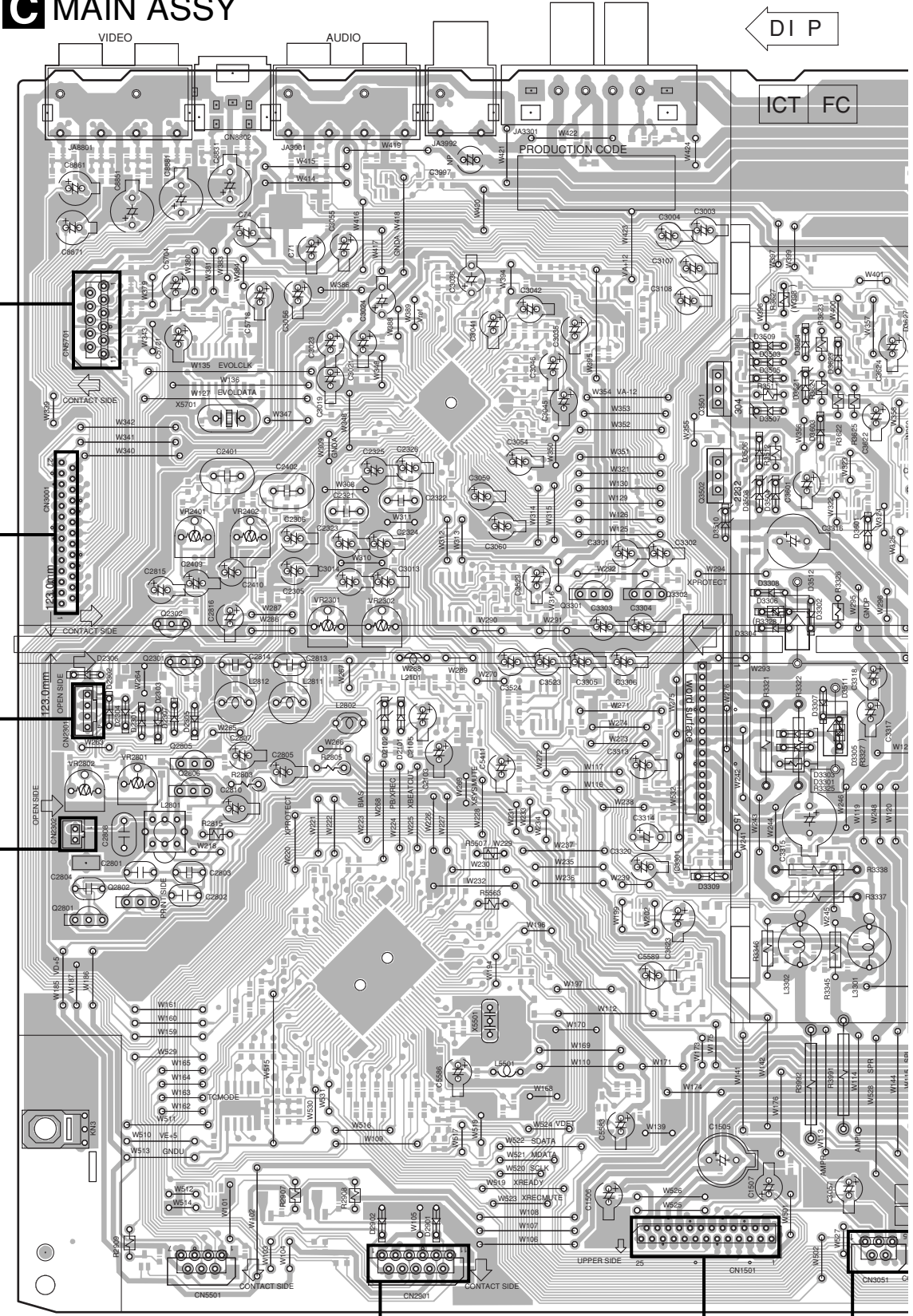
A  
B  
C  
D  
E  
F

To FM/AM TUNER UNIT  
To DECK MECHA

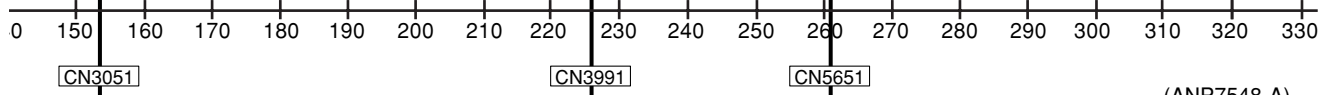
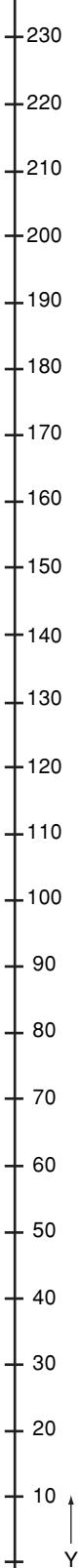
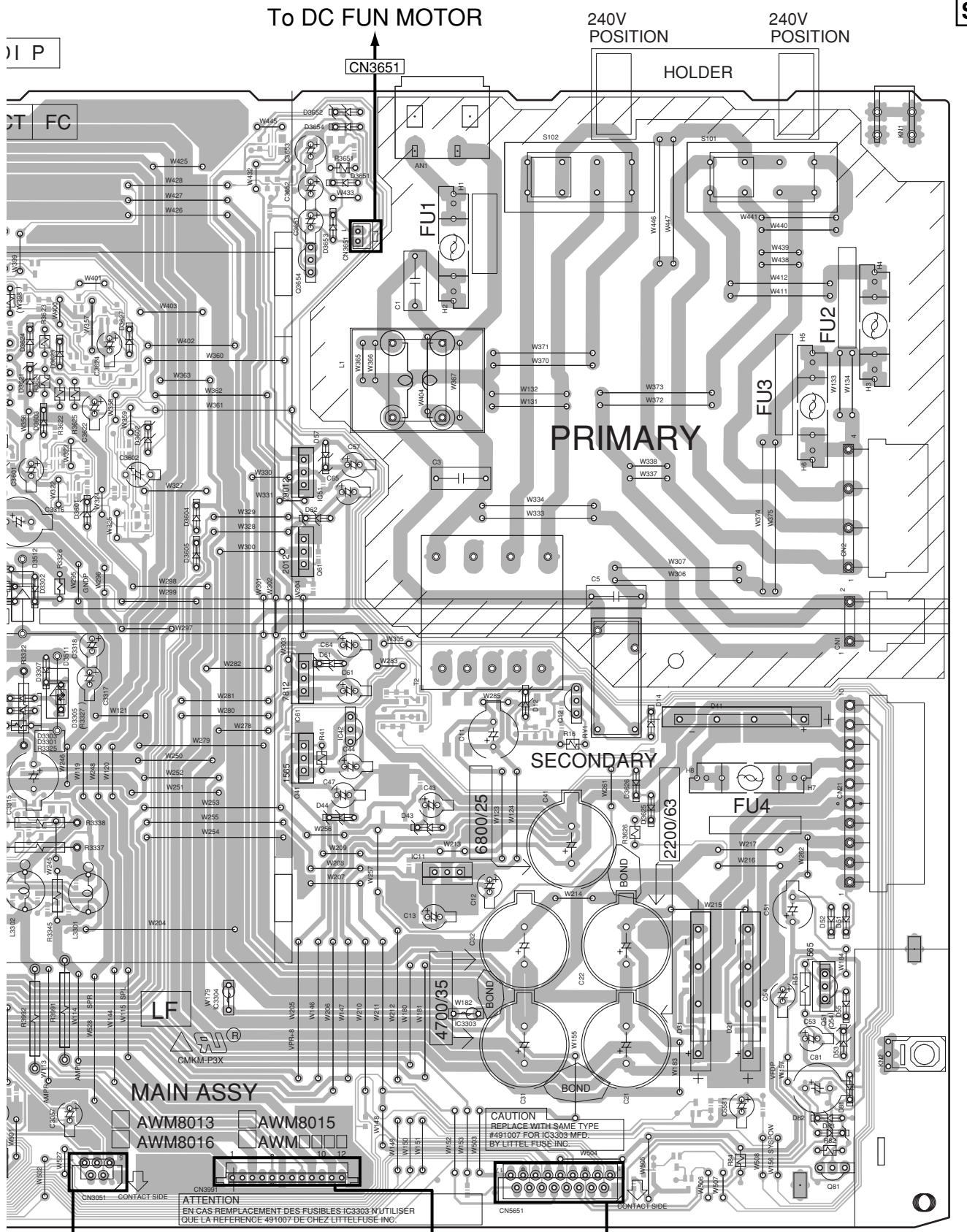
230  
220  
210  
200  
190  
180  
170  
160  
150  
140  
130  
120  
110  
100  
90  
80  
70  
60  
50  
40  
30  
20  
10  
0

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160

To DECK MECHA  
To DECK MECHA  
To DECK MECHA



**SIDE A**



**E** CN3901

**E** J3992

**D** CN5901

**C**

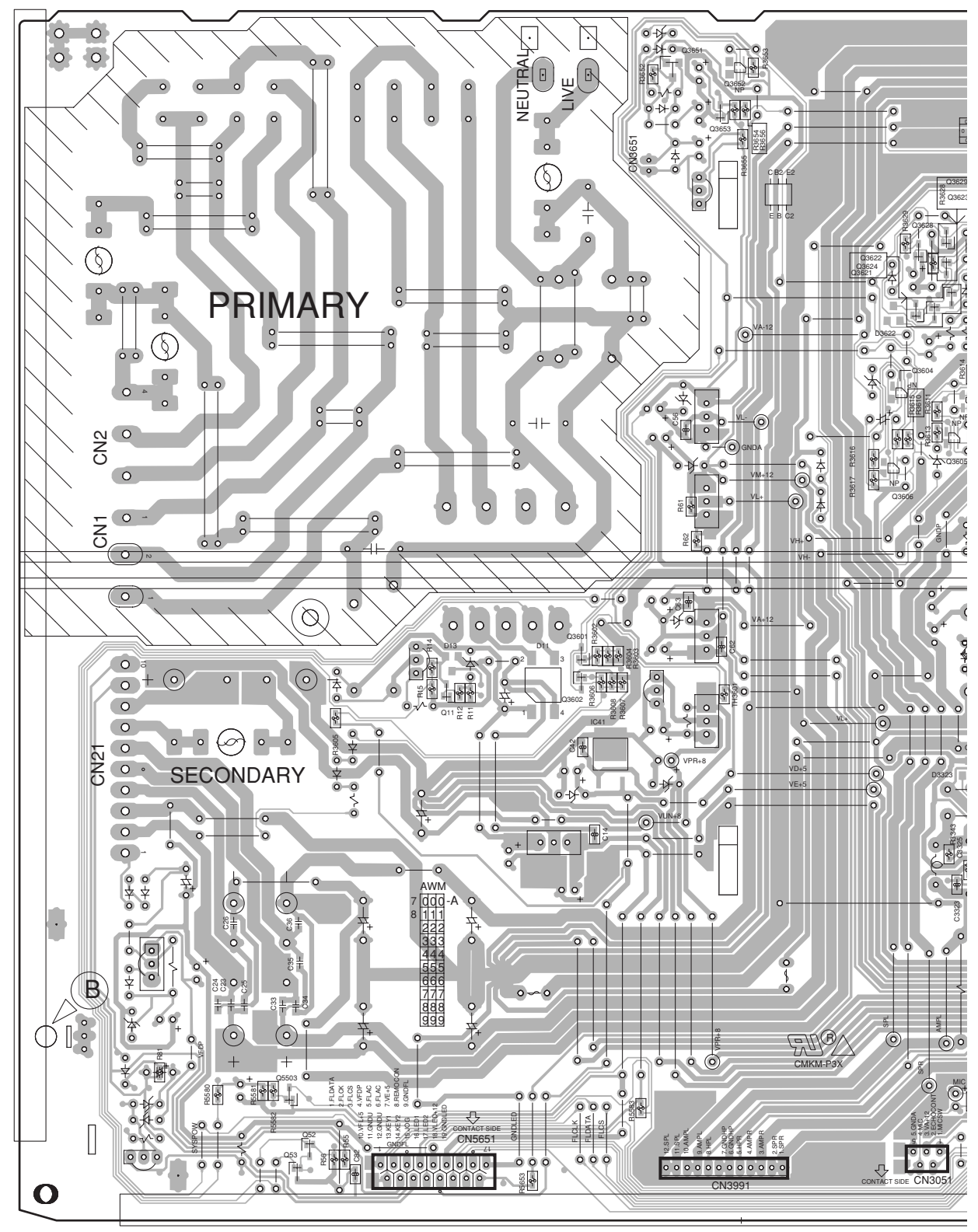
XV-GX3

**SIDE B**

**C MAIN ASSY**

230  
220  
210  
200  
190  
180  
170  
160  
150  
140  
130  
120  
110  
100  
90  
80  
70  
60  
50  
40  
30  
20  
10  
0

Y



330 320 310 300 290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0

X

CN5651 CN3991 CN3051

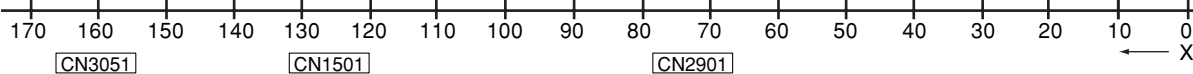
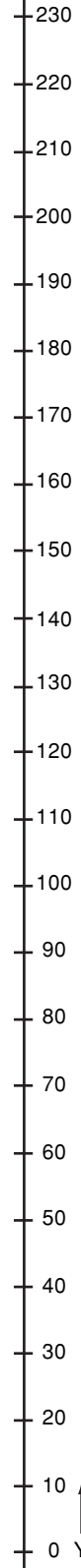
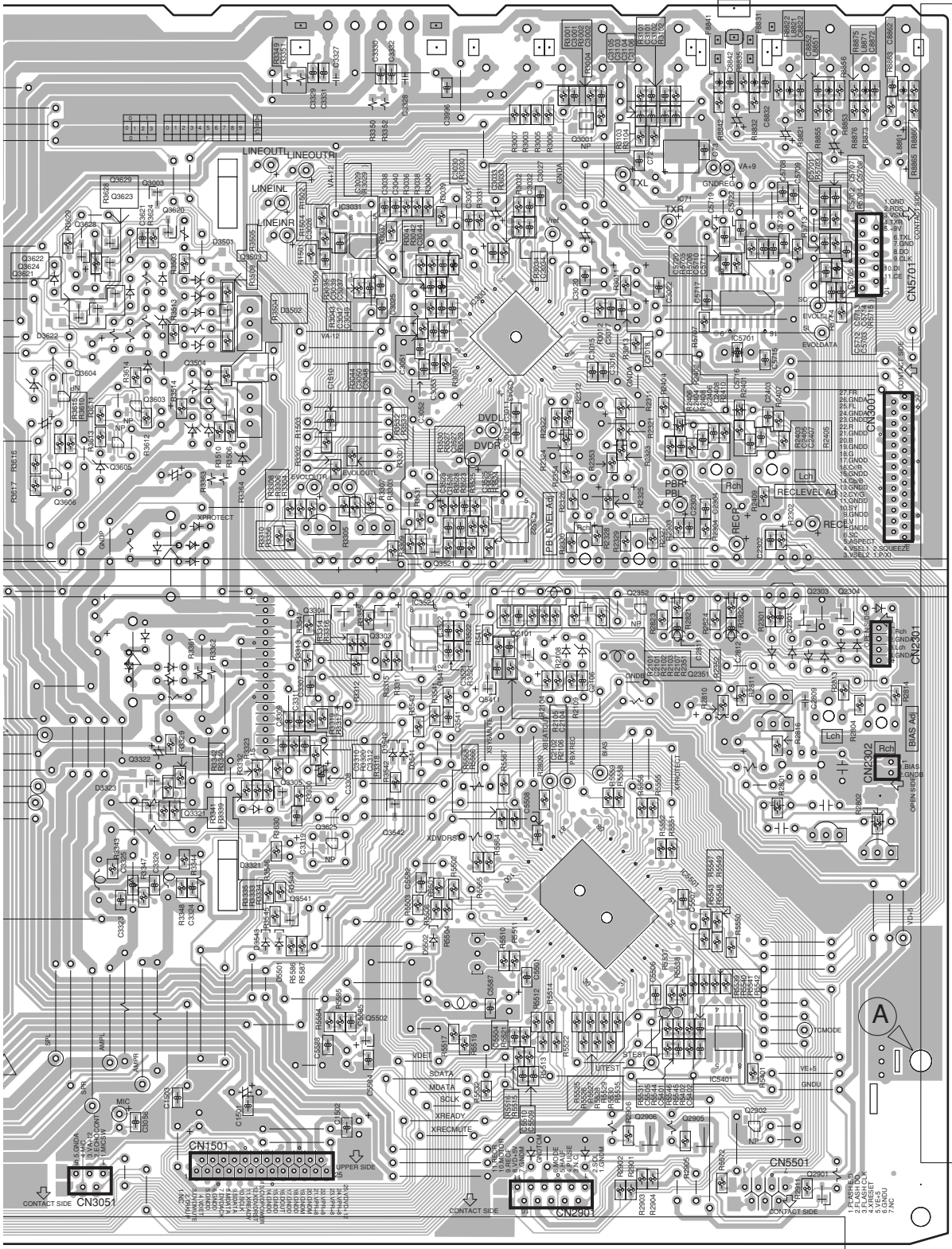
**C**

XV-GX3



SIDE B

A B C D E F



(ANP7548-A)

XV-GX3



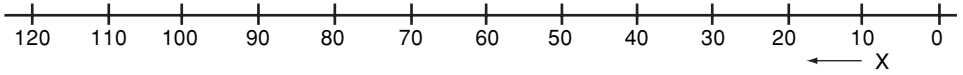
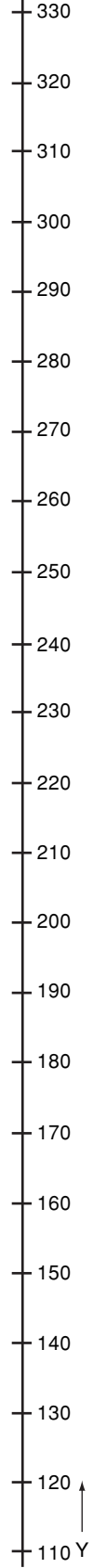
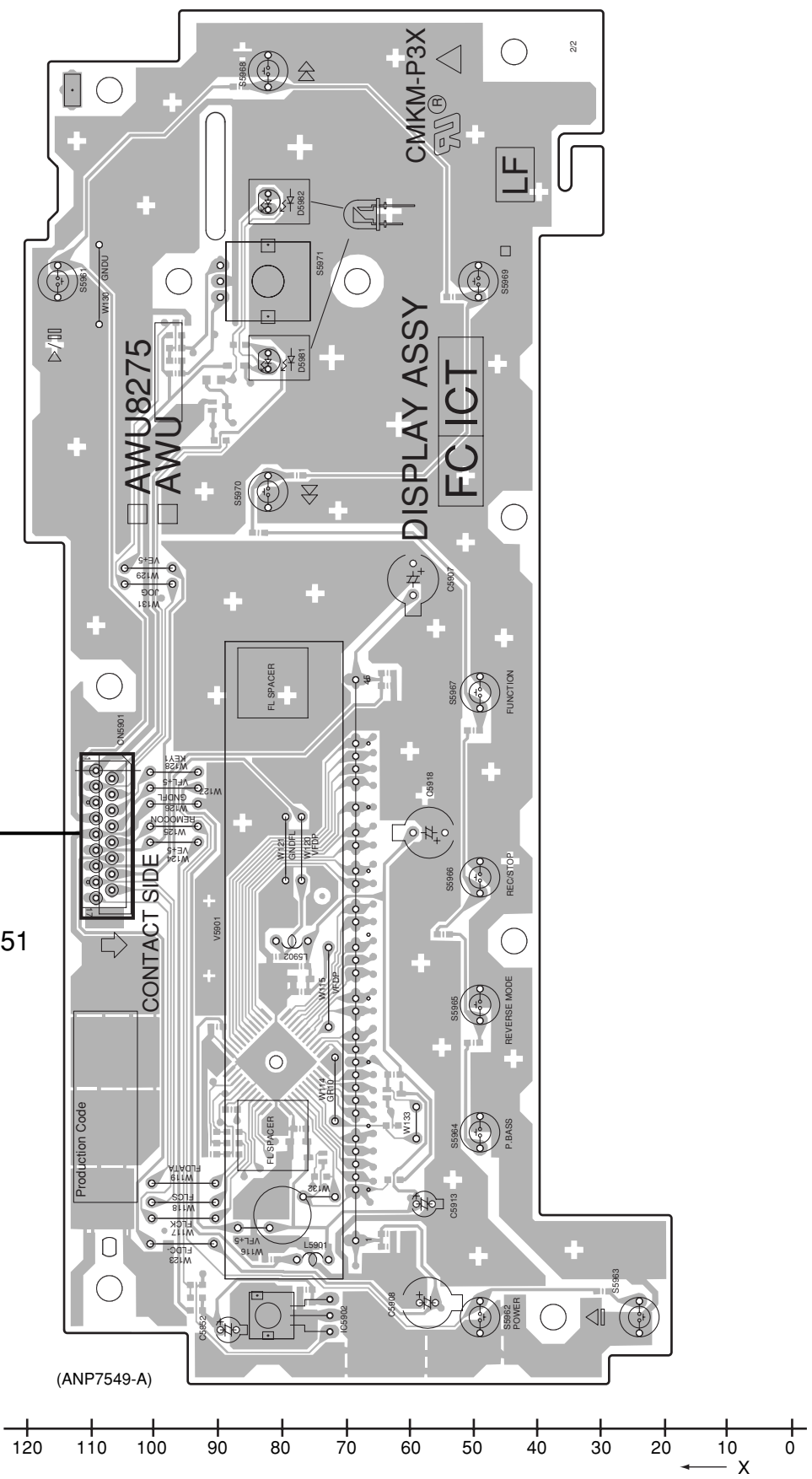
# 4.4 DISPLAY ASSY

**SIDE A**

**SIDE A**

## D DISPLAY ASSY

A  
B  
C  
D  
E  
F



**C** CN5651

CN5901

(ANP7549-A)

**D**

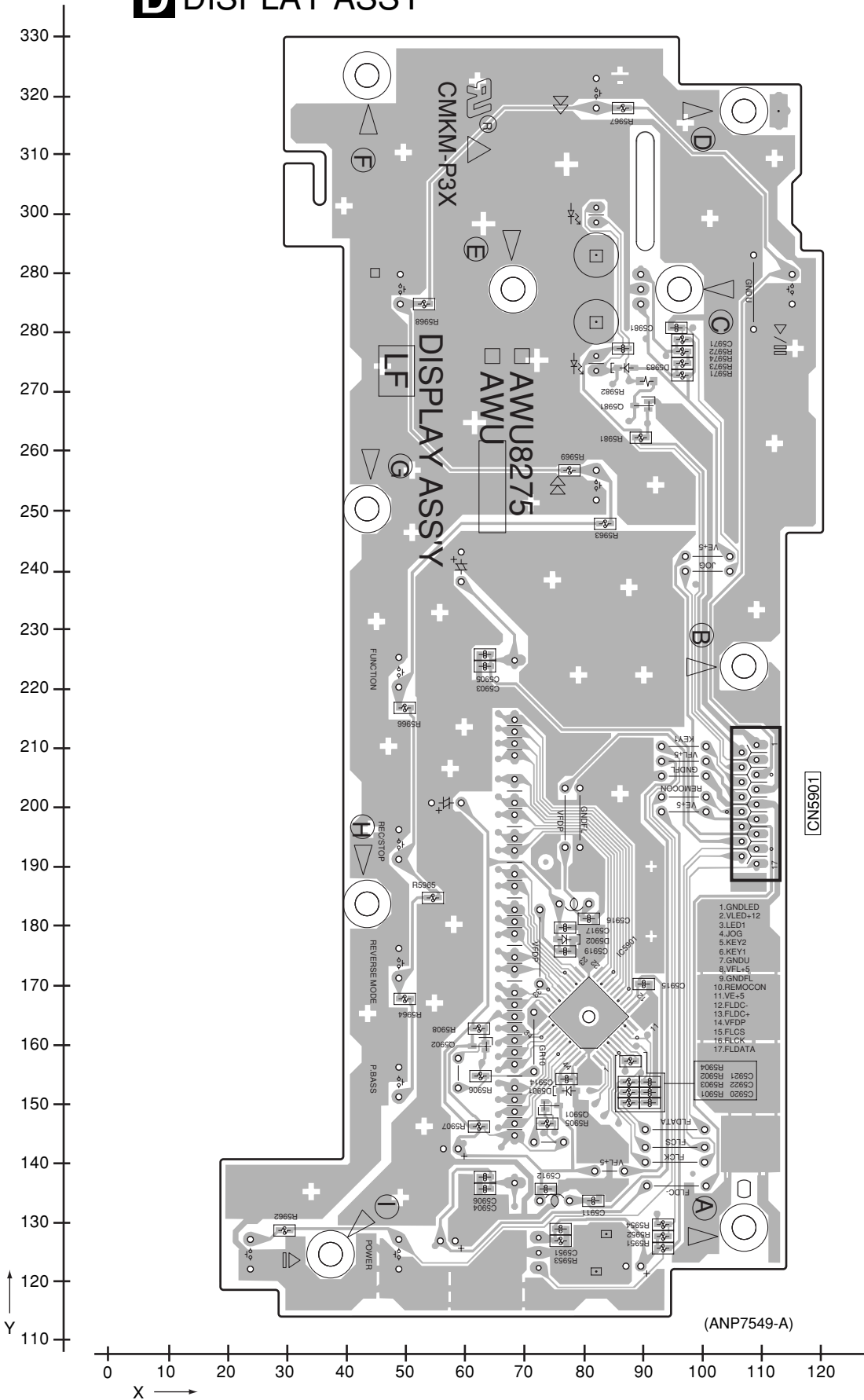
**D**

XV-GX3

**SIDE B**

**SIDE B**

# D DISPLAY ASSY



(ANP7549-A)

**D**

**D**



# 4.5 MIC ASSY

**SIDE A**

**SIDE A**

## **E** MIC ASSY

A

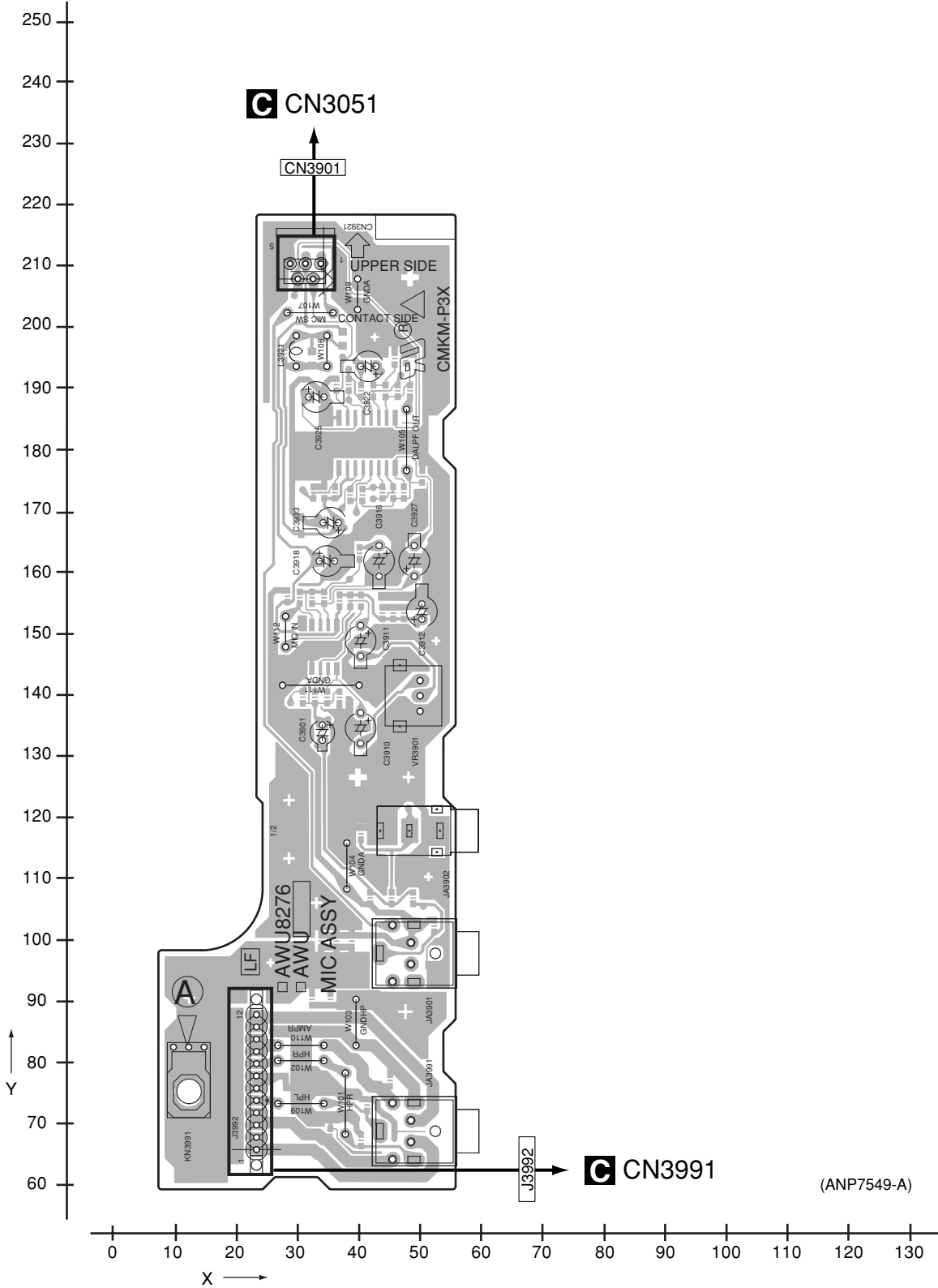
B

C

D

E

F



**E**

**E**

SIDE B

SIDE B

# E MIC ASSY

A

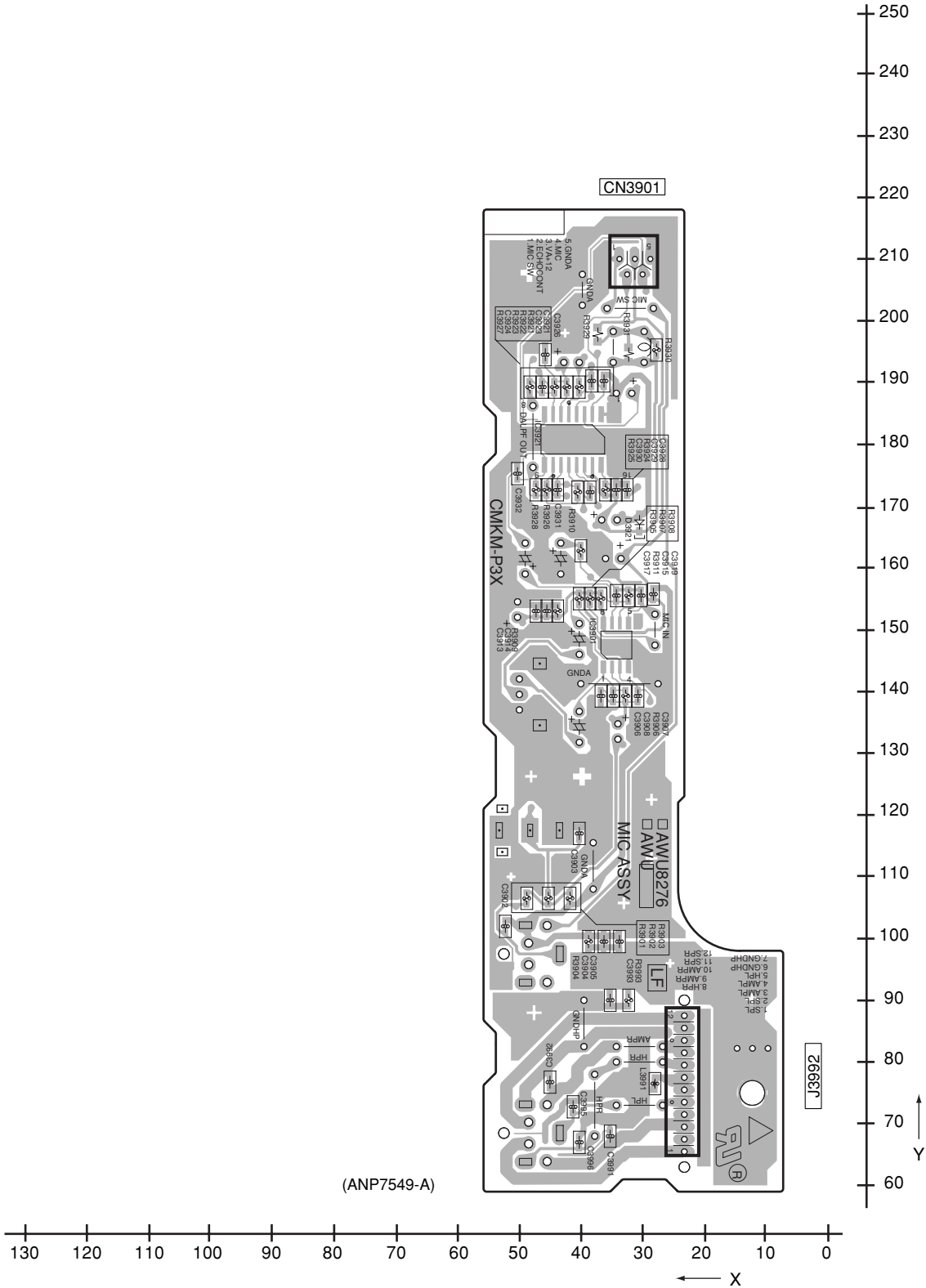
B

C

D

E

F



(ANP7549-A)

E

E



| 5                |                                          |             | 6        |                           |              | 7        |             |          | 8        |             |          |
|------------------|------------------------------------------|-------------|----------|---------------------------|--------------|----------|-------------|----------|----------|-------------|----------|
| Mark No.         | Description                              | Part No.    | Mark No. | Description               | Part No.     | Mark No. | Description | Part No. | Mark No. | Description | Part No. |
| Q 801            | (A,50 ,87 ) DIGITAL TRANSISTOR           | DTC124EUA   | R 229    | (A,48 ,24 )               | RS1/16S330J  |          |             |          |          |             |          |
| Q 821            | (A,42 ,86 ) TRANSISTOR                   | 2SA1576A    | R 230    | (B,71 ,35 )               | RS1/16S101J  |          |             |          |          |             |          |
| Q 851            | (A,42 ,89 ) TRANSISTOR                   | 2SA1576A    | R 231    | (B,71 ,37 )               | RS1/16S101J  |          |             |          |          |             |          |
| Q 881            | (A,42 ,93 ) TRANSISTOR                   | 2SA1576A    |          |                           |              |          |             |          |          |             |          |
| D 731            | (A,29 ,87 ) DIODE                        | 1SS355      | R 232    | (A,34 ,60 )               | RS1/16S0R0J  |          |             |          |          |             | A        |
|                  |                                          |             | R 233    | (B,42 ,50 )               | RS1/16S0R0J  |          |             |          |          |             |          |
| D 732            | (B,18 ,92 ) DIODE                        | RSX201L-30  | R 234    | (A,26 ,42 )               | RS1/16S330J  |          |             |          |          |             |          |
| D 733            | (A,24 ,94 ) DIODE                        | 1SS355      | R 235    | (A,26 ,41 )               | RS1/16S472J  |          |             |          |          |             |          |
| D 801            | (A,50 ,85 ) DIODE                        | UDZS4R7(B)  | R 237    | (A,23 ,41 )               | RS1/16S330J  |          |             |          |          |             |          |
| D 821            | (A,46 ,86 ) DIODE                        | 1SS355      |          |                           |              |          |             |          |          |             |          |
| D 851            | (A,46 ,89 ) DIODE                        | 1SS355      | R 238    | (B,60 ,35 )               | RS1/16S103J  |          |             |          |          |             |          |
|                  |                                          |             | R 241    | (A,71 ,36 )               | RS1/16S330J  |          |             |          |          |             |          |
| D 852            | (A,42 ,82 ) DIODE                        | 1SS355      | R 242    | (A,71 ,37 )               | RS1/16S330J  |          |             |          |          |             |          |
| D 861            | (A,46 ,82 ) DIODE                        | 1SS355      | R 243    | (A,69 ,39 )               | RS1/16S100J  |          |             |          |          |             |          |
| D 862            | (A,46 ,83 ) DIODE                        | 1SS355      | R 244    | (A,69 ,41 )               | RS1/16S330J  |          |             |          |          |             |          |
| D 881            | (A,46 ,93 ) DIODE                        | 1SS355      |          |                           |              |          |             |          |          |             |          |
| L 731            | (A,23 ,109 ) POWER INDUCTOR(22U)         | DTL1099     | R 247    | (B,58 ,37 )               | RS1/16S103J  |          |             |          |          |             | B        |
|                  |                                          |             | R 248    | (B,58 ,46 )               | RS1/16S330J  |          |             |          |          |             |          |
| L 732            | (A,22 ,84 ) POWER INDUCTOR               | ATH7011     | R 249    | (B,59 ,40 )               | RS1/16S103J  |          |             |          |          |             |          |
| L 751            | (A,34 ,99 ) CHIP BEADS                   | VTL1095     | R 251    | (A,70 ,47 )               | RS1/16S104J  |          |             |          |          |             |          |
| L 901            | (B,44 ,129 ) CHIP BEADS                  | VTL1075     | R 252    | (A,68 ,45 )               | RS1/16S0R0J  |          |             |          |          |             |          |
| X 201            | (A,77 ,45 ) CRYSTAL RESONATOR<br>(27MHZ) | VSS1172     |          |                           |              |          |             |          |          |             |          |
|                  |                                          |             | R 253    | (A,70 ,45 )               | RS1/16S681J  |          |             |          |          |             |          |
|                  |                                          |             | R 254    | (B,65 ,48 )               | RS1/16S754J  |          |             |          |          |             |          |
| CN101            | (A,88 ,140 ) 0.5-24P CONNECTER           | VKN1482     | R 255    | (B,57 ,52 )               | RS1/16S104J  |          |             |          |          |             |          |
| CN102            | (A,69 ,142 ) 12P CONNECTOR               | AKN7031     | R 256    | (A,73 ,59 )               | RS1/16S153J  |          |             |          |          |             |          |
| CN103            | (A,103 ,139 ) 04P CONNECTOR              | RKN1045     | R 257    | (B,64 ,42 )               | RS1/16S0R0J  |          |             |          |          |             |          |
| CN104            | (A,79 ,9 ) CONNECTOR                     | AKM1291     |          |                           |              |          |             |          |          |             |          |
| CN901            | (A,42 ,142 ) 25P CONNECTOR               | VKN1317     | R 258    | (A,23 ,39 )               | RS1/16S330J  |          |             |          |          |             |          |
|                  |                                          |             | R 259    | (A,26 ,39 )               | RS1/16S330J  |          |             |          |          |             | C        |
| CN902            | (A,116 ,28 ) 27P CONNECTOR               | VKN1319     | R 260    | (A,24 ,37 )               | RS1/16S330J  |          |             |          |          |             |          |
|                  |                                          |             | R 261    | (A,27 ,38 )               | RS1/16S330J  |          |             |          |          |             |          |
|                  |                                          |             | R 266    | (B,51 ,38 )               | RS1/16S330J  |          |             |          |          |             |          |
| <b>RESISTORS</b> |                                          |             |          |                           |              |          |             |          |          |             |          |
| R 131            | (A,61 ,95 )                              | RS1/10S4R7J |          |                           |              |          |             |          |          |             |          |
| R 132            | (A,63 ,95 )                              | RS1/10S4R7J | R 268    | (B,68 ,37 )               | RS1/16S101J  |          |             |          |          |             |          |
| R 133            | (A,66 ,95 )                              | RS1/10S4R7J | R 269    | (A,73 ,33 )               | RS1/16S102J  |          |             |          |          |             |          |
| R 134            | (A,65 ,95 )                              | RS1/10S4R7J | R 270    | (A,73 ,35 )               | RS1/16S102J  |          |             |          |          |             |          |
| R 135            | (A,68 ,95 )                              | RS1/10S4R7J | R 279    | (A,63 ,25 ) CHIP RESISTOR | RS1/16S2201F |          |             |          |          |             |          |
|                  |                                          |             | R 281    | (B,19 ,33 )               | RS1/10S0R0J  |          |             |          |          |             |          |
| R 136            | (A,70 ,95 )                              | RS1/10S4R7J |          |                           |              |          |             |          |          |             |          |
| R 151            | (A,59 ,117 )                             | RS1/10S1R0J | R 284    | (A,34 ,61 )               | RS1/16S103J  |          |             |          |          |             |          |
| R 152            | (A,59 ,121 )                             | RS1/10S1R8J | R 301    | (B,89 ,136 )              | RS1/10S0R0J  |          |             |          |          |             |          |
| R 153            | (A,57 ,117 )                             | RS1/10S1R0J | R 302    | (B,86 ,136 )              | RS1/10S0R0J  |          |             |          |          |             | D        |
| R 154            | (A,57 ,121 )                             | RS1/10S1R8J | R 303    | (B,87 ,133 )              | RS1/10S0R0J  |          |             |          |          |             |          |
|                  |                                          |             | R 313    | (A,80 ,125 )              | RS1/16S104J  |          |             |          |          |             |          |
| R 200            | (A,25 ,56 )                              | RS1/10S0R0J |          |                           |              |          |             |          |          |             |          |
| R 201            | (A,49 ,67 )                              | RS1/16S152J | R 314    | (A,75 ,125 )              | RS1/16S103J  |          |             |          |          |             |          |
| R 202            | (A,48 ,67 )                              | RS1/16S223J | R 315    | (A,80 ,128 )              | RS1/16S103J  |          |             |          |          |             |          |
| R 204            | (A,47 ,67 )                              | RS1/16S223J | R 318    | (A,80 ,126 )              | RS1/16S104J  |          |             |          |          |             |          |
| R 205            | (A,45 ,67 )                              | RS1/16S184J | R 321    | (A,61 ,87 )               | RS1/16S4R7J  |          |             |          |          |             |          |
|                  |                                          |             | R 322    | (A,73 ,87 )               | RS1/16S4R7J  |          |             |          |          |             |          |
| R 206            | (A,46 ,64 )                              | RS1/16S224J |          |                           |              |          |             |          |          |             |          |
| R 207            | (A,65 ,60 )                              | RS1/10S0R0J | R 325    | (A,68 ,87 )               | RS1/16S4R7J  |          |             |          |          |             |          |
| R 208            | (B,27 ,71 )                              | RS1/10S0R0J | R 326    | (A,66 ,87 )               | RS1/16S4R7J  |          |             |          |          |             |          |
| R 209            | (A,57 ,16 )                              | RS1/10S0R0J | R 401    | (A,82 ,30 )               | RS1/16S103J  |          |             |          |          |             |          |
| R 212            | (A,40 ,70 )                              | RS1/16S103J | R 402    | (B,99 ,14 )               | RS1/16S103J  |          |             |          |          |             | E        |
|                  |                                          |             | R 403    | (B,99 ,13 )               | RS1/16S0R0J  |          |             |          |          |             |          |
| R 213            | (A,41 ,70 )                              | RS1/16S103J |          |                           |              |          |             |          |          |             |          |
| R 214            | (A,45 ,72 )                              | RS1/16S0R0J | R 404    | (A,83 ,25 )               | RS1/16S102J  |          |             |          |          |             |          |
| R 216            | (A,36 ,62 )                              | RS1/16S0R0J | R 411    | (A,69 ,23 )               | RS1/16S1500F |          |             |          |          |             |          |
| R 217            | (A,31 ,61 )                              | RS1/10S0R0J | R 412    | (A,70 ,23 )               | RS1/16S1500F |          |             |          |          |             |          |
| R 218            | (A,18 ,37 )                              | RS1/16S103J | R 413    | (A,67 ,23 )               | RS1/16S1500F |          |             |          |          |             |          |
|                  |                                          |             | R 414    | (A,71 ,23 )               | RS1/16S1500F |          |             |          |          |             |          |
| R 219            | (A,18 ,35 )                              | RS1/16S103J |          |                           |              |          |             |          |          |             |          |
| R 221            | (A,25 ,44 )                              | RS1/16S330J | R 415    | (A,73 ,23 )               | RS1/16S1500F |          |             |          |          |             |          |
| R 223            | (A,29 ,35 )                              | RS1/16S330J | R 416    | (A,74 ,23 )               | RS1/16S1500F |          |             |          |          |             |          |
| R 224            | (A,29 ,49 )                              | RS1/16S330J | R 421    | (B,102 ,15 )              | RS1/16S0R0J  |          |             |          |          |             |          |
| R 225            | (A,40 ,23 ) CHIP RESISTOR ARRAY          | RAB4C330J   | R 422    | (B,99 ,20 )               | RS1/16S0R0J  |          |             |          |          |             |          |
|                  |                                          |             | R 423    | (B,99 ,21 )               | RS1/16S0R0J  |          |             |          |          |             | F        |
| R 226            | (A,43 ,23 )                              | RS1/16S330J |          |                           |              |          |             |          |          |             |          |
| R 227            | (A,44 ,23 )                              | RS1/16S330J | R 424    | (B,99 ,23 )               | RS1/16S0R0J  |          |             |          |          |             |          |
|                  |                                          |             | R 425    | (B,99 ,25 )               | RS1/16S0R0J  |          |             |          |          |             |          |

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

R 426 (B,99,29)  
R 481 (A,103,7)  
R 501 (A,91,64)

RS1/16S0R0J  
RS1/16S102J  
RS1/16S0R0J

R 909 (A,46,125)  
R 910 (A,48,128)  
R 911 (A,50,128)

RS1/16S682J  
RS1/16S221J  
RS1/16S221J

A

R 503 (A,92,73)  
R 504 (A,92,74)  
R 505 (A,94,74)  
R 506 (A,101,74)  
R 507 (A,104,74)

RS1/16S101J  
RS1/16S101J  
RS1/16S101J  
RS1/16S220J  
RS1/16S101J

R 912 (A,53,128)  
R 916 (B,47,128)  
R 917 (B,44,125)  
R 921 (A,106,7)  
R 922 (A,106,8)

RS1/16S0R0J  
RS1/16S223J  
RS1/16S223J  
RS1/16S0R0J  
RS1/16S0R0J

R 508 (A,104,73)  
R 509 (A,104,72)  
R 511 (A,100,60)  
R 512 (A,97,60)  
R 513 (A,103,59)

RS1/16S101J  
RS1/16S101J  
RS1/16S223J  
RS1/16S223J  
RS1/16S471J

R 923 (A,105,10)  
R 924 (A,105,11)  
R 1001(B,107,6)  
R 1002(B,116,16)  
R 1003(B,118,16)

RS1/16S0R0J  
RS1/16S0R0J  
RS1/10S0R0J  
RS1/10S0R0J  
RS1/10S0R0J

B

R 514 (A,95,59)  
R 515 (A,99,56)  
R 516 (A,98,56)  
R 517 (B,105,68)  
R 518 (A,101,52)

RS1/16S471J  
RS1/16S222J  
RS1/16S222J  
RS1/16S102J  
RS1/16S102J

**CAPACITORS**

C 101 (A,49,120)  
C 102 (A,73,101)  
C 103 (A,66,116)  
C 104 (A,61,117)  
C 121 (B,61,112)

CEVW101M16  
CKSRYB105K10  
CKSRYB105K10  
CKSRYB105K10  
CKSRYB105K10

R 519 (A,99,50)  
R 520 (A,111,69)  
R 521 (A,110,53)  
R 522 (A,112,53)  
R 591 (A,83,50)

RS1/16S103J  
RS1/16S102J  
RS1/16S0R0J  
RS1/16S0R0J  
RS1/16S0R0J

C 131 (A,52,103)  
C 140 (A,60,137)  
C 144 (A,62,99)  
C 145 (A,64,98)  
C 146 (A,60,98)

CKSRYB104K25  
CKSRYB105K10  
CKSRYB222K50  
CKSRYB222K50  
CKSRYB222K50

C

R 592 (A,79,55)  
R 594 (A,80,72)  
R 701 (A,24,137)  
R 702 (A,27,134)  
R 732 (A,25,91)

RS1/16S100J  
RS1/16S0R0J  
RS1/16S473J  
RS1/16S103J  
RS1/10S100J

C 151 (A,68,114)  
C 152 (A,71,114)  
C 153 (A,73,111)  
C 161 (A,58,96)  
C 201 (A,21,52) CHIP ELECT.CAPACITOR

CKSRYB103K50  
CKSRYB103K50  
CKSRYB103K50  
CKSRYB102K50  
CEVW221M4

R 733 (A,25,93)  
R 734 (A,30,89)  
R 735 (A,29,84)  
R 736 (A,32,93)  
R 737 (A,31,83)

RS1/16S220J  
RS1/16S473J  
RS1/16S272J  
RS1/16S1802F  
RS1/16S2702F

C 202 (A,69,64) CHIP ELECT.CAPACITOR  
C 203 (A,55,78) CHIP ELECT.CAPACITOR  
C 204 (A,52,63)  
C 205 (B,52,69)  
C 206 (A,47,77) CHIP ELECT.CAPACITOR

CEVW221M4  
CEVW470M16  
CKSRYB104K25  
CKSRYB104K25  
CEVW470M16

D

R 738 (A,29,82)  
R 739 (A,19,78)  
R 740 (A,29,85)  
R 750 (A,30,99)  
R 751 (A,33,119)

RS1/16S1502F  
RS1/16S0R0J  
RS1/16S0R0J  
RS1/16S0R0J  
RS1/16S0R0J

C 207 (B,53,55)  
C 208 (A,48,70)  
C 209 (A,50,70)  
C 210 (A,47,70)  
C 211 (A,46,70)

CKSRYB104K25  
CKSRYB222K50  
CKSRYB104K25  
CKSRYB222K50  
CCSRCH560J50

R 761 (A,37,114)  
R 762 (A,45,114)  
R 763 (A,44,112)  
R 764 (A,44,110)  
R 801 (A,54,85)

RS1/16S0R0J  
RS1/16S3902F  
RS1/16S334J  
RS1/16S334J  
RS1/16S471J

C 212 (A,44,70)  
C 213 (A,55,63)  
C 214 (B,50,54)  
C 215 (A,55,69) CHIP ELECT.CAPACITOR  
C 216 (A,46,62)

CCSRCH560J50  
CKSRYB104K25  
CKSRYB104K25  
CEVW470M16  
CKSRYB104K25

E

R 821 (A,42,83)  
R 822 (A,39,86)  
R 823 (A,36,86)  
R 824 (A,37,86)  
R 851 (A,39,89)

RS1/16S103J  
RS1/16S473J  
RS1/16S153J  
RS1/16S103J  
RS1/16S473J

C 217 (A,42,62)  
C 219 (A,36,61)  
C 220 (A,31,58)  
C 222 (A,29,53)  
C 223 (A,29,51)

CKSRYB104K25  
CKSRYB152K50  
CKSRYB104K25  
CKSRYB104K25  
CKSRYB104K25

R 852 (A,36,89)  
R 853 (A,37,89)  
R 881 (A,39,93)  
R 882 (A,36,93)  
R 901 (A,39,128)

RS1/16S103J  
RS1/16S103J  
RS1/16S473J  
RS1/16S103J  
RS1/16S0R0J

C 224 (A,25,45)  
C 225 (B,34,39)  
C 226 (B,40,39)  
C 227 (B,36,40)  
C 228 (B,39,37)

CKSRYB104K25  
CKSRYB104K25  
CKSRYB103K50  
CCSRCH221J50  
CKSRYB104K25

F

R 902 (B,40,131)  
R 903 (A,43,128)  
R 904 (A,41,128)  
R 905 (A,44,128)  
R 906 (A,42,126)

RS1/16S0R0J  
RS1/16S332J  
RS1/16S682J  
RS1/16S332J  
RS1/16S682J

C 230 (B,37,35)  
C 231 (B,42,35)  
C 232 (B,46,36)  
C 233 (B,49,33)  
C 234 (B,52,33)

CKSRYB102K50  
CKSRYB104K25  
CKSRYB104K25  
CKSRYB104K25  
CKSRYB104K25

R 907 (A,46,128)  
R 908 (A,47,128)

RS1/16S471J  
RS1/16S332J

| 5                                |                                 |              | 6         |                                        |              | 7        |                            |                  | 8        |             |              |
|----------------------------------|---------------------------------|--------------|-----------|----------------------------------------|--------------|----------|----------------------------|------------------|----------|-------------|--------------|
| Mark No.                         | Description                     | Part No.     | Mark No.  | Description                            | Part No.     | Mark No. | Description                | Part No.         | Mark No. | Description | Part No.     |
| C 235                            | (B,55 ,35)                      | CKSRYP104K25 | C 416     | (B,84 ,29)                             | CKSRYP104K25 | C 500    | (B,95 ,70)                 | CKSRYP105K10     | C 501    | (A,91 ,60)  | CKSRYP104K25 |
| C 236                            | (B,56 ,33)                      | CKSRYP104K25 | C 503     | (A,86 ,65)                             | CKSRYP104K25 | C 504    | (A,93 ,68)                 | CKSRYP104K25     | C 508    | (A,104 ,66) | CKSRYP104K25 |
| C 237                            | (A,65 ,16) CHIP ELECT.CAPACITOR | CEVW221M4    | C 509     | (A,106 ,62)                            | CEVW100M16   | C 511    | (A,100 ,65)                | CEVW100M16       | C 512    | (A,95 ,65)  | CEVW100M16   |
| C 239                            | (B,60 ,34)                      | CKSRYP104K25 | C 513     | (A,100 ,58)                            | CKSRYP102K50 | C 514    | (A,97 ,58)                 | CKSRYP102K50     | C 701    | (A,24 ,131) | CKSQYB105K16 |
| C 240                            | (B,59 ,39)                      | CKSRYP104K25 | C 711     | (A,28 ,73)                             | CKSRYP105K10 | C 712    | (A,35 ,78)                 | CKSRYP105K10     | C 713    | (A,29 ,66)  | CCSRCH471J50 |
| C 241                            | (B,61 ,43)                      | CKSRYP104K25 | C 732     | (A,22 ,113) CHIP CERAMIC C.            | CKSRYP104K25 | C 736    | (A,25 ,89)                 | CKSRYP104K25     | C 737    | (A,28 ,82)  | CCSRCH121J50 |
| C 243                            | (A,61 ,25)                      | CKSRYP105K10 | C 733     | (A,20 ,105) CHIP CERAMIC C.            | CKSRYP104K25 | C 738    | (A,24 ,78) CHIP CERAMIC C. | DCH1165          | C 739    | (A,21 ,66)  | DCH1165      |
| C 244                            | (A,60 ,25)                      | CKSRYP104K25 | C 735     | (A,20 ,95) CHIP CERAMIC C.             | CKSRYP104K25 | C 751    | (A,32 ,119)                | CEVW101M16       | C 752    | (A,34 ,108) | CKSRYP105K10 |
| C 245                            | (B,61 ,31)                      | CKSRYP104K25 | C 736     | (A,25 ,89)                             | CKSRYP473K50 | C 753    | (A,30 ,108)                | DCH1165          | C 761    | (A,41 ,103) | CKSRYP105K10 |
| C 246                            | (B,63 ,32)                      | CKSRYP104K25 | C 737     | (A,28 ,82)                             | CKSRYP473K50 | C 762    | (A,40 ,112)                | CKSRYP104K25     | C 801    | (A,50 ,83)  | CKSRYP104K25 |
| C 250                            | (B,64 ,36)                      | CKSRYP103K50 | C 738     | (A,24 ,78) CHIP CERAMIC C.             | CCSRCH8R0D50 | C 766    | (A,40 ,112)                | CCSRCH471J50     |          |             |              |
| C 251                            | (A,73 ,47)                      | CCSRCH8R0D50 | C 739     | (A,21 ,66)                             | CCSRCH100D50 | C 771    | (A,32 ,119)                | CCSRCH471J50     |          |             |              |
| C 252                            | (A,73 ,44)                      | CCSRCH100D50 | C 751     | (A,32 ,119)                            | CKSRYP104K25 | C 772    | (A,34 ,108)                | CCSRCH471J50     |          |             |              |
| C 253                            | (B,64 ,44)                      | CKSRYP104K25 | C 752     | (A,34 ,108)                            | CKSRYP104K25 |          |                            |                  |          |             |              |
| C 254                            | (B,64 ,48)                      | CCSRCH391J50 |           |                                        | CCSRCH391J50 |          |                            |                  |          |             |              |
| C 255                            | (B,65 ,53)                      | CKSRYP474K10 |           |                                        | CKSRYP474K10 |          |                            |                  |          |             |              |
| C 256                            | (B,72 ,52)                      | CEVW100M16   |           |                                        | CEVW100M16   |          |                            |                  |          |             |              |
| C 257                            | (B,60 ,49)                      | CKSRYP104K25 |           |                                        | CKSRYP104K25 |          |                            |                  |          |             |              |
| C 258                            | (A,69 ,49)                      | CKSRYP473K50 |           |                                        | CKSRYP473K50 |          |                            |                  |          |             |              |
| C 259                            | (A,72 ,50)                      | CKSRYP473K50 |           |                                        | CKSRYP473K50 |          |                            |                  |          |             |              |
| C 260                            | (B,60 ,50)                      | CKSRYP104K25 |           |                                        | CKSRYP104K25 |          |                            |                  |          |             |              |
| C 265                            | (A,73 ,53)                      | CCSRCH220J50 |           |                                        | CCSRCH220J50 |          |                            |                  |          |             |              |
| C 266                            | (B,60 ,52)                      | CKSRYP104K25 |           |                                        | CKSRYP104K25 |          |                            |                  |          |             |              |
| C 267                            | (A,70 ,53)                      | CKSRYP102K50 |           |                                        | CKSRYP102K50 |          |                            |                  |          |             |              |
| C 268                            | (A,73 ,56)                      | CKSRYP104K25 |           |                                        | CKSRYP104K25 |          |                            |                  |          |             |              |
| C 269                            | (A,72 ,56)                      | CKSRYP333K16 |           |                                        | CKSRYP333K16 |          |                            |                  |          |             |              |
| C 271                            | (A,70 ,57)                      | CKSRYP104K25 |           |                                        | CKSRYP104K25 |          |                            |                  |          |             |              |
| C 272                            | (A,70 ,58)                      | CKSRYP104K25 |           |                                        | CKSRYP104K25 |          |                            |                  |          |             |              |
| C 273                            | (A,69 ,60)                      | CKSRYP104K25 |           |                                        | CKSRYP104K25 |          |                            |                  |          |             |              |
| C 281                            | (B,18 ,27) CHIP ELECT.CAPACITOR | CEVW221M4    |           |                                        | CEVW221M4    |          |                            |                  |          |             |              |
| C 282                            | (B,22 ,31)                      | CKSRYP105K10 |           |                                        | CKSRYP105K10 |          |                            |                  |          |             |              |
| C 283                            | (B,46 ,33)                      | CKSRYP104K25 |           |                                        | CKSRYP104K25 |          |                            |                  |          |             |              |
| C 284                            | (B,33 ,17)                      | CKSRYP104K25 |           |                                        | CKSRYP104K25 |          |                            |                  |          |             |              |
| C 285                            | (B,27 ,17)                      | CKSRYP104K25 |           |                                        | CKSRYP104K25 |          |                            |                  |          |             |              |
| C 286                            | (B,27 ,33)                      | CKSRYP104K25 |           |                                        | CKSRYP104K25 |          |                            |                  |          |             |              |
| C 287                            | (B,31 ,33)                      | CKSRYP104K25 |           |                                        | CKSRYP104K25 |          |                            |                  |          |             |              |
| C 288                            | (B,34 ,33)                      | CKSRYP104K25 |           |                                        | CKSRYP104K25 |          |                            |                  |          |             |              |
| C 289                            | (B,34 ,40)                      | CKSRYP105K10 |           |                                        | CKSRYP105K10 |          |                            |                  |          |             |              |
| C 290                            | (A,20 ,39)                      | CKSRYP104K25 |           |                                        | CKSRYP104K25 |          |                            |                  |          |             |              |
| C 296                            | (B,34 ,42)                      | CKSRYP102K50 |           |                                        | CKSRYP102K50 |          |                            |                  |          |             |              |
| C 309                            | (A,71 ,77) CHIP ELECT.CAPACITOR | CEVW470M16   |           |                                        | CEVW470M16   |          |                            |                  |          |             |              |
| C 310                            | (A,63 ,77) CHIP ELECT.CAPACITOR | CEVW470M16   |           |                                        | CEVW470M16   |          |                            |                  |          |             |              |
| C 343                            | (A,64 ,64)                      | CKSRYP105K10 |           |                                        | CKSRYP105K10 |          |                            |                  |          |             |              |
| C 344                            | (A,60 ,64)                      | CKSRYP105K10 |           |                                        | CKSRYP105K10 |          |                            |                  |          |             |              |
| C 345                            | (A,62 ,64)                      | CKSRYP105K10 |           |                                        | CKSRYP105K10 |          |                            |                  |          |             |              |
| C 346                            | (A,63 ,64)                      | CKSRYP105K10 |           |                                        | CKSRYP105K10 |          |                            |                  |          |             |              |
| C 347                            | (A,59 ,64)                      | CKSRYP105K10 |           |                                        | CKSRYP105K10 |          |                            |                  |          |             |              |
| C 371                            | (A,94 ,134)                     | CKSRYP104K25 |           |                                        | CKSRYP104K25 |          |                            |                  |          |             |              |
| C 372                            | (B,94 ,134)                     | CKSRYP104K25 |           |                                        | CKSRYP104K25 |          |                            |                  |          |             |              |
| C 373                            | (A,99 ,127)                     | CEVW101M16   |           |                                        | CEVW101M16   |          |                            |                  |          |             |              |
| C 401                            | (B,90 ,9)                       | CEVW101M16   |           |                                        | CEVW101M16   |          |                            |                  |          |             |              |
| C 402                            | (B,97 ,11)                      | CKSRYP104K25 |           |                                        | CKSRYP104K25 |          |                            |                  |          |             |              |
| C 404                            | (A,93 ,23)                      | CEVW101M16   |           |                                        | CEVW101M16   |          |                            |                  |          |             |              |
| C 405                            | (B,84 ,22)                      | CKSRYP104K25 |           |                                        | CKSRYP104K25 |          |                            |                  |          |             |              |
| C 406                            | (B,99 ,16)                      | CKSRYP104K25 |           |                                        | CKSRYP104K25 |          |                            |                  |          |             |              |
| C 411                            | (B,84 ,15)                      | CKSRYP104K25 |           |                                        | CKSRYP104K25 |          |                            |                  |          |             |              |
| C 412                            | (B,84 ,18)                      | CKSRYP105K10 |           |                                        | CKSRYP105K10 |          |                            |                  |          |             |              |
| C 413                            | (B,84 ,21)                      | CKSRYP105K10 |           |                                        | CKSRYP105K10 |          |                            |                  |          |             |              |
| C 414                            | (B,84 ,25)                      | CKSRYP105K10 |           |                                        | CKSRYP105K10 |          |                            |                  |          |             |              |
| C 415                            | (B,84 ,27)                      | CKSRYP104K25 |           |                                        | CKSRYP104K25 |          |                            |                  |          |             |              |
| <b>C MAIN ASSY MISCELLANEOUS</b> |                                 |              |           |                                        |              |          |                            |                  |          |             |              |
|                                  |                                 |              | △ IC 11   | (A,232 ,72) IC                         |              |          |                            | TA7805S          |          |             |              |
|                                  |                                 |              | △ IC 41   | (B,218 ,88) REGULATOR IC               |              |          |                            | NJM78M05DL1A     |          |             |              |
|                                  |                                 |              | △ IC 42   | (A,210 ,103) IC                        |              |          |                            | NJM78L08A        |          |             |              |
|                                  |                                 |              | △ IC 51   | (A,200 ,149) REGULATOR IC              |              |          |                            | TA79012S         |          |             |              |
|                                  |                                 |              | △ IC 61   | (A,200 ,108) REGULATOR IC              |              |          |                            | TA7812S          |          |             |              |
|                                  |                                 |              | △ IC 71   | (B,49 ,200) REGULATOR IC               |              |          |                            | NJM78M09DL1A     |          |             |              |
|                                  |                                 |              |           | IC 3001(B,80 ,168) E-VOL IC            |              |          |                            | BD3401KS2        |          |             |              |
|                                  |                                 |              |           | IC 3031(B,108 ,184) OP-AMP IC          |              |          |                            | BA4560RF         |          |             |              |
|                                  |                                 |              | △ IC 3301 | (A,126 ,119) AUDIO IC                  |              |          |                            | STK433-070       |          |             |              |
|                                  |                                 |              | △ IC 3303 | (A,230 ,43) PROTECTOR(7A)              |              |          |                            | AEK7021          |          |             |              |
|                                  |                                 |              |           | IC 5401(B,41 ,38) EEPROM               |              |          |                            | S-93C46BD0I-J8T1 |          |             |              |
|                                  |                                 |              |           | IC 5501(B,66 ,63) SYSTEM CONTROL MICON |              |          |                            | PDC129A          |          |             |              |
|                                  |                                 |              |           | Q 11 (B,249 ,100) TRANSISTOR           |              |          |                            | 2SC4081          |          |             |              |
|                                  |                                 |              |           | Q 12 (A,255 ,104) TRANSISTOR           |              |          |                            | 2SD1858X         |          |             |              |
|                                  |                                 |              | △ Q 41    | (A,200 ,92) TRANSISTOR                 |              |          |                            | 2SB1565          |          |             |              |
|                                  |                                 |              | △ Q 51    | (A,305 ,46) TRANSISTOR                 |              |          |                            | 2SB1565          |          |             |              |
|                                  |                                 |              |           | Q 52 (B,275 ,13) DIGITAL TRANSISTOR    |              |          |                            | DTC124EUA        |          |             |              |
|                                  |                                 |              |           | Q 53 (B,278 ,9) CHIP DIGITAL TRANS.    |              |          |                            | DTA124EUA        |          |             |              |
|                                  |                                 |              | △ Q 61    | (A,200 ,134) TRANSISTOR                |              |          |                            | 2SD2012          |          |             |              |
|                                  |                                 |              |           | Q 81 (A,309 ,12) TRANSISTOR            |              |          |                            | 2SB1565          |          |             |              |
|                                  |                                 |              |           | Q 2101(B,78 ,110) TRANSISTOR           |              |          |                            | 2SC4081          |          |             |              |
|                                  |                                 |              |           | Q 2301(A,33 ,120) N-FET                |              |          |                            | 2SK373           |          |             |              |
|                                  |                                 |              |           | Q 2302(A,31 ,127) N-FET                |              |          |                            | 2SK373           |          |             |              |
|                                  |                                 |              |           | Q 2303(B,27 ,116) TRANSISTOR           |              |          |                            | DTC114TK         |          |             |              |
|                                  |                                 |              |           | Q 2304(B,20 ,117) TRANSISTOR           |              |          |                            | DTC114TK         |          |             |              |
|                                  |                                 |              |           | Q 2351(B,67 ,116) CHIP DIGITAL TRANS.  |              |          |                            | DTA124EUA        |          |             |              |
|                                  |                                 |              |           | Q 2352(B,57 ,117) CHIP TRANSISTOR      |              |          |                            | RN1901           |          |             |              |



| Mark No.            | Description         | Part No.   | Mark No.          | Description     | Part No.    |
|---------------------|---------------------|------------|-------------------|-----------------|-------------|
| Q 2801(A,11,72)     | TRANSISTOR          | 2SC1815    | D 2304(A,20,108)  | DIODE           | 1SS133      |
| Q 2802(A,20,76)     | TRANSISTOR          | 2SC1815    | D 2305(A,33,107)  | DIODE           | 1SS133      |
| Q 2805(A,30,101)    | TRANSISTOR          | 2SC1815    | D 2306(A,10,117)  | DIODE           | 1SS133      |
| <b>A</b>            |                     |            |                   |                 |             |
| Q 2806(A,30,96)     | TRANSISTOR          | 2SC2240    | D 2307(A,29,112)  | DIODE           | 1SS133      |
| Q 2901(B,23,10)     | CHIP DIGITAL TRANS. | DTA124EUA  | D 2901(A,77,14)   | DIODE           | 1SS133      |
| Q 2902(B,36,22)     | CHIP TRANSISTOR     | RN1901     | D 2902(A,67,14)   | DIODE           | 1SS133      |
| Q 2905(B,45,20)     | TRANSISTOR          | 2SB1132    | D 3301(A,141,104) | DIODE           | S5688G      |
| Q 2906(B,55,20)     | TRANSISTOR          | 2SB1132    | D 3302(A,146,126) | DIODE           | S5688G      |
| <b>B</b>            |                     |            |                   |                 |             |
| Q 3001(B,67,207)    | TRANSISTOR          | IMX9       | D 3303(A,141,107) | DIODE           | S5688G      |
| Q 3003(B,146,193)   | CHIP DIGITAL TRANS. | DTA124EUA  | D 3304(A,137,126) | DIODE           | S5688G      |
| Q 3303(B,104,115)   | TRANSISTOR          | 2SD2114K   | D 3305(A,151,104) | DIODE           | S5688G      |
| Q 3304(B,112,115)   | TRANSISTOR          | 2SD2114K   | D 3306(A,137,129) | DIODE           | S5688G      |
| Q 3305(B,123,82)    | TRANSISTOR          | 2SC4081    | D 3307(A,148,110) | DIODE           | S5688G      |
| <b>C</b>            |                     |            |                   |                 |             |
| Q 3321(B,147,80)    | TRANSISTOR          | 2SC4081    | D 3308(A,136,133) | DIODE           | S5688G      |
| Q 3322(B,147,84)    | TRANSISTOR          | 2SC4081    | D 3309(A,125,80)  | DIODE           | 1SS133      |
| △ Q 3501(A,129,173) | MOS FET             | 2SJ304     | D 3321(B,128,74)  | DIODE           | DAP202K     |
| △ Q 3502(A,129,157) | MOS FET             | 2SK2232    | D 3323(B,151,86)  | DIODE           | DAN202K     |
| Q 3503(B,133,171)   | TRANSISTOR          | 2SC4081    | D 3501(B,134,182) | DIODE           | DAN202K     |
| <b>D</b>            |                     |            |                   |                 |             |
| Q 3504(B,133,154)   | TRANSISTOR          | 2SA1576A   | D 3502(B,128,162) | DIODE           | DAP202K     |
| Q 3541(B,122,61)    | TRANSISTOR          | 2SA1576A   | D 3503(A,136,175) | DIODE           | MTZJ36(B)   |
| Q 3542(B,102,80)    | TRANSISTOR          | 2SC4081    | D 3504(A,140,153) | DIODE           | MTZJ36(B)   |
| Q 3603(B,150,155)   | CHIP TR (PNP X 2)   | UMB1N      | D 3505(A,136,172) | DIODE           | 1SS133      |
| Q 3604(B,163,157)   | CHIP TR (PNP X 2)   | UMB1N      | D 3506(A,137,161) | DIODE           | 1SS133      |
| <b>E</b>            |                     |            |                   |                 |             |
| Q 3605(B,153,148)   | TRANSISTOR          | UMH1N      | D 3507(A,136,166) | DIODE           | MTZJ18(B)   |
| Q 3606(B,165,142)   | TRANSISTOR          | UMH1N      | D 3508(A,137,153) | DIODE           | MTZJ18(B)   |
| Q 3620(B,144,188)   | CHIP DIGITAL TRANS. | DTA124EUA  | D 3509(A,136,178) | DIODE           | MTZJ10(B)   |
| Q 3621(B,161,172)   | CHIP DIGITAL TRANS. | DTA124EUA  | D 3510(A,130,148) | DIODE           | MTZJ10(B)   |
| Q 3622(B,154,174)   | TRANSISTOR          | 2SC4081    | D 3511(A,151,115) | DIODE           | 30PDA20-FC6 |
| <b>F</b>            |                     |            |                   |                 |             |
| Q 3623(B,155,180)   | CHIP DIGITAL TRANS. | DTA124EUA  | D 3512(A,144,135) | DIODE           | 30PDA20-FC6 |
| Q 3625(B,114,74)    | CHIP TRANSISTOR     | HN1C01FU   | D 3541(B,101,91)  | DIODE           | 1SS355      |
| Q 3628(B,160,184)   | DIGITAL TRANSISTOR  | DTC124EUA  | D 3542(B,103,91)  | DIODE           | UDZS7R5(B)  |
| Q 3629(B,155,186)   | DIGITAL TRANSISTOR  | DTC143EUA  | D 3543(B,126,56)  | DIODE           | UDZS20(B)   |
| Q 3651(B,207,218)   | TRANSISTOR          | DTA124TK   | D 3601(A,157,146) | DIODE           | MTZJ7R5(B)  |
| <b>G</b>            |                     |            |                   |                 |             |
| Q 3652(B,194,218)   | CHIP TRANSISTOR     | RN1901     | D 3602(A,169,161) | DIODE           | MTZJ7R5(B)  |
| Q 3653(B,198,210)   | CHIP DIGITAL TRANS. | DTA124EUA  | D 3603(A,148,165) | DIODE           | 1SS133      |
| Q 3654(A,202,192)   | TRANSISTOR          | 2SD2144S   | D 3604(A,179,145) | DIODE           | 1SS133      |
| Q 5411(B,85,104)    | DIGITAL TRANSISTOR  | DTA143EUA  | D 3605(A,179,138) | DIODE           | 1SS133      |
| Q 5502(B,108,39)    | DIGITAL TRANSISTOR  | DTC143EUA  | D 3621(A,145,173) | DIODE           | MTZJ5R1(B)  |
| <b>H</b>            |                     |            |                   |                 |             |
| Q 5503(B,279,24)    | TRANSISTOR          | 2SC4081    | D 3622(B,165,172) | DIODE           | DAN202K     |
| △ D 11 (B,231,101)  | BRIDGE DIODE        | S1NB60     | D 3623(A,151,178) | DIODE           | 1SS133      |
| D 12 (A,245,108)    | DIODE               | MTZJ20(B)  | D 3624(A,145,181) | DIODE           | 1SS133      |
| D 13 (B,248,105)    | DIODE               | DAN217     | D 3625(A,270,82)  | DIODE           | 1SS133      |
| D 14 (A,270,104)    | DIODE               | 1SS133     | D 3626(A,267,87)  | DIODE           | 1SS133      |
| <b>I</b>            |                     |            |                   |                 |             |
| △ D 21 (A,290,35)   | DIODE               | D5SBA20(B) | D 3651(A,206,210) | DIODE           | 1SS133      |
| △ D 31 (A,280,35)   | DIODE               | D5SBA20(B) | D 3652(A,207,225) | DIODE           | MTZJ3R9(B)  |
| △ D 41 (A,301,102)  | DIODE               | D5SBA20(B) | D 3653(A,206,204) | DIODE           | 1SS133      |
| D 43 (A,223,81)     | DIODE               | MTZJ7R5(C) | D 3654(A,207,222) | DIODE           | 1SS133      |
| D 44 (A,205,83)     | DIODE               | MTZJ11(B)  | D 5501(B,124,56)  | DIODE           | 1SS355      |
| <b>J</b>            |                     |            |                   |                 |             |
| △ D 51 (A,309,60)   | DIODE               | S5688G     | D 5502(B,95,56)   | DIODE           | 1SS355      |
| △ D 52 (A,306,60)   | DIODE               | S5688G     | L 2801(A,25,86)   | COIL            | RTD1082     |
| D 53 (A,309,40)     | DIODE               | MTZJ27(B)  | L 2802(A,59,109)  | RADIAL INDUCTOR | LFEA151J    |
| D 55 (A,309,43)     | DIODE               | 1SS133     | L 2811(A,48,112)  | COIL            | RTF1004     |
| D 57 (A,205,153)    | DIODE               | MTZJ15(C)  | L 2812(A,38,112)  | COIL            | RTF1004     |
| <b>K</b>            |                     |            |                   |                 |             |
| D 81 (A,310,26)     | DIODE               | S5688G     | L 3301(A,157,71)  | COIL            | ATH-059     |
| D 82 (A,304,22)     | DIODE               | MTZJ3R6(B) | L 3302(A,144,72)  | COIL            | ATH-059     |
| D 83 (A,309,19)     | DIODE               | MTZJ2R0(B) | L 5501(A,93,44)   | AXIAL INDUCTOR  | LAU220J     |
| D 2101(A,71,112)    | DIODE               | 1SS133     | △ AN1 (A,228,230) | AC INLET 1P     | XKP3084     |
| D 2301(A,23,111)    | DIODE               | 1SS133     | H 1 (A,230,208)   | FUSE CLIP       | AKR7001     |
| <b>L</b>            |                     |            |                   |                 |             |
| D 2302(A,17,113)    | DIODE               | 1SS133     | H 2 (A,230,187)   | FUSE CLIP       | AKR7001     |
| D 2303(A,26,106)    | DIODE               | 1SS133     | H 3 (A,315,171)   | FUSE CLIP       | AKR7001     |





| Mark No. | Description         | Part No.               | Mark No.          | Description          | Part No.     |
|----------|---------------------|------------------------|-------------------|----------------------|--------------|
| A        | R 3006(B,74,209)    | RS1/16S472J            | R 3345(A,151,72)  | CARBON FILM RESISTOR | RD1/2PMF101J |
|          | R 3007(B,80,209)    | RS1/16S473J            | R 3346(A,138,72)  | CARBON FILM RESISTOR | RD1/2PMF101J |
|          | R 3011(B,60,177)    | RS1/16S475J            | R 3347(B,149,64)  |                      | RS1/16S4R7J  |
|          | R 3012(B,64,173)    | RS1/16S221J            | R 3348(B,142,66)  |                      | RS1/16S4R7J  |
|          | R 3013(B,58,166)    | RS1/16S221J            | R 3355(B,107,115) |                      | RS1/16S104J  |
| B        | R 3029(B,94,177)    | RS1/16S0R0J            | R 3356(B,122,130) |                      | RS1/16S104J  |
|          | R 3030(B,91,181)    | RS1/16S0R0J            | R 3361(B,139,106) |                      | RS1/10S2R2J  |
|          | R 3031(B,87,189)    | RS1/16S153J            | R 3362(B,136,106) |                      | RS1/10S2R2J  |
|          | R 3032(B,79,192)    | RS1/16S184J            | R 3363(B,136,141) |                      | RS1/10S2R2J  |
|          | R 3033(B,82,183)    | RS1/16S184J            | R 3364(B,134,141) |                      | RS1/10S2R2J  |
| C        | R 3034(B,79,188)    | RS1/16S153J            | R 3503(B,141,181) |                      | RS1/16S103J  |
|          | R 3035(B,109,177)   | RS1/16S123J            | R 3504(B,133,160) |                      | RS1/16S103J  |
|          | R 3036(B,100,192)   | RS1/16S123J            | R 3505(B,133,176) |                      | RS1/16S104J  |
|          | R 3037(B,103,187)   | RS1/16S123J            | R 3506(B,133,150) |                      | RS1/16S104J  |
|          | R 3038(B,98,192)    | RS1/16S123J            | R 3509(B,133,167) |                      | RS1/16S104J  |
| D        | R 3039(B,94,190)    | RS1/16S153J            | R 3510(B,135,150) |                      | RS1/16S104J  |
|          | R 3040(B,96,192)    | RS1/16S153J            | R 3511(A,141,169) |                      | RD1/4PU101J  |
|          | R 3041(B,97,181)    | RS1/16S472J            | R 3512(A,140,156) |                      | RD1/4PU101J  |
|          | R 3042(B,95,181)    | RS1/16S472J            | R 3513(B,143,168) |                      | RS1/16S153J  |
|          | R 3043(B,96,173)    | RS1/16S472J            | R 3514(B,142,154) |                      | RS1/16S153J  |
| E        | R 3044(B,97,169)    | RS1/16S472J            | R 3541(B,95,98)   |                      | RS1/16S103J  |
|          | R 3051(B,93,163)    | RS1/16S472J            | R 3542(B,102,85)  |                      | RS1/16S104J  |
|          | R 3101(B,57,212)    | RS1/16S153J            | R 3543(B,98,96)   |                      | RS1/16S223J  |
|          | R 3102(B,50,212)    | RS1/16S153J            | R 3544(B,123,65)  |                      | RS1/16S473J  |
|          | R 3103(B,57,205)    | RS1/16S223J            | R 3545(B,124,61)  |                      | RS1/16S473J  |
| F        | R 3104(B,54,205)    | RS1/16S223J            | R 3546(B,126,65)  |                      | RS1/16S472J  |
|          | R 3305(B,112,136)   | RS1/16S0R0J            | R 3547(B,118,114) |                      | RS1/16S0R0J  |
|          | R 3306(B,120,136)   | RS1/16S0R0J            | R 3610(B,162,148) |                      | RS1/16S273J  |
|          | R 3307(B,110,136)   | RS1/16S0R0J            | R 3611(B,157,153) |                      | RS1/16S102J  |
|          | R 3308(B,122,136)   | RS1/16S0R0J            | R 3612(B,148,153) |                      | RS1/16S103J  |
| G        | R 3309(B,103,128)   | RS1/16S102J            | R 3613(B,157,149) |                      | RS1/16S821J  |
|          | R 3310(B,124,131)   | RS1/16S102J            | R 3614(B,150,160) |                      | RS1/16S103J  |
|          | R 3311(B,102,108)   | RS1/16S222J            | R 3615(B,164,148) |                      | RS1/16S102J  |
|          | R 3312(B,109,107)   | RS1/16S222J            | R 3616(B,169,144) |                      | RS1/16S103J  |
|          | R 3313(B,118,108)   | RS1/16S221J            | R 3617(B,169,140) |                      | RS1/16S103J  |
| H        | R 3314(B,110,111)   | RS1/16S221J            | R 3621(A,148,173) |                      | RD1/4PU223J  |
|          | R 3315(B,104,108)   | RS1/16S563J            | R 3622(A,151,170) |                      | RD1/4PU223J  |
|          | R 3316(B,108,111)   | RS1/16S563J            | R 3623(A,148,176) |                      | RD1/4PU682J  |
|          | R 3317(B,116,97)    | RS1/16S152J            | R 3625(A,154,165) |                      | RD1/4PU272J  |
|          | R 3318(B,117,90)    | RS1/16S152J            | R 3626(A,267,77)  |                      | RD1/4PU332J  |
| I        | R 3319(B,118,97)    | RS1/16S563J            | R 3629(B,163,185) |                      | RS1/16S273J  |
|          | R 3320(B,121,92)    | RS1/16S563J            | R 3630(B,124,73)  |                      | RS1/16S103J  |
|          | R 3321(A,138,97)    | ACN7122                | R 3651(A,206,213) |                      | RD1/4PU330J  |
|          | R 3322(A,144,97)    | ACN7122                | R 3652(B,210,217) |                      | RS1/16S222J  |
|          | R 3323(B,124,88)    | RS1/16S1R0J            | R 3653(B,191,218) |                      | RS1/16S182J  |
| J        | △ R 3325(A,145,101) | CARBON FILM RESISTOR   | RD1/4MUF470J      |                      | RS1/16S822J  |
|          | △ R 3326(A,151,127) | CARBON FILM RESISTOR   | RD1/4MUF470J      |                      | RS1/16S223J  |
|          | R 3329(B,144,92)    | RS1/16S1R0J            | RS1/16S1R0J       |                      | RS1/16S332J  |
|          | R 3332(B,128,88)    | RS1/16S562J            | R 3991(A,152,54)  | METAL OXIDE RESISTOR | RS3LMF471J   |
|          | R 3333(B,128,84)    | RS1/16S333J            | R 3992(A,146,52)  | METAL OXIDE RESISTOR | RS3LMF471J   |
| K        | R 3334(B,126,84)    | RS1/16S102J            | R 5401(B,36,32)   |                      | RS1/16S473J  |
|          | R 3335(B,130,84)    | RS1/16S222J            | R 5402(B,48,40)   |                      | RS1/16S473J  |
|          | R 3337(A,140,77)    | "RESISTOR (0.1OHM,2W)" | ACN7112           |                      | RS1/16S561J  |
|          | R 3338(A,140,82)    | "RESISTOR (0.1OHM,2W)" | ACN7112           |                      | RS1/16S473J  |
|          | R 3339(B,143,80)    | RS1/16S182J            | R 5501(B,94,66)   |                      | RS1/16S221J  |
| L        | R 3340(B,142,86)    | RS1/16S182J            | R 5502(B,91,66)   |                      | RS1/16S102J  |
|          | R 3341(B,145,80)    | RS1/16S333J            | R 5503(B,98,63)   |                      | RS1/16S471J  |
|          | R 3342(B,144,84)    | RS1/16S333J            | R 5504(B,93,62)   |                      | RS1/16S104J  |
|          | R 3343(B,154,69)    | RS1/16S273J            | R 5506(B,95,62)   |                      | RS1/16S221J  |
|          | R 3344(B,141,71)    | RS1/16S273J            | R 5511(B,80,52)   |                      | RS1/16S101J  |

| 5                  | 6                          | 7                   | 8                             |
|--------------------|----------------------------|---------------------|-------------------------------|
| Mark No.           | Description                | Part No.            | Mark No. Description Part No. |
|                    |                            |                     | <b>CAPACITORS</b>             |
| R 5512(B,76 ,41 )  | RS1/16S221J                | △ C 1 (A,223 ,186 ) | FILM CAPACITOR ACE7013        |
| R 5513(B,75 ,37 )  | RS1/16S221J                | △ C 5 (A,258 ,127 ) | CKA (10000P/AC250V) ACG7033   |
| R 5514(B,74 ,41 )  | RS1/16S221J                | C 11 (A,238 ,97 )   | ELECT. CAPACITOR CEAT102M25   |
| R 5515(B,77 ,35 )  | RS1/16S103J                | C 12 (A,238 ,90 )   | CEAT1R0M50                    |
| R 5516(B,79 ,35 )  | RS1/16S103J                | C 13 (A,225 ,63 )   | CEAT100M50                    |
| R 5519(B,89 ,37 )  | RS1/16S473J                | C 14 (B,221 ,73 )   | CKSRYB103K50                  |
| R 5521(B,78 ,38 )  | RS1/16S105J                | C 15                | CKSRYB102K50                  |
| R 5522(B,72 ,37 )  | RS1/16S221J                | C 21 (A,265 ,33 )   | ELECT. CAPACITOR CEAT222M63   |
| R 5525(B,69 ,41 )  | RS1/16S221J                | C 22 (A,265 ,53 )   | ELECT. CAPACITOR CEAT222M63   |
| R 5526(B,67 ,37 )  | RS1/16S221J                | C 31 (A,245 ,33 )   | CEAT472M35                    |
| R 5527(B,66 ,41 )  | RS1/16S221J                | C 32 (A,245 ,53 )   | CEAT472M35                    |
| R 5528(B,65 ,37 )  | RS1/16S221J                | C 33 (B,280 ,41 )   | CHIP CAPACITOR XCG3008        |
| R 5529(B,64 ,41 )  | RS1/16S221J                | C 34 (B,278 ,41 )   | CHIP CAPACITOR XCG3008        |
| R 5530(B,62 ,37 )  | RS1/16S221J                | C 35 (B,277 ,49 )   | CHIP CAPACITOR XCG3008        |
| R 5531(B,52 ,36 )  | RS1/16S105J                | C 36 (B,277 ,56 )   | CHIP CAPACITOR XCG3008        |
| R 5535(B,61 ,41 )  | RS1/16S221J                | C 41 (A,254 ,73 )   | ELECT. CAPACITOR CEAT682M25   |
| R 5537(B,51 ,46 )  | RS1/16S472J                | C 42 (B,224 ,90 )   | CKSRYB473K50                  |
| R 5538(B,49 ,46 )  | RS1/16S822J                | C 43 (A,225 ,85 )   | ELECT. CAPACITOR CEAT470M25   |
| R 5539(B,47 ,48 )  | RS1/16S221J                | C 44 (A,208 ,93 )   | CEAT1R0M50                    |
| R 5540(B,45 ,48 )  | RS1/16S221J                | C 47 (A,207 ,87 )   | ELECT. CAPACITOR CEAT470M25   |
| R 5541(B,43 ,48 )  | RS1/16S221J                | C 51 (A,299 ,62 )   | ELECT. CAPACITOR CEAT101M63   |
| R 5542(B,41 ,48 )  | RS1/16S221J                | C 53 (A,301 ,38 )   | ELECT. CAPACITOR CEAT330M50   |
| R 5543(B,45 ,56 )  | RS1/16S221J                | C 54 (A,297 ,48 )   | ELECT. CAPACITOR CEAT220M50   |
| R 5544(B,48 ,36 )  | RS1/16S123J                | C 56 (B,204 ,150 )  | CKSRYB473K50                  |
| R 5545(B,50 ,40 )  | RS1/16S103J                | C 57 (A,209 ,154 )  | CEAT100M50                    |
| R 5546(B,52 ,40 )  | RS1/16S103J                | C 61 (A,208 ,108 )  | CEAT1R0M50                    |
| R 5547(B,45 ,60 )  | RS1/16S221J                | C 64 (A,208 ,117 )  | ELECT. CAPACITOR CEAT220M50   |
| R 5548(B,43 ,56 )  | RS1/16S221J                | C 65 (A,208 ,148 )  | CEAT100M50                    |
| R 5549(B,43 ,60 )  | RS1/16S221J                | C 71 (A,54 ,197 )   | CEAT1R0M50                    |
| R 5550(B,40 ,55 )  | RS1/16S221J                | C 73 (B,45 ,202 )   | CKSRYB104K16                  |
| R 5551(B,51 ,73 )  | RS1/16S221J                | C 74 (A,41 ,199 )   | ELECT. CAPACITOR CEAT470M25   |
| R 5552(B,53 ,73 )  | RS1/16S221J                | C 81 (A,301 ,28 )   | ELECTR.CAPACITOR CEAT102M10   |
| R 5555(B,55 ,81 )  | RS1/16S221J                | C 82 (B,267 ,9 )    | CKSRYB224K16                  |
| R 5556(B,57 ,81 )  | RS1/16S221J                | C 1501(B,129 ,26 )  | CKSRYB104K16                  |
| R 5558(B,61 ,82 )  | RS1/16S221J                | C 1502(B,111 ,22 )  | CKSRYB104K16                  |
| R 5559(B,63 ,82 )  | RS1/16S221J                | C 1503(B,142 ,27 )  | CKSRYB104K16                  |
| R 5563(A,85 ,75 )  | RD1/4PU221J                | C 1505(A,127 ,28 )  | ELECT. CAPACITOR CEAT102M16   |
| R 5564(B,85 ,71 )  | RS1/16S221J                | C 1506(A,109 ,23 )  | ELECT. CAPACITOR CEAT470M25   |
| R 5565(B,87 ,71 )  | RS1/16S221J                | C 1509(B,115 ,182 ) | CCSRCH271J50                  |
| R 5566(B,80 ,79 )  | RS1/16S221J                | C 1510(B,114 ,152 ) | CCSRCH271J50                  |
| R 5567(B,82 ,85 )  | RS1/16S221J                | C 2101(B,79 ,116 )  | CKSRYB103K50                  |
| R 5568(B,82 ,79 )  | RS1/16S221J                | C 2102(B,83 ,106 )  | CKSRYB182K50                  |
| R 5572(B,42 ,11 )  | RS1/16S153J                | C 2103(A,78 ,104 )  | ELECT. CAPACITOR CEAT220M50   |
| R 5580(B,293 ,24 ) | RS1/16S102J                | C 2105(A,75 ,111 )  | CEAT100M50                    |
| R 5581(B,284 ,25 ) | RS1/16S103J                | C 2106(B,68 ,104 )  | CKSRYB334K10                  |
| R 5582(B,282 ,25 ) | RS1/16S102J                | C 2301(B,31 ,116 )  | CCSRCH100D50                  |
| R 5583(B,213 ,21 ) | RS1/16S103J                | C 2302(B,33 ,130 )  | CCSRCH100D50                  |
| R 5584(B,114 ,41 ) | RS1/16S473J                | C 2303(B,48 ,132 )  | CKSRYB821K50                  |
| R 5585(B,112 ,41 ) | RS1/16S222J                | C 2304(B,45 ,136 )  | CKSRYB821K50                  |
| R 5586(B,121 ,55 ) | RS1/16S124J                | C 2305(A,50 ,137 )  | CEAT100M50                    |
| R 5587(B,119 ,55 ) | RS1/16S224J                | C 2306(A,50 ,143 )  | CEAT100M50                    |
| R 5653(B,233 ,8 )  | RS1/16S100J                | C 2321(A,63 ,148 )  | FILM CAPACITOR CQ MBA682J50   |
| R 5715(B,21 ,180 ) | RS1/16S224J                | C 2322(A,73 ,150 )  | FILM CAPACITOR CQ MBA682J50   |
| R 8821(B,27 ,209 ) | CHIP RESISTOR RS1/16S75R0F | C 2325(A,64 ,155 )  | ELECT. CAPACITOR CEAT3R3M50   |
| R 8832(B,36 ,211 ) | CHIP RESISTOR RS1/16S75R0F | C 2326(A,71 ,156 )  | ELECT. CAPACITOR CEAT3R3M50   |
| R 8842(B,42 ,211 ) | CHIP RESISTOR RS1/16S75R0F | C 2401(A,36 ,154 )  | FILM CAPACITOR CQ MBA333J50   |
| R 8853(B,22 ,209 ) | CHIP RESISTOR RS1/16S75R0F | C 2402(A,47 ,151 )  | FILM CAPACITOR CQ MBA333J50   |
| R 8863(B,11 ,210 ) | CHIP RESISTOR RS1/16S75R0F | C 2405(B,37 ,148 )  | CKSRYB221K50                  |
| R 8873(B,15 ,209 ) | CHIP RESISTOR RS1/16S75R0F | C 2406(B,45 ,149 )  | CKSRYB221K50                  |

|   | <b>Mark No.</b>                     | <b>Description</b> | <b>Part No.</b> | <b>Mark No.</b>                      | <b>Description</b> | <b>Part No.</b> |
|---|-------------------------------------|--------------------|-----------------|--------------------------------------|--------------------|-----------------|
|   | C 2407(B,35 ,149 )                  |                    | CKSRYB221K50    | C 3060(A,88 ,145 )                   |                    | CEAT100M50      |
| A | C 2408(B,43 ,150 )                  |                    | CKSRYB221K50    | C 3101(B,55 ,212 )                   |                    | CKSRYB221K50    |
|   | C 2409(A,32 ,134 )                  |                    | CEAT100M50      | C 3102(B,52 ,212 )                   |                    | CKSRYB221K50    |
|   | C 2410(A,38 ,136 )                  |                    | CEAT100M50      | C 3107(A,123 ,192 )                  |                    | CEAT100M50      |
|   | C 2801(A,25 ,81 )                   |                    | CQMA123J50      | C 3108(A,122 ,186 )                  |                    | CEAT100M50      |
|   | C 2802(A,33 ,77 )                   |                    | CQMA682J50      | C 3301(A,111 ,140 )                  |                    | CEAT2R2M50      |
|   | C 2803(A,29 ,81 )                   |                    | CQMA472J50      | C 3302(A,117 ,140 )                  |                    | CEAT2R2M50      |
|   | C 2804(A,16 ,78 )                   |                    | CQMA472J50      | C 3305(A,103 ,120 )                  |                    | CEAT2R2M50      |
|   | C 2805(A,48 ,100 ) ELECT. CAPACITOR |                    | CEAT330M50      | C 3306(A,110 ,120 )                  |                    | CEAT2R2M50      |
|   | C 2807(A,40 ,103 ) ELECT. CAPACITOR |                    | CEAT470M25      | C 3307(B,118 ,103 )                  |                    | CKSRYB102K50    |
|   | C 2808(A,20 ,91 ) PPS CAPACITOR     |                    | CQHA822J2A      | C 3308(B,116 ,87 )                   |                    | CKSRYB102K50    |
|   | C 2809(B,26 ,100 ) CHIP CAPACITOR   |                    | ACG7058         | C 3309(B,122 ,97 )                   |                    | CCSRCH470J50    |
| B | C 2810(A,39 ,93 ) ELECT. CAPACITOR  |                    | CEAT330M50      | C 3310(B,123 ,92 )                   |                    | CCSRCH470J50    |
|   | C 2811(B,50 ,114 )                  |                    | CCSRCH221J50    | C 3311(B,120 ,97 )                   |                    | CCSRCH8R0D50    |
|   | C 2812(B,40 ,114 )                  |                    | CCSRCH221J50    | C 3312(B,119 ,92 )                   |                    | CCSRCH8R0D50    |
|   | C 2813(A,48 ,119 )                  |                    | CQMA152J50      | C 3313(A,114 ,101 )                  |                    | CEAT100M50      |
|   | C 2814(A,38 ,119 )                  |                    | CQMA152J50      | C 3314(A,113 ,88 )                   |                    | CEAT100M50      |
|   | C 2815(A,25 ,133 )                  |                    | CEAT1R0M50      | C 3315(A,146 ,93 )                   |                    | CEAT221M50      |
|   | C 2816(A,39 ,129 )                  |                    | CEAT1R0M50      | C 3316(A,140 ,142 )                  |                    | CEAT221M50      |
|   | C 3001(B,69 ,212 )                  |                    | CKSRYB471K50    | C 3317(A,157 ,112 ) ELECT. CAPACITOR |                    | CEATR22M50      |
|   | C 3002(B,64 ,212 )                  |                    | CKSRYB471K50    | C 3318(A,158 ,119 ) ELECT. CAPACITOR |                    | CEATR22M50      |
|   | C 3003(A,125 ,199 )                 |                    | CEAT100M50      | C 3320(A,114 ,82 ) ELECT. CAPACITOR  |                    | CEAT470M25      |
| C | C 3004(A,119 ,198 )                 |                    | CEAT100M50      | C 3323(B,153 ,64 )                   |                    | CKSRYB223K50    |
|   | C 3013(A,66 ,135 )                  |                    | CEAT100M50      | C 3324(B,140 ,66 )                   |                    | CKSRYB223K50    |
|   | C 3014(A,60 ,135 )                  |                    | CEAT100M50      | C 3325(B,151 ,66 )                   |                    | CKSRYB223K50    |
|   | C 3019(A,58 ,173 )                  |                    | CEAT4R7M50      | C 3326(B,147 ,66 )                   |                    | CKSRYB223K50    |
|   | C 3020(B,67 ,179 )                  |                    | CKSRYB471K50    | C 3327(B,113 ,215 ) CHIP CAPACITOR   |                    | XCG3008         |
|   | C 3021(A,64 ,180 ) ELECT. CAPACITOR |                    | CEAT470M25      | C 3328(B,100 ,215 ) CHIP CAPACITOR   |                    | XCG3008         |
|   | C 3022(B,53 ,177 )                  |                    | CKSRYB102K50    | C 3541(B,92 ,97 )                    |                    | CKSRYB103K50    |
|   | C 3023(A,58 ,180 ) ELECT. CAPACITOR |                    | CEAT470M25      | C 3601(A,145 ,154 )                  |                    | CEAT1R0M50      |
|   | C 3024(A,67 ,184 )                  |                    | CEAT470M25      | C 3602(A,164 ,152 )                  |                    | CEAT1R0M50      |
|   | C 3025(B,105 ,173 )                 |                    | CKSRYB104K16    | C 3622(A,158 ,166 ) ELECT. CAPACITOR |                    | CEAT2R2M2A      |
| D | C 3026(B,112 ,185 )                 |                    | CKSRYB104K16    | C 3623(A,122 ,74 )                   |                    | CEAT471M6R3     |
|   | C 3027(B,75 ,194 )                  |                    | CKSRYB471K50    | C 3624(A,161 ,179 )                  |                    | CEAT100M50      |
|   | C 3031(B,89 ,189 )                  |                    | CKSRYB563K16    | C 3651(A,202 ,204 ) ELECT. CAPACITOR |                    | CEAT470M25      |
|   | C 3032(B,77 ,192 )                  |                    | CKSRYB563K16    | C 3652(A,202 ,211 ) ELECT. CAPACITOR |                    | CEAT470M25      |
|   | C 3033(B,84 ,183 )                  |                    | CKSRYB563K16    | C 3653(A,202 ,218 ) ELECT. CAPACITOR |                    | CEAT101M25      |
|   | C 3034(B,77 ,188 )                  |                    | CKSRYB563K16    | C 5401(B,46 ,36 )                    |                    | CKSRYB104K16    |
|   | C 3035(A,103 ,182 )                 |                    | CEAT100M50      | C 5402(B,46 ,40 )                    |                    | CCSRCH470J50    |
|   | C 3036(A,84 ,188 )                  |                    | CEAT100M50      | C 5411(A,89 ,102 ) ELECT. CAPACITOR  |                    | CEAT220M50      |
|   | C 3039(B,107 ,177 )                 |                    | CCSRCH181J50    | C 5501(B,78 ,49 )                    |                    | CKSRYB104K16    |
|   | C 3040(B,102 ,192 )                 |                    | CCSRCH181J50    | C 5504(B,80 ,38 )                    |                    | CKSRYB103K50    |
| E | C 3041(A,88 ,183 )                  |                    | CEAT100M50      | C 5505(B,50 ,36 )                    |                    | CCSRCH101J50    |
|   | C 3042(A,93 ,185 )                  |                    | CEAT100M50      | C 5509(B,77 ,31 )                    |                    | CKSRYB103K50    |
|   | C 3043(B,96 ,177 )                  |                    | CKSRYB683K16    | C 5510(B,79 ,31 )                    |                    | CKSRYB103K50    |
|   | C 3044(B,93 ,181 )                  |                    | CKSRYB683K16    | C 5581(A,288 ,26 )                   |                    | CEAT1R0M50      |
|   | C 3045(A,101 ,169 )                 |                    | CEAT100M50      | C 5582(B,97 ,67 )                    |                    | CCSRCH101J50    |
|   | C 3046(A,99 ,176 )                  |                    | CEAT100M50      | C 5583(A,111 ,36 )                   |                    | CEAT100M50      |
|   | C 3047(B,94 ,173 )                  |                    | CKSRYB105K10    | C 5585(B,110 ,41 )                   |                    | CKSRYB103K50    |
|   | C 3048(B,93 ,169 )                  |                    | CKSRYB105K10    | C 5586(A,81 ,46 )                    |                    | CEAT101M10      |
|   | C 3049(B,92 ,173 )                  |                    | CKSRYB104K16    | C 5587(B,85 ,44 )                    |                    | CKSRYB103K50    |
|   | C 3050(B,95 ,169 )                  |                    | CKSRYB104K16    | C 5588(B,115 ,37 )                   |                    | CKSRYB104K16    |
| F | C 3051(B,98 ,165 )                  |                    | CKSRYB222K50    | C 5589(A,116 ,62 )                   |                    | CEAT1R0M50      |
|   | C 3052(B,97 ,162 )                  |                    | CKSRYB222K50    | C 5705(B,19 ,183 )                   |                    | CKSRYB102K50    |
|   | C 3053(B,95 ,163 )                  |                    | CKSRYB105K10    | C 5706(B,21 ,193 )                   |                    | CKSRYB104K16    |
|   | C 3054(A,91 ,157 ) ELECT. CAPACITOR |                    | CEATR33M50      | C 5708(B,31 ,194 )                   |                    | CKSRYB102K50    |
|   | C 3055(A,60 ,198 )                  |                    | CEAT100M50      | C 5709(B,29 ,194 )                   |                    | CKSRYB103K50    |
|   | C 3056(A,52 ,189 )                  |                    | CEAT100M50      | C 8822(B,27 ,213 )                   |                    | CCSRCH470J50    |
|   | C 3057(A,153 ,24 )                  |                    | CEAT100M50      | C 8831(A,39 ,205 ) ELECT. CAPACITOR  |                    | CEAT102M6R3     |
|   | C 3059(A,84 ,150 )                  |                    | CEAT100M50      | C 8851(A,21 ,200 ) ELECT. CAPACITOR  |                    | CEAT102M6R3     |

| 5                 | 6                |             |
|-------------------|------------------|-------------|
| Mark No.          | Description      | Part No.    |
| C 8852(B,24 ,213) | CCSRCH470J50     |             |
| C 8861(A,9 ,207)  | CEAT471M6R3      |             |
| C 8862(B,10 ,214) | CCSRCH470J50     |             |
| C 8871(A,9 ,200)  | CEAT471M6R3      |             |
| C 8872(B,14 ,213) | CCSRCH470J50     |             |
| C 8881(A,30 ,203) | ELECT. CAPACITOR | CEAT102M6R3 |

**D DISPLAY ASSY**  
**MISCELLANEOUS**

|                    |                      |                 |
|--------------------|----------------------|-----------------|
| IC 5901(B,165 ,81) | FL DRIVER IC         | PT6315          |
| IC 5902(A,125 ,82) | REMOTE RECEIVER UNIT | RPM7140-H9      |
| Q 5981(B,268 ,90)  | TRANSISTOR           | 2SC4081         |
| D 5981(A,274 ,82)  | LED(BLUE)            | SLR-343BBT(GHJ) |
| D 5982(A,299 ,82)  | LED(BLUE)            | SLR-343BBT(GHJ) |
| D 5983(B,274 ,87)  | DIODE                | 1SS355          |
| L 5901(A,134 ,78)  | AXIAL INDUCTOR       | LAU220J         |
| L 5902(A,184 ,76)  | AXIAL INDUCTOR       | LAU100J         |
| V 5901(A,137 ,69)  | FL TUBE              | AAV7109         |
| S 5961(A,290 ,115) | SWITCH               | VSG1024         |
| S 5962(A,128 ,49)  | SWITCH               | VSG1024         |
| S 5963(A,128 ,24)  | SWITCH               | VSG1024         |
| S 5964(A,152 ,49)  | SWITCH               | VSG1024         |
| S 5965(A,172 ,49)  | SWITCH               | VSG1024         |
| S 5966(A,192 ,49)  | SWITCH               | VSG1024         |
| S 5967(A,221 ,49)  | SWITCH               | VSG1024         |
| S 5968(A,318 ,82)  | SWITCH               | VSG1024         |
| S 5969(A,285 ,49)  | SWITCH               | VSG1024         |
| S 5970(A,252 ,82)  | SWITCH               | VSG1024         |
| S 5971(A,288 ,82)  | ROTARY ENCODER       | XSX3007         |
| CN5901(A,211 ,109) | CONNECTOR            | 52045-1745      |
|                    | PCB BINDER           | VEF1040         |
|                    | 5901FL SPACER(CR)    | AEB7091         |

**RESISTORS**

|                   |             |
|-------------------|-------------|
| R 5901(B,151 ,88) | RS1/16S221J |
| R 5902(B,154 ,88) | RS1/16S221J |
| R 5903(B,152 ,88) | RS1/16S221J |
| R 5904(B,158 ,88) | RS1/16S823J |
| R 5951(B,126 ,94) | RS1/16S470J |
| R 5954(B,130 ,94) | RS1/16S101J |
| R 5962(B,129 ,30) | RS1/16S102J |
| R 5963(B,248 ,84) | RS1/16S182J |
| R 5964(B,168 ,50) | RS1/16S562J |
| R 5965(B,185 ,55) | RS1/16S332J |
| R 5966(B,217 ,50) | RS1/16S272J |
| R 5967(B,318 ,87) | RS1/16S102J |
| R 5968(B,285 ,53) | RS1/16S122J |
| R 5969(B,257 ,78) | RS1/16S152J |
| R 5971(B,273 ,97) | RS1/16S103J |
| R 5972(B,279 ,97) | RS1/16S103J |
| R 5973(B,275 ,97) | RS1/16S123J |
| R 5974(B,277 ,97) | RS1/16S273J |
| R 5981(B,263 ,90) | RS1/16S102J |
| R 5982(B,272 ,91) | RS1/10S221J |

**CAPACITORS**

|                   |                  |            |
|-------------------|------------------|------------|
| C 5907(A,243 ,60) | ELECT. CAPACITOR | CEJQ470M35 |
| C 5911(B,134 ,82) | CKSRYB223K50     |            |
| C 5912(B,136 ,74) | CKSRYB223K50     |            |
| C 5913(A,143 ,59) | CEJQ470M6R3      |            |
| C 5915(B,171 ,90) | CKSRYB103K50     |            |

| 7                 | 8                |            |
|-------------------|------------------|------------|
| Mark No.          | Description      | Part No.   |
| C 5916(B,182 ,81) | CKSRYB223K50     |            |
| C 5917(B,180 ,77) | CKSRYB223K50     |            |
| C 5918(A,201 ,55) | ELECT. CAPACITOR | CEJQ470M35 |
| C 5920(B,151 ,91) | CCSRCH221J50     |            |
| C 5921(B,154 ,91) | CCSRCH221J50     |            |
| C 5922(B,152 ,91) | CCSRCH221J50     |            |
| C 5951(B,129 ,76) | CKSRYB223K50     |            |
| C 5952(A,123 ,90) | CEJQ470M6R3      |            |
| C 5971(B,281 ,96) | CKSRYB223K50     |            |
| C 5981(B,278 ,87) | CKSRYB103K50     |            |

**E MIC ASSY**  
**MISCELLANEOUS**

|                    |                      |            |
|--------------------|----------------------|------------|
| IC 3901(B,35 ,147) | OP-AMP IC            | BA4560RF   |
| IC 3921(B,42 ,181) | ECHO IC              | M65855FP   |
| D 3921(B,31 ,167)  | DIODE                | UDZS5R1(B) |
| L 3921(A,30 ,193)  | AXIAL INDUCTOR       | LAU100J    |
| J 3992(A,24 ,65)   | JUMPER WIRE 12P      | D20PY1225E |
| JA3902(A,55 ,117)  | JACK                 | RKN1004    |
| KN3991(A,15 ,82)   | WRAPPING TERMINAL    | VNF1084    |
| VR3901(A,47 ,139)  | VARIABLE( 10K-X1)    | ACS7042    |
| CN3921(A,34 ,210)  | 5P CONNECTOR         | 52044-0545 |
|                    | 3991JACK             | AKN7003    |
|                    | 399212P CABLE HOLDER | 51048-1200 |
|                    | 3901JACK             | AKN7003    |

**RESISTORS**

|                   |             |
|-------------------|-------------|
| R 3901(B,49 ,106) | RS1/16S332J |
| R 3902(B,46 ,106) | RS1/16S332J |
| R 3905(B,41 ,155) | RS1/16S103J |
| R 3906(B,33 ,139) | RS1/16S104J |
| R 3907(B,39 ,155) | RS1/16S473J |
| R 3908(B,37 ,155) | RS1/16S332J |
| R 3909(B,44 ,153) | RS1/16S332J |
| R 3910(B,40 ,163) | RS1/16S152J |
| R 3911(B,33 ,155) | RS1/16S123J |
| R 3921(B,41 ,189) | RS1/16S153J |
| R 3922(B,43 ,189) | RS1/16S472J |
| R 3923(B,45 ,189) | RS1/16S123J |
| R 3924(B,36 ,172) | RS1/16S124J |
| R 3925(B,41 ,172) | RS1/16S103J |
| R 3926(B,46 ,172) | RS1/16S822J |
| R 3927(B,49 ,189) | RS1/16S123J |
| R 3928(B,48 ,172) | RS1/16S123J |
| R 3929(B,38 ,198) | RS1/10S681J |

**CAPACITORS**

|                   |              |
|-------------------|--------------|
| C 3901(A,34 ,135) | CEJQ2R2M50   |
| C 3902(B,52 ,102) | CCSRCH101J50 |
| C 3903(B,41 ,117) | CCSRCH101J50 |
| C 3904(B,37 ,99)  | CKSRYB103K50 |
| C 3905(B,34 ,99)  | CKSRYB104K16 |
| C 3908(B,35 ,139) | CCSRCH331J50 |
| C 3910(A,41 ,137) | CEAT2R2M50   |
| C 3911(A,41 ,151) | CEAT2R2M50   |
| C 3912(A,51 ,152) | CEAT470M16   |
| C 3913(B,48 ,153) | CKSRYB104K16 |
| C 3914(B,46 ,153) | CCSRCH101J50 |
| C 3916(A,44 ,164) | CEAT2R2M50   |
| C 3917(B,35 ,155) | CKSRYB122K50 |

| <u>Mark No.</u> | <u>Description</u> | <u>Part No.</u> |
|-----------------|--------------------|-----------------|
|-----------------|--------------------|-----------------|

|   |                                   |              |
|---|-----------------------------------|--------------|
| C | 3919(B,29 ,155 )                  | CKSRYB104K16 |
| C | 3922(A,43 ,193 ) ELECT. CAPACITOR | CEATR47M50   |

|   |                                     |              |
|---|-------------------------------------|--------------|
| A | C 3923(B,39 ,190 )                  | CKSRYB103K50 |
|   | C 3924(B,47 ,189 )                  | CKSRYB103K50 |
|   | C 3925(A,32 ,188 ) ELECT. CAPACITOR | CEAT220M25   |
|   | C 3926(B,46 ,194 )                  | CKSRYB473K50 |
|   | C 3927(A,49 ,159 )                  | CEAT4R7M50   |

|   |                  |              |
|---|------------------|--------------|
| C | 3929(B,35 ,172 ) | CKSRYB104K16 |
| C | 3930(B,39 ,172 ) | CKSRYB103K50 |
| C | 3931(B,44 ,172 ) | CKSRYB472K50 |
| C | 3932(B,51 ,175 ) | CKSRYB123K50 |
| C | 3933(A,37 ,168 ) | CEAT101M16   |

|   |                   |              |
|---|-------------------|--------------|
| B | C 3993(B,36 ,90 ) | CKSRYB104K16 |
|   | C 3995(B,42 ,73 ) | CKSRYB103K50 |
|   | C 3996(B,41 ,67 ) | CKSRYB103K50 |

C

D

E

F



# 6. ADJUSTMENT

## 6.1 DECK SECTION

### 6.1.1 ADJUSTMENT CONDITION



#### ■ Adjustment Condition

- (1) The ground at the time of adjustment shall be JA3001(GND) (Refer to Fig. 6-2).
- (2) Clean the heads and demagnetize them using a head eraser.
- (3) Set the measurement level to 0 dBV = 1 Vrms.
- (4) Use the specified tape for adjustment. Use the labeled (A) side of the test tape.
  - NCT-111 or STD-301 : For Tape Speed adjustment
  - NCT-112 or STD-331E : For Playback adjustment
  - STD-630 or STD-631 : Normal blank tape

\* As the reference recording level is 250nwb/m for STD-331E, the recording level will be higher by 4 dB for STD-331B (160nwb/m).

When adjusting, pay carefull attention to the type of tape used.

- (5) Provide yourself with the following measuring devides:
  - AC millivoltmeter
  - Low-frequency oscillator
  - Attenuator
  - Oscilloscope
- (6) Adjust both right and left channels unless other wise specified.
- (7) Warm up the unit for several minutes before adjustment. In particular, be sure to warm up the unit in the REC/PLAY mode for 3 to 5 minutes before starting recording/playback frequency characteristics adjustment.
- (8) Always follow the indicated adjustment order. Otherwise, a complete adjustment may not be achieved.

#### ■ List of Adjustments

##### ● Playback Section

- (1) Tape Speed Confirmation
- (2) Head Azimuth Adjustment

##### ● Recording Section

- (1) Recording Bias Adjustment

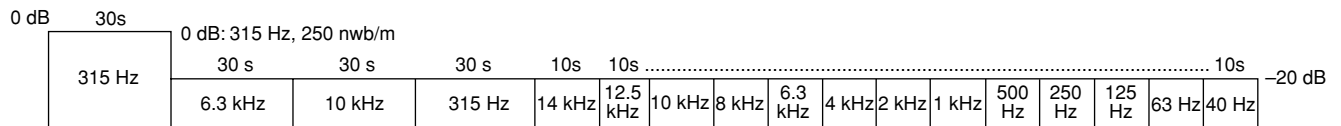


Fig. 6-1 Test Tape NCT-112 ( STD-331E)



## 6.1.2 PLAYBACK and RECORDING SECTION

### ■ Playback Section

#### (1) Tape Speed Confirmation

| No. | Mode | Input Signal/Test Tape                 | Adjustment Points                                   | Measurement Points                 | Adjustment Value                                    | Remarks                                                                                      |
|-----|------|----------------------------------------|-----------------------------------------------------|------------------------------------|-----------------------------------------------------|----------------------------------------------------------------------------------------------|
| 1   | PLAY | NCT-111 (3kHz)<br>or<br>STD-301 (3kHz) | ADJ. VR on<br>CASSETTE MECHA<br>(Refer to Fig. 6-3) | LINE OUT R (JA3001)<br>(MAIN ASSY) | 3000 Hz $\begin{matrix} +10 \\ -10 \end{matrix}$ Hz | FWD adjustment<br>REV Confirmation<br>( 3000 Hz $\begin{matrix} +40 \\ -40 \end{matrix}$ Hz) |

#### (2) Head Azimuth Adjustment

- This unit is equipped with auto tape selector.
- Do not switch between forward and reverse operation with the screwdriver inserted.

| No. | Mode | Input Signal/Test Tape                            | Adjustment Points                                       | Measurement Points                                        | Adjustment Value              | Remarks                                                                          |
|-----|------|---------------------------------------------------|---------------------------------------------------------|-----------------------------------------------------------|-------------------------------|----------------------------------------------------------------------------------|
| 1   | PLAY | NCT-112 or STD-331E<br>(Playback: 10 kHz, -20 dB) | Head azimuth<br>adjustment Screw<br>(Refer to Fig. 6-3) | LINE OUT L (JA3001)<br>LINE OUT R (JA3001)<br>(MAIN ASSY) | Max. Playback<br>signal level | After adjustment, apply silicon<br>bond to the head azimuth<br>adjustment screw. |

### ■ Recording Section

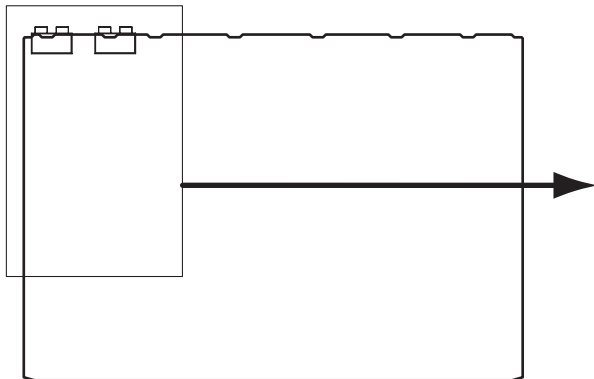
#### (1) Recording Bias Adjustment

- After the adjustment, caution should be exercised so as not to become under bias by checking the distortion rate.

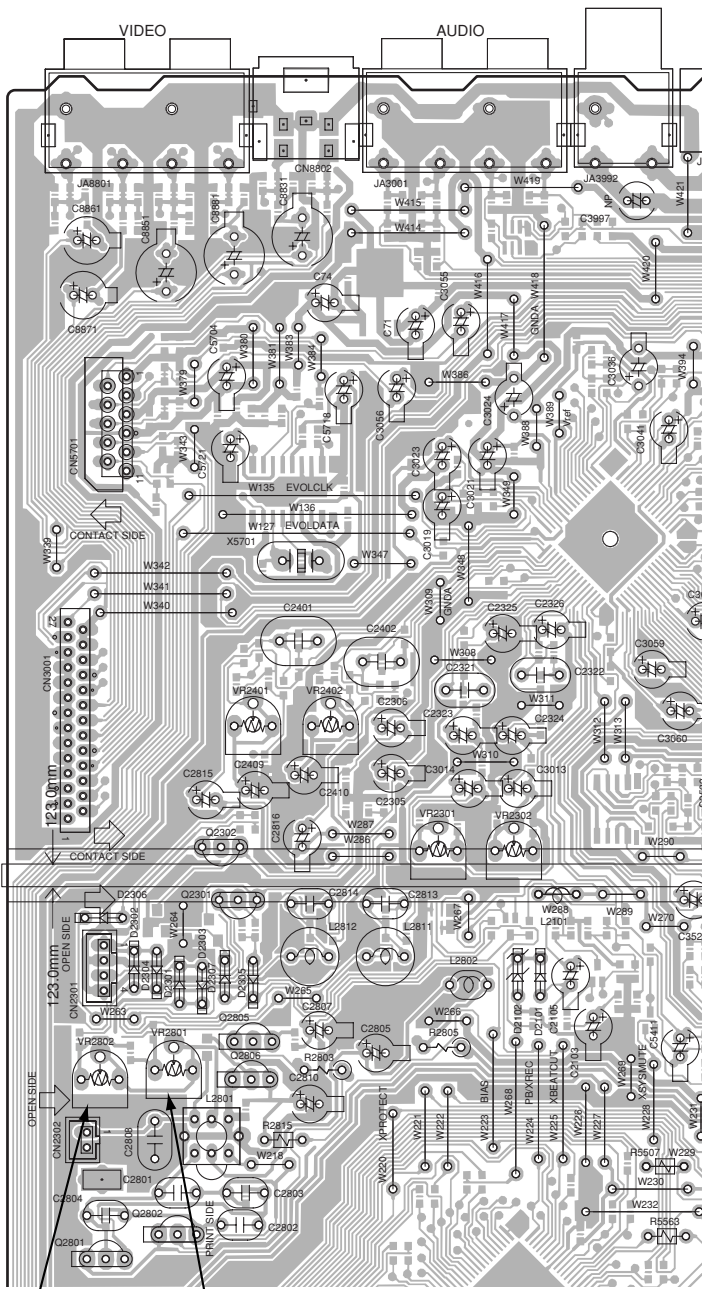
| No. | Mode          | Input Signal/Test Tape                                                                                             | Adjustment Points  |        | Measurement Points                 | Adjustment Value                                                                                                            | Remarks |
|-----|---------------|--------------------------------------------------------------------------------------------------------------------|--------------------|--------|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|---------|
| 1   | REC/<br>PAUSE | Input a 315Hz signal to the LINE -<br>IN terminal. *                                                               | Input signal level |        | LINE OUT L (JA3001)                | -23.7 dBV                                                                                                                   |         |
| 2   | REC →<br>PLAY | Load the STD-630 or 631 test tape<br>and record / playback the 315Hz<br>and 10KHz signals.<br>(see the Note below) | L ch               | VR2801 | LINE OUT R (JA3001)<br>(MAIN ASSY) | Repeat adjustment until playback level of<br>the 10kHz signal is within 0dBV $\pm 0.5$ dB<br>from that of the 315Hz signal. |         |
|     |               |                                                                                                                    | R ch               | VR2802 |                                    |                                                                                                                             |         |

Note: Set the 10kHz input signal level to the same value as the 315Hz input signal level of step 1.

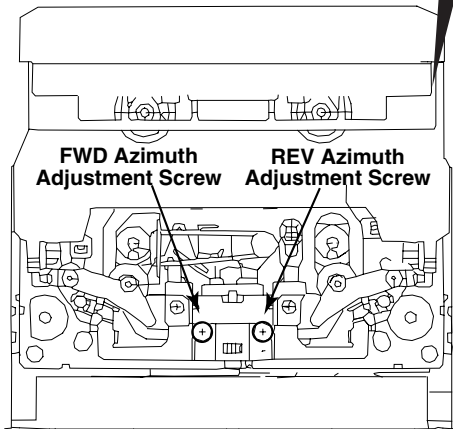
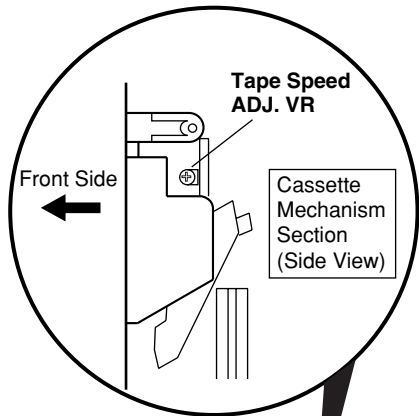
● MAIN ASSY C



JA3001 (LINE OUT)



● MECHANISM UNIT



VR2802 (Rch)  
 BIAS VR2801 (Lch)

Fig. 6-2 Adjustment and Measurement Points

## 6.2 DVD SECTION

### 6.2.1 ADJUSTMENT ITEMS AND LOCATION

#### ■ Adjustment Items

[Mechanism Part]

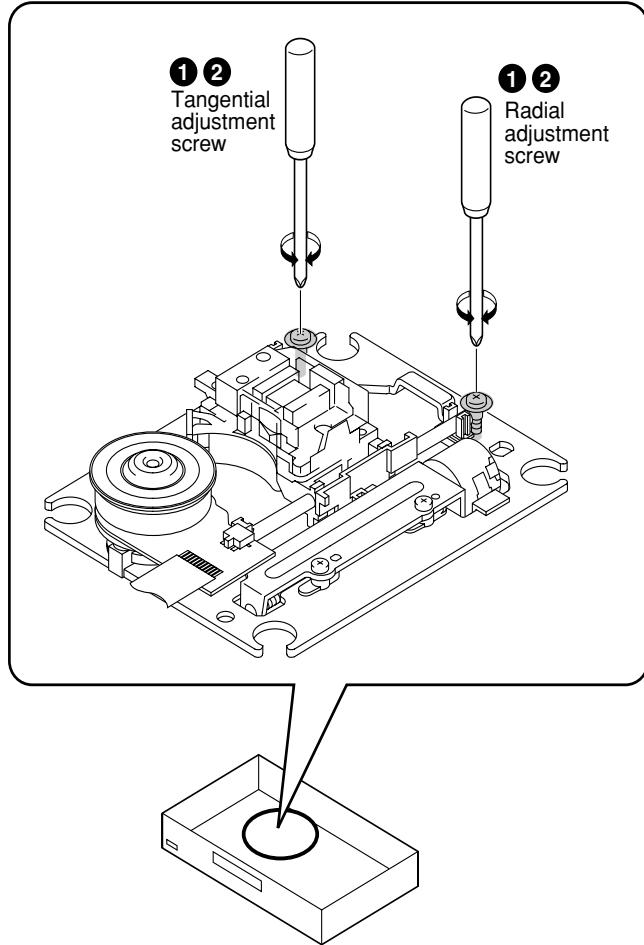
- ① Tangential and Radial Height Coarse Adjustment
- ② DVD Error Rate Adjustment

[Electrical Part]

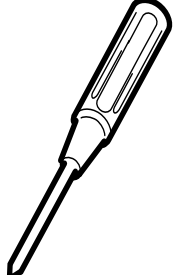

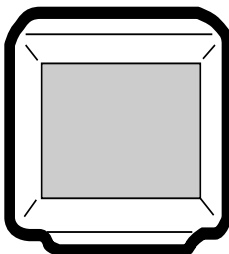
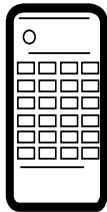


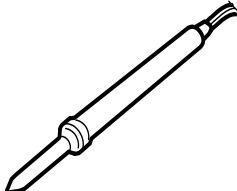
Electrical adjustments are not required.

#### ■ Adjustment Points (Mechanism Part)

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



### 6.2.2 JIG AND MEASURING INSTRUMENTS

|                                                                                                                  |                                                                                                                    |                                                                                                           |                                                                                                                                      |
|------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
|  <p>⊕ Screwdriver (large)</p> |  <p>⊕ Screwdriver (medium)</p>  |  <p>TV monitor</p>     |  <p>Test mode remote control unit (GGF1381)</p> |
|  <p>⊕ Precise screwdriver</p> |  <p>DVD test disc (GGV1025)</p> |  <p>Soldering iron</p> | <p>Screw tight (GYL1001)</p>                                                                                                         |

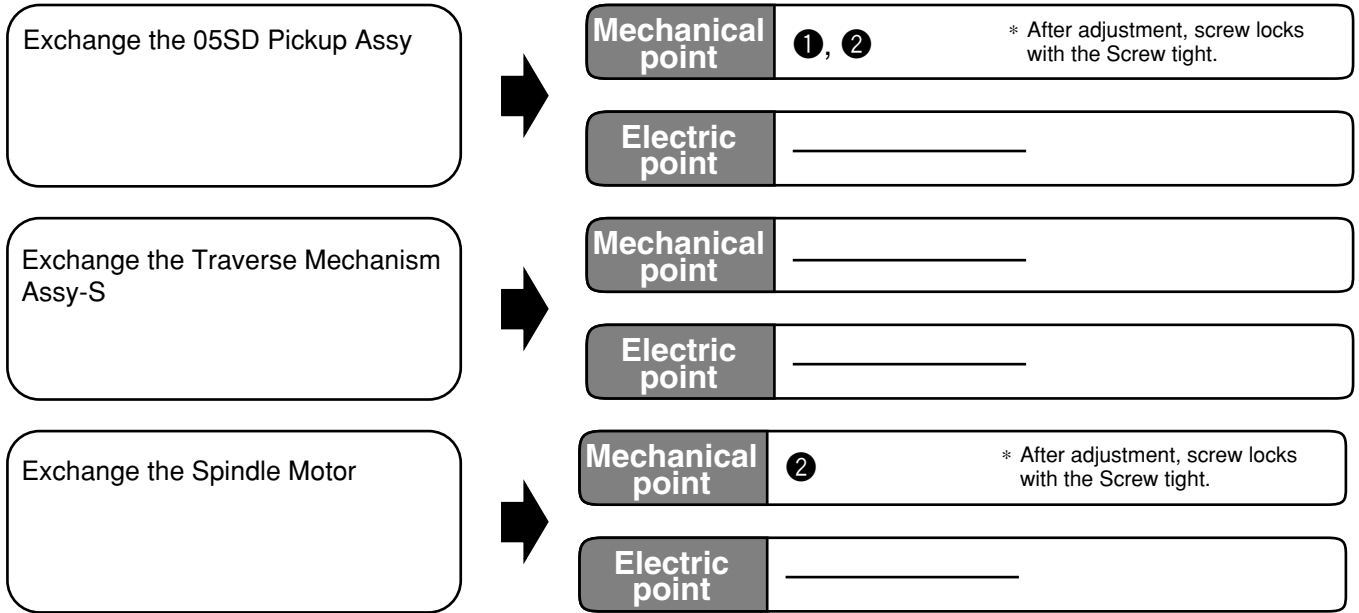
5 6 7 8

## 6.2.3 NECESSARY ADJUSTMENT POINTS

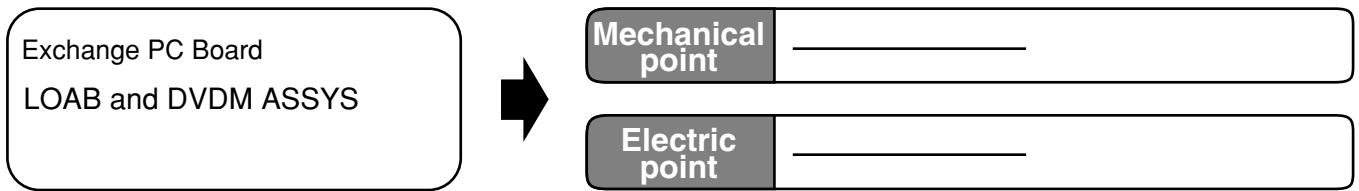
When

Adjustment Points

### ■ Exchange Parts of Mechanism



### ■ Exchange PCB Assy

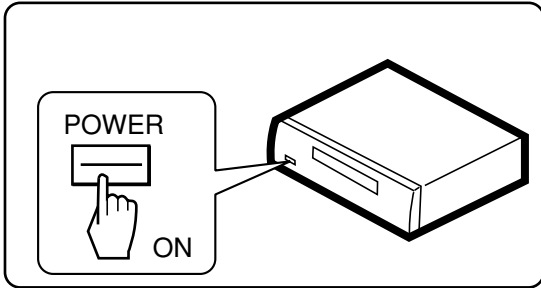


1 2 3 4

## 6.2.4 TEST MODE

A

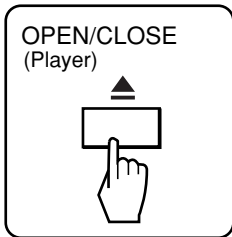
### POWER ON



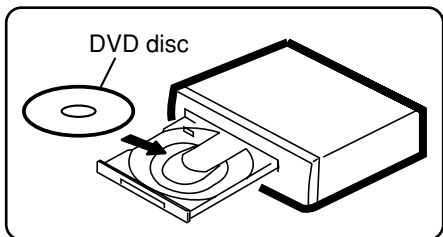
B

### DISC SET

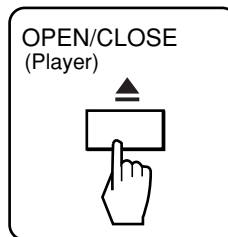
#### <TRAY OPEN>



C



#### <TRAY CLOSE>

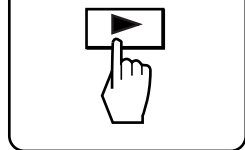


D

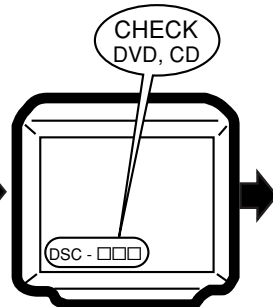
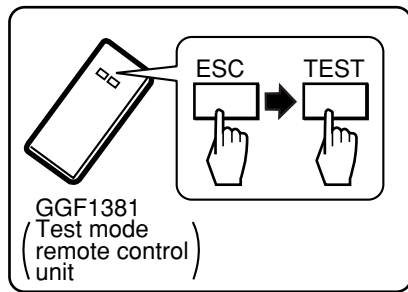
### TEST MODE: PLAY

#### <PLAY>

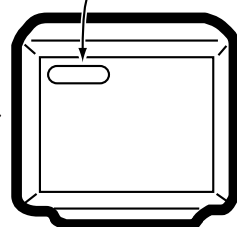
Press the play key (▶) of the normal remote control unit.



E



An address is displayed

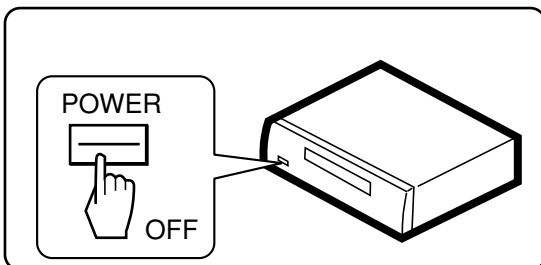


Notes:

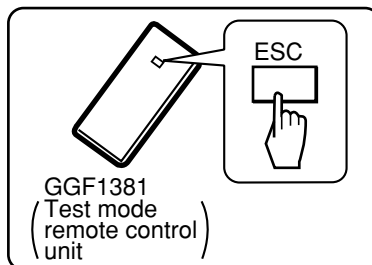
- After going into test mode, if you play back the disc, "DISC-NON" is displayed.
- The video signal and the audio signal are outputted during the test mode.
- The SKIP key and the SCAN key are effective during the test mode.

F

### TEST MODE: OFF



OR



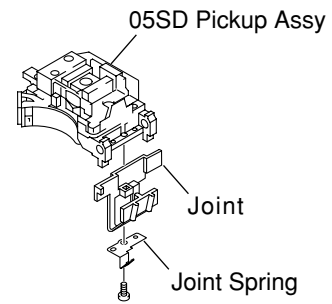


# 1 Tangential and Radial Height Coarse Adjustment

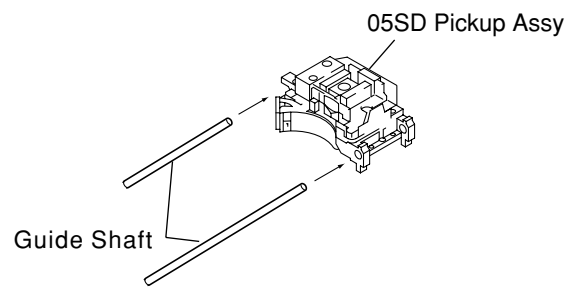
## START

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

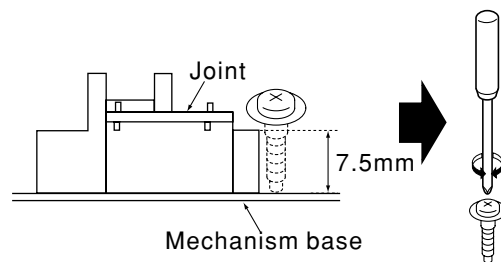
**Note:**  
 Before removing the flexible cable for the pickup, soldering of the pickup circuit is necessary.  
 For details, see "7.1.10 DISASSEMBLY".



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



- Put the joint between the Tangential (or Radial) adjustment screw and the mechanism base and turn each screw to adjust the height.  
 (Refer to "6.2.1 ADJUSTMENT ITEMS AND LOCATION".)



- Attach the Traverse Mechanism Assy-S to the 05 LOADER Assy.
- Turn it over and attach the joint and the joint spring.
- Arrange the flexible cables.  
 (Refer to "7.1.10 DISASSEMBLY".)

## 2 DVD Error Rate Adjustment

Notes:

- Use disc: GGV1025

### START

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



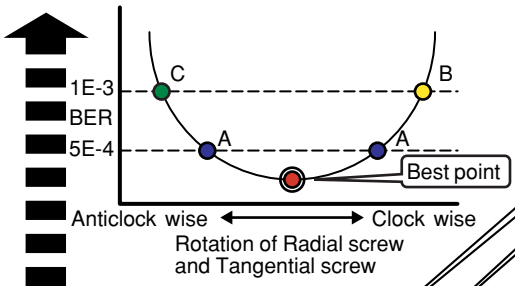
Traverse Mechanism Assy-S  
Adjust the radial adjustment screw so that ERROR RATE becomes around "5E-4". ● A

ERROR RATE : "5E-4"

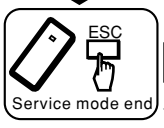
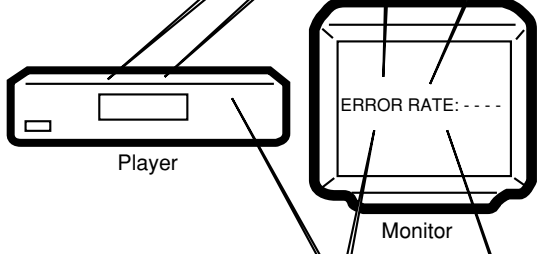
- Play the DVD test disc at inner track (around #30000)

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

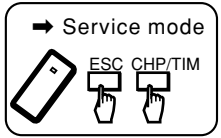
ERROR RATE : "1E-3"



- Unfasten the radial adjustment screw by 90 degrees step till ERROR RATE becomes around "1E-3" again. ● C
- Record the number of rotation (N1). (memorizing how much the screw was rotated.)
- Fasten the radial adjustment screw till the number of rotation becomes half of N1. ● Best Radial point



- Play the DVD test disc at outer track (around #200000)



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

ERROR RATE : "1E-3"

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

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

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

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

Disc playback normally.  
• The measurement of block error rate

Service mode end



## 7. GENERAL INFORMATION

### 7.1 DIAGNOSIS

#### 7.1.1 TEST MODE

##### ■ Test Mode Functional Specification

###### ① Test mode entry

- In the power ON state, press the [ESC] (A8-5F) key and [TEST] (A8-5E) key in order of the Test mode remote control unit.
- OSD displays test mode.

###### ② LD ON

Enter the test mode.

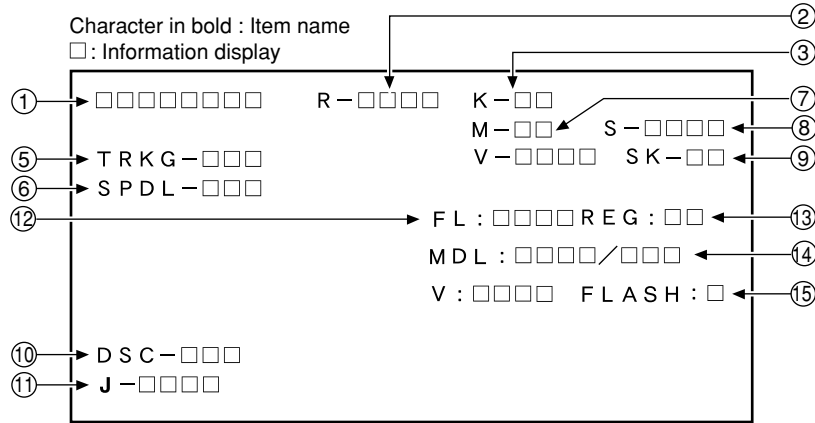
DVD : Press the [TEST] (A8-5E) and [1] (A8-01) keys in order, and turn on the laser diode (650n).

CD : Press the [TEST] (A8-5E) and [4] (A8-04) keys in order, and turn on the laser diode (780n).

###### ③ Release the Test mode

- Turn off the power.
- Press the [ESC] (A8-5F) key of the remote control unit and reset it.

## 7.1.2 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: /J, K: /KU, /KC, /KU/KC, R: /RL/RD, RAM: /RAM,  
LB: /LB, WY: /WY

### ⑮ Version of the flash ROM [V: \* \* . \* \* \*] Flash ROM size [FLASH = \* \* \*]

## 7.1.3 FUNCTIONAL SPECIFICATION OF THE SHORTCUT KEY

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                  | Remote Control Code              |
|-------------------------------------------------------------------|-----------------------------------------|------------------------------------------|----------------------------------|
| Memory clear and region / revision indication                     |                                         | CLEAR (*1)                               | A8-45                            |
| Average value measurement of DVD error rate                       |                                         | 5 (*1)                                   | A8-05                            |
| CD error rate measurement                                         |                                         | 5 (*1)                                   | A8-05                            |
| Scart terminal output : VIDEO                                     |                                         | AUDIO                                    | A3-BE                            |
| Scart terminal output : S-VIDEO                                   | WY, models equipped with Scart terminal | SUBTITLE                                 | A3-36                            |
| Scart terminal output : RGB                                       |                                         | ANGLE                                    | A3-B5                            |
| Progressive OFF                                                   | Only for progressive models             | R_SKIP                                   | A3-9D                            |
| Progressive ON                                                    |                                         | F_SKIP                                   | A3-9C                            |
| FL indication of ID number                                        |                                         | STEREO (*1)                              | A8-4A                            |
| ZOOM ON (x4)                                                      |                                         | ZOOM                                     | A3-37                            |
| Service mode indication (error rate indication, etc.)             |                                         | CHP/TIM (*1)                             | A8-13                            |
| Model information indication                                      |                                         | CHAP (*1)                                | A8-40                            |
| Title search Input mode IN<br>Title No. input<br>Search execution |                                         | SIDE A (*1)<br>Numbers (*1)<br>PLAY (*1) | A8-4D<br>A8-00 to A8-09<br>A8-17 |
| Region confirmation mode                                          |                                         | A.MON (*1)<br>Numbers (*1)               | A8-1E<br>A8-01 to A8-08          |

\*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)

The items from 12 to 15 of the TEST MODE Indications are displayed. However, in the indications, S in the standard test mode is changed to CHIP VERSION, and M is changed to RF VERSION. For details, see 7.1.4.

### • Region confirmation mode (ESC + A.MON [Test mode remote control unit] + "1"- "8" [Test mode remote control unit] keys)

After you press the AUDIO 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.

1

2

3

4

## 7.1.4 SPECIFICATION OF THE 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.

A

• Display contents

■

B

Character in bold : Item name  
□ : Information display

C

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**

D

⑦ **CHIP VERSION**

⑨ **Remote control code**

⑩ **Key code of Main unit**

■

E

■

F

68

1

2

3

4

XV-GX3

## 7.1.5 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

$\Delta\Delta e - \square$

$\Delta\Delta e - 6$  : OK

$\Delta\Delta e - 5$  : OK

$\Delta\Delta e - 4$  : Refer to Step 2

$\Delta\Delta e - 3$  : NG

$\Delta\Delta e - 2$  : NG

#### • Step 2

$\Delta\Delta e - 4$

3.0e -4 : OK

4.0e -4 : OK

5.0e -4 : OK

6.0e -4 : NG

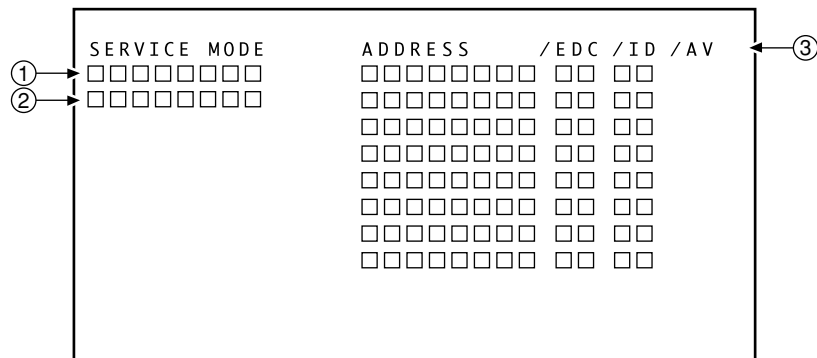
7.0e -4 : NG

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

## 7.1.6 SERVICE TEST MODE

### 1. Conditions During Service Test Mode

- During Service Test mode, the unit will not be shut down for an emergency even if one of the failures mentioned below occurs.
- After the unit has been shut down in Normal mode for an emergency upon detection of one of the failures mentioned below, you can turn it on immediately, without waiting for one minute, in Service Test mode.
- The accumulated power-on time can be checked during Service Test mode.

### 2. How to enter Service Test mode

- Connect AC power cord with the STTEST port (microcomputer terminal IC5501: 43-pin) at High (5 V). (See "Service Test mode connecting point".)

**Note:** Initial function setting is DVD/CD.

- Connect AC power cord while holding both the **◀** and POWER keys on the main unit pressed. The unit will be turned on, and the following indication will be displayed:

### 3. How to quit Service Test mode, and conditions for quitting

- To quit Service Test mode, turn the power off or disconnect the AC power cord to turn the power off.
- When Service Test mode is quit, only data on protection in RAM will be initialized, and data on user settings in RAM will not be initialized.

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

- Indications on the FL display when Service Test mode is entered differ depending on whether the unit was turned off normally or shut down for emergency protection, immediately before Service Test mode starts, as follows:

[After a normal power-off]

FL display **W:e:l:c:o:m:e**  
 ↓  
 FL display **V:o:l:0**  
 ↓  
 FL display **D:V S:R:V:C:E**

[After a shutdown caused by an AMP-system abnormality]

FL display **P:R:T:C:T:W:G**  
 ↓  
 FL display **V:o:l:0**  
 ↓  
 FL display **D:V S:R:V:C:E**

[After a shutdown caused by an AMP-system failure]

FL display **P:R:T:C:T:ER**  
 ↓  
 FL display **V:o:l:0**  
 ↓  
 FL display **D:V S:R:V:C:E**

[After a shutdown caused by a DVD-system failure]

FL display **D:V P:R:T:C:T**  
 ↓  
 FL display **V:o:l:0**  
 ↓  
 FL display **D:V S:R:V:C:E**

[After a shutdown caused by an EEPROM (IC5401) failure]

FL display **E:E:P:ERR**  
 ↓  
 FL display **V:o:l:0**  
 ↓  
 FL display **D:V S:R:V:C:E**

### 5. Operations during Service Test Mode

- Basically, operations in Service Test mode are the same as in Normal mode. However, to indicate that the unit is in Service Test mode, the following are displayed when the functions are changed:

| [Functions] | [FL display]         |
|-------------|----------------------|
| DVD/CD      | <b>D:V S:R:V:C:E</b> |
| TUNER       | <b>T:X S:R:V:C:E</b> |
| TAPE        | <b>T:C S:R:V:C:E</b> |
| LINE        | <b>L:N S:R:V:C:E</b> |



## 6. Failures

- Depending on the types of errors, one of the following error messages will be displayed when the unit is turned on:

### P:R:T:C:T W:G

A protection circuit was activated:

- The V+10, V+5, V+3R3, or VFDP was short-circuited (See the protection circuit on "3.4 DVD MAIN ASSY (2/2)", or the value at V+10, V+5, or V+3R3 exceeded the standard value because of an abnormality in its power section.
- The XPROTECT line up to the system-control computer (PDC129A) was short-circuited by grounding or was broken.

### P:R:T:C:T ER

A protection circuit was activated:

- The V+10, V+5, V+3R3, or VFDP was short-circuited (See the protection circuit on "3.4 DVD MAIN ASSY (2/2)", or the value at V+10, V+5, or V+3R3 exceeded the standard value because of an abnormality in its power section.
- The XPROTECT line up to the system-control computer (PDC129A) was short-circuited by grounding or was broken.

### DV P:R:T:C:T

Abnormality in the DVD section

- The V+6R8, V+5V, or V+3 was short-circuited, or the value at V+6R8, V+5V, or V+3 exceeded the standard value because of an abnormality in its power section.
- The VDET line up to the system-control computer (PDC129A) was short-circuited by grounding or was broken. (See VDET circuit on "3.4 DVD MAIN ASSY (2/4)")

### E:EP:ER:R

- Breakage or short-circuiting of the communication line between the  $\mu$ -COM (IC5501) and the EEPROM (IC5401) can be suspected.
- A failure in the EEPROM (IC5401) can be suspected.

## 7. Accumulated power-on time display

- Hold the STOP key on the unit pressed for 8 seconds during Service Test mode. After the version for the system-control computer is displayed, the accumulated power-on time is displayed.

Version of the system-controller

P:D:C:1:2:9:A

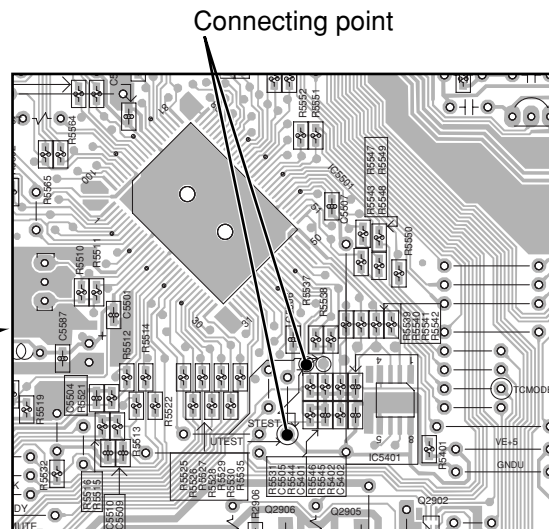
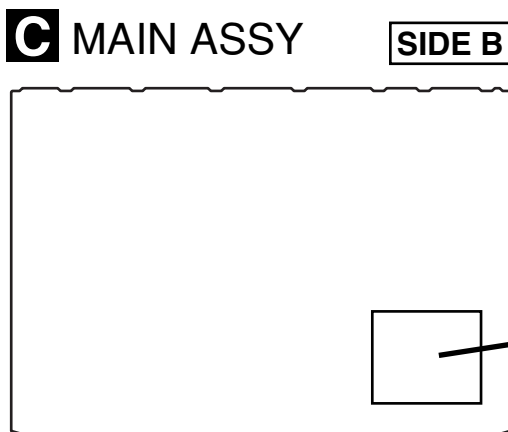
↓ About 3 seconds after

Accumulated power-on time

1:0:H:3:0:M

- 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.

## Service Test Mode connecting point



## 7.1.7 METHOD FOR DIAGNOSING DEGRADATION OF THE LDs ON THE PICKUP ASSY

### Case when this diagnosis is required :

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

### How to diagnose

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

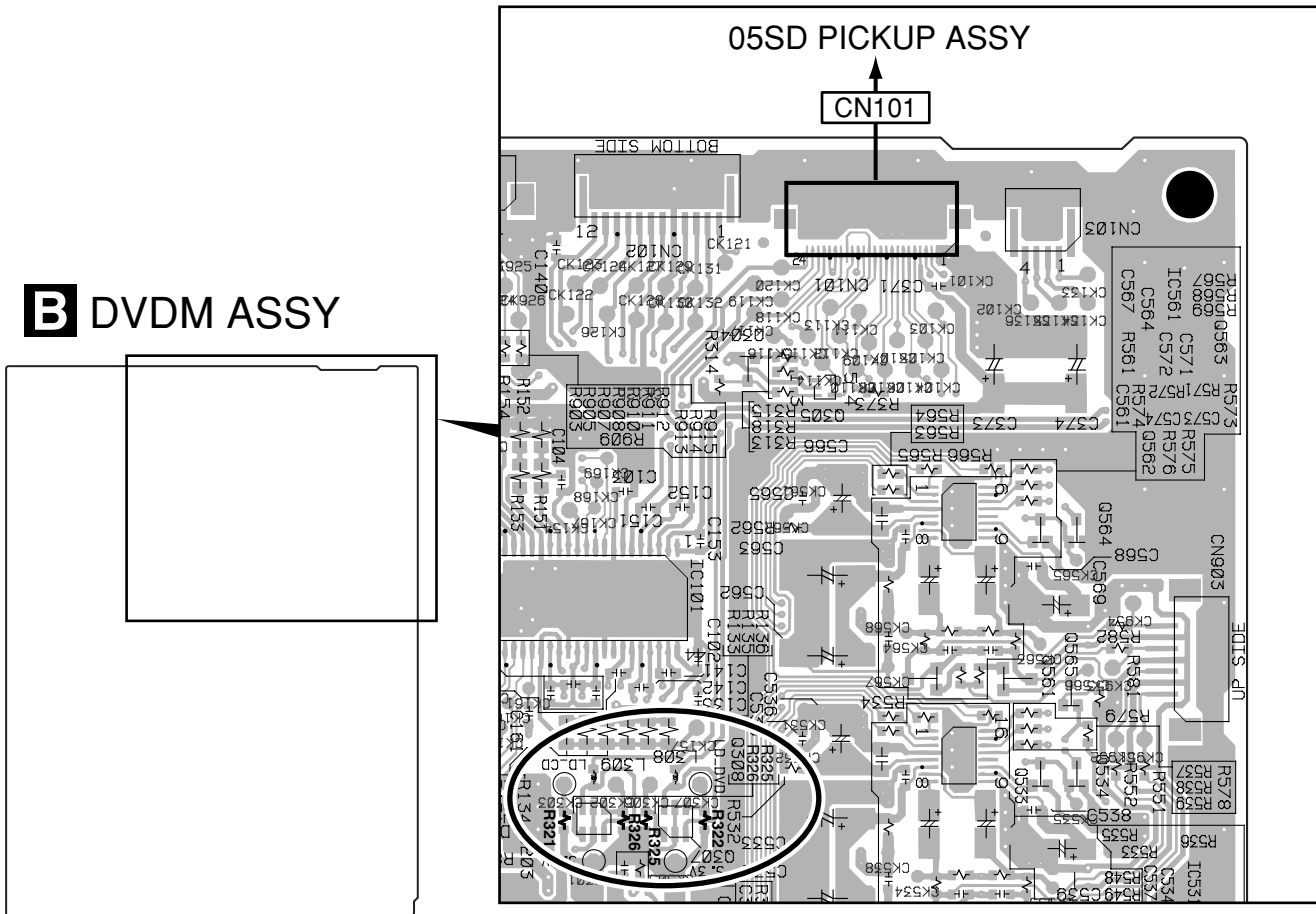
#### • No playback of a DVD :

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

#### • No playback of a CD :

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

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



Front side ←

**SIDE A**

## 7.1.8 DVD TROUBLE SHOOTING

| No. | Symptoms                                                                                                | Diagnosis Contents                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Possible Defective Points                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----|---------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1   | The power is not turned on.                                                                             | <p>Are wires of output connector (POWER SUPPLY Unit) and CN901 (DVDM Assy) disconnected or damaged ?</p> <p>Check that the following voltage is output :<br/>+ side of C739 : 3.3V</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <p>Connector / cable</p> <p><b>DVDM Assy</b><br/>3.3V Regulator IC (IC341)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 2   | An opening screen is not displayed on the monitor (The FL display lights. The mechanism does not work.) | <p>Are the signals output from IC201-pin 98 (MDATA) and pin 99 (SCLK) on the DVDM Assy ? (in the range of 0-3V)</p> <p>Are the signals input into IC5501-pin 50 (MDATA) and pin 51 (SCLK) on the IFAF Assy ? (in the range of 0-3V)</p> <p>Check that the following voltage are output :<br/>IC751-pin 1 on the DVDM Assy : 5V</p> <p>Is a resonator (X201: 27MHz) on the DVDM Assy oscillating ?</p> <ul style="list-style-type: none"> <li>• Is a signal input into IC203-pin26 (PCE#) on the DVDM Assy ? (Is a signal "H" for 80 mS and then "L" after the power is turned on ?)<br/>→ Communication with flash ROM.</li> <li>• Are the signals input into IC202-pin 16 (DWE#), pin 19 (DCS#) and pin 38 (SDCLK) on the DVDM Assy ? (Is a signal fluctuating ?)<br/>→ Communication with SDRAM</li> </ul> <p>Is a signal output from IC203-pin 28 (PRD#) on the DVDM Assy? (Is a signal fluctuating for several hundred mS after the power is turned on ?)</p> <p>Is a signal input into IC5501-pin 67 (DVD ACK) on the CONTROL Assy ? (Is a signal fluctuating ?)<br/>→ Communication with FL Control IC</p> <p>Is a signal output from IC5501-pin 30 (XREADY) on the CONTROL Assy ? (Is a signal fluctuating in the range of 0-5V ?)</p> <p>Are the signals output from IC5501-pin 49 (SDATA) on the CONTROL Assy ? (in the range of 0-5V)</p> <p>Are the signals of IC204-pin 5(SDA) and pin 6(SCL) on the DVDM Assy fluctuating for one or two seconds after the power is turned ?</p> | <p><b>DVDM Assy</b><br/>DVD IC (IC201)</p> <p><b>MAIN Assy</b><br/>UCOM (IC5501)</p> <p><b>DVDM Assy</b><br/>5V Regulator IC (IC751)</p> <p><b>DVDM Assy</b><br/>Crystal resonator (X201)<br/>DVD IC (IC201)</p> <p><b>DVDM Assy</b><br/>DVD IC (IC201)<br/>Flash ROM (IC203)<br/>SDRAM (IC202)</p> <p><b>DVDM Assy</b><br/>Flash ROM (IC203)</p> <p><b>DVDM Assy</b><br/>DVD IC (IC201)<br/><b>MAIN Assy</b><br/>UCOM (IC5501)</p> <p><b>MAIN Assy</b><br/>UCOM (IC5501)</p> <p><b>DVDM Assy</b><br/>DVD IC (IC201)<br/><b>MAIN Assy</b><br/>UCOM (IC5501)</p> <p><b>DVDM Assy</b><br/>EEPROM (IC204)</p> |
| 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 (DVDM Assy IC201) and video-out terminal (see the block diagram)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>DVDM Assy</b><br>Video circuit after DVD IC (IC201)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

| No.    | Symptoms                                                                    | Diagnosis Contents                                                                                                                                                                                                                             | Possible Defective Points                                         |
|--------|-----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| A<br>4 | A tray cannot be opened.<br>(An opening screen is displayed on the monitor) | Does the voltage of CN104-pin 3 and pin 5 on the DVDM Assy change normally ?<br>Pin 3 (SW2(TRIN)): Tray is fully closed: "L"<br>Pin 5 (SW1(TROUT)): Tray is fully opened: "L"                                                                  | <b>LOAB Assy</b><br>Tray SW (S101)                                |
|        |                                                                             | Is the signal input into IC101-pin 11 (TROPEN) on the DVDM Assy ?<br>At open: 3.3V, At close: 0V                                                                                                                                               | <b>DVDM Assy</b><br>DVD IC (IC201)                                |
|        |                                                                             | Are the signals output from IC101-pin 1 and pin 2 (CN103-pin 1 and pin 2) on the DVDM Assy ?<br>Pin 2: Approx. 6V during opening tray approx. 0V during closing tray.<br>Pin 1: Approx. 0V during opening tray approx. 6V during closing tray. | <b>DVDM Assy</b><br>FTS Driver IC (IC101)                         |
|        |                                                                             | Are wires of CN104 and CN103 on the DVDM Assy disconnected or damaged ?                                                                                                                                                                        | Connector / cable                                                 |
|        |                                                                             | Does the voltage of CN102-pin 1 on the DVDM Assy change to 0V by pressing the Inside switch.                                                                                                                                                   | Inside switch                                                     |
| B<br>5 | Playback impossible<br>(no focusing)                                        | Are the signals output from IC101-pin 3 (FOCS_DRV) and pin 4 (FOCS_RTN) on the DVDM Assy ?                                                                                                                                                     | <b>DVDM Assy</b><br>FTS Driver IC (IC101)                         |
|        |                                                                             | Does 650-nm LD emit light ?<br>Does a pickup lens move up / down ?<br>Does an actuator spring bend ?                                                                                                                                           | Pickup                                                            |
|        |                                                                             | Are plastic parts damaged ? Or is a shaft detached ?<br>Is the turntable detached or tilted ?                                                                                                                                                  | Mechanism section (motor)                                         |
|        |                                                                             | Is flexible cable of CN101 on the DVDM Assy disconnected or damaged ?                                                                                                                                                                          | Flexible cable / connector                                        |
|        |                                                                             | Is signal output from IC201-pin 42 (FOSO) on the DVDM Assy ?<br>(Device control of about 1.4 V is output usually. It is fluctuated by about $\pm 250$ mV with focus up / down.)                                                                | <b>DVDM Assy</b><br>DVD IC (IC201)                                |
| C<br>6 | Playback impossible<br>(Spindle does not turn)                              | Are the signals output from IC101-pin 30 (W), pin 33 (V) and pin 35 (U) on the DVDM Assy ?<br>Is pin 26 (STBY) fixed LOW ? (pin 26 is High at playback: 3V)                                                                                    | <b>DVDM Assy</b><br>FTS Driver IC (IC101)                         |
|        |                                                                             | Is there any part detached from the spindle motor ?<br>Or Is there any foreign object lodged in it ?                                                                                                                                           | Mechanism section<br>(Spindle motor)                              |
|        |                                                                             | Are wires of CN102 on the DVDM Assy disconnected or damaged ?                                                                                                                                                                                  | Flexible cable / connector                                        |
|        |                                                                             | Is signal output from IC201-pin 37 (DMSO) on the DVDM Assy ?                                                                                                                                                                                   | <b>DVDM Assy</b><br>DVD IC (IC201)                                |
| D<br>7 | Playback impossible<br>(Playback stops)                                     | Does 650-nm LD deteriorate ?<br>If the voltage at each both ends of R322 and R325 on the DVDM Assy is 0.4 V or more, the 650-nm LD is definitely deteriorated.                                                                                 | 650-nm LD deteriorated.<br>(When playback of a DVD is impossible) |
|        |                                                                             | Does 780-nm LD deteriorate ?<br>If the voltage at each both ends of R321 and R326 on the DVDM Assy is 0.4 V or more, the 780-nm LD is definitely deteriorated.                                                                                 | 780-nm LD deteriorated.<br>(When playback of a CD is impossible)  |
|        |                                                                             | Is there abnormality in FG waveform ? (IC201-pin 47)                                                                                                                                                                                           | <b>DVDM Assy</b><br>FG output : FTS Driver IC (IC101)             |
|        |                                                                             | Are there scratches or dirt on the disc ?                                                                                                                                                                                                      | Disc                                                              |
| E<br>8 | Picture disturbance during playback<br>(block noise, freeze, other)         | Are there scratches or dirt on the disc ?<br>Is there a problem with the format of the disc ?                                                                                                                                                  | Disc                                                              |
|        |                                                                             | Check the video signals.<br>Composite video signal (IC401-pin 25)<br>S video signal (IC401-pin 21, pin 26)<br>RGB video signal (IC401-pin 16, pin 18, pin 20)                                                                                  | <b>DVDM Assy</b><br>DVD IC (IC201)<br>Video IC (IC401, IC451)     |
| F<br>9 | No sound<br>(Picture is normal)                                             | Check the waveform (SPDIF: CN901-pin 16).                                                                                                                                                                                                      | <b>DVDM Assy</b><br>DVD IC (IC201)                                |

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

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

## 7.1.9 ID NUMBER AND ID DATA SETTING

### Caution:

For the DVD players compatible with DVD-RW, for playback of a DVD-RW disc (CPRM), 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.**

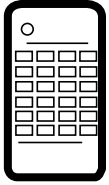
**Note:** Enter ID numbers while the unit is in Stop mode so that the values set will be immediately written to the flash ROM.

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

If NO NUM! or NO DATA is displayed on the FL display 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  
[GGV1175]

```
[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.

```
[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 !
```

### 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 ?
② → -----
③ → <CLEAR> Exit
Input ID Number !
```

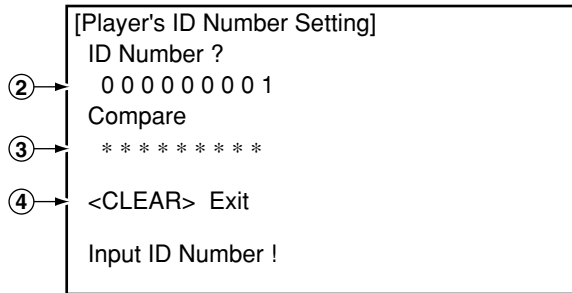
- ④ After entering all 9 digits, if you press the PLAY key, the unit enters Compare mode. Enter the same ID number again. Only if your two input numbers match, the ID number is set. Compare mode helps eliminate mistyping of the ID number.

**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

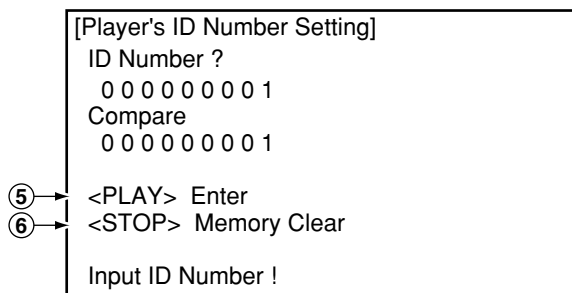
- ① To enter ID Number Confirmation Mode after the ID number and the ID data are set, press the ESC key then the STEREO key.
- ② The ID number already set is displayed.  
(It is also displayed on the FL display.)
- ③ Enter a 9-digit number for comparison. This is not required when you only wish to check 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.

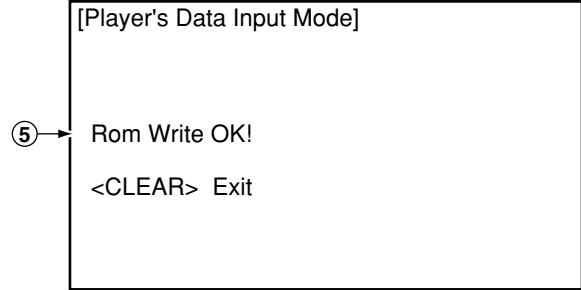
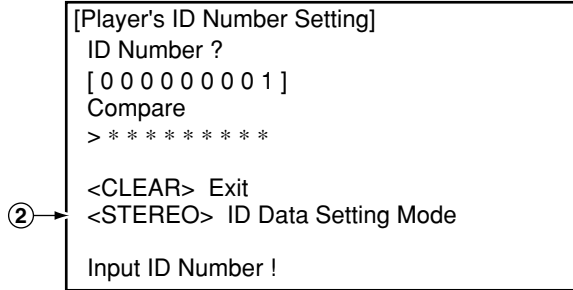
# ■ ID DATA Input Mode

- A 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.

- 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.

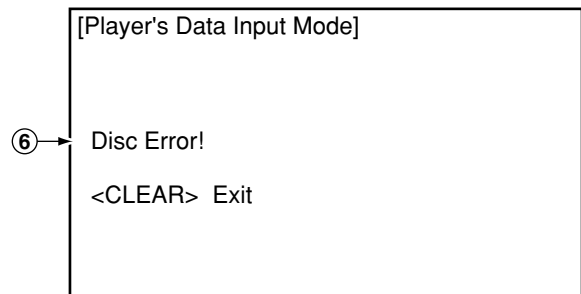
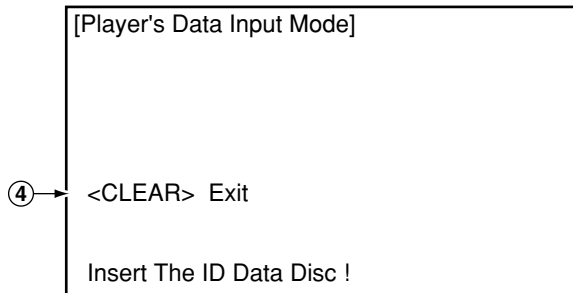
B



- C 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.)

- ⑥ If the data cannot be read from the disc, "Disc Error!" is displayed on the screen, and the disc is ejected.

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



D

**• Indication when the data have not been set**  
If no ID data are set after the ID number is changed, the message "NO DATA" displays on FL display after the power is turned on or during Stop mode.

E

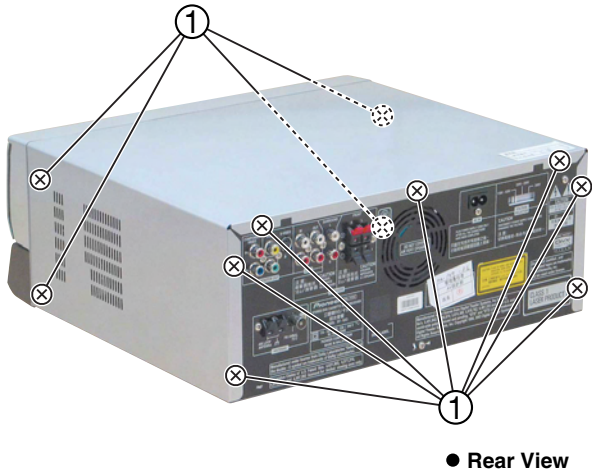
F

**Note 1:** Do NOT look directly into the pickup lens. The laser beam may cause eye injury.  
**Note 2:** Even if the unit shown in the photos and illustrations in this manual may differ from your product, the procedures described here are common.  
**Note 3:** For performing the diagnosis shown below, the following jigs for service is required:  
 • Flexible cable for service (GGD1309, GGD1447)

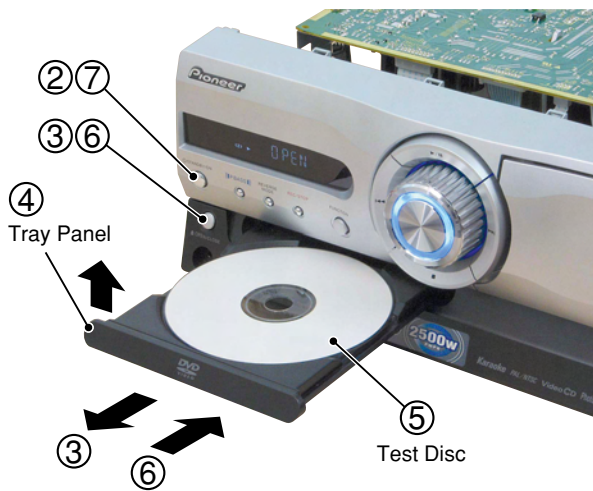
**Diagnosis of PCB's**

**1 Bonnet and Tray panel**

① Remove 11 screws from Bonnet.

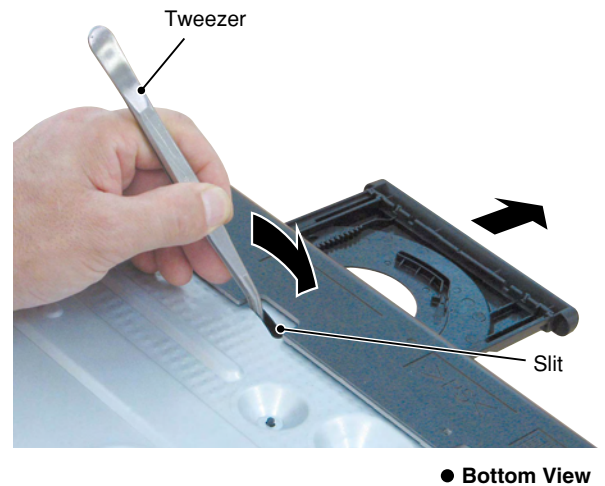


- ② Press the ⏻ STANDBY/ON button to turn on the power.
- ③ Press the ▲ OPEN/CLOSE button to open the Tray.
- ④ Remove the Tray Panel.
- ⑤ Set the Test Disc.



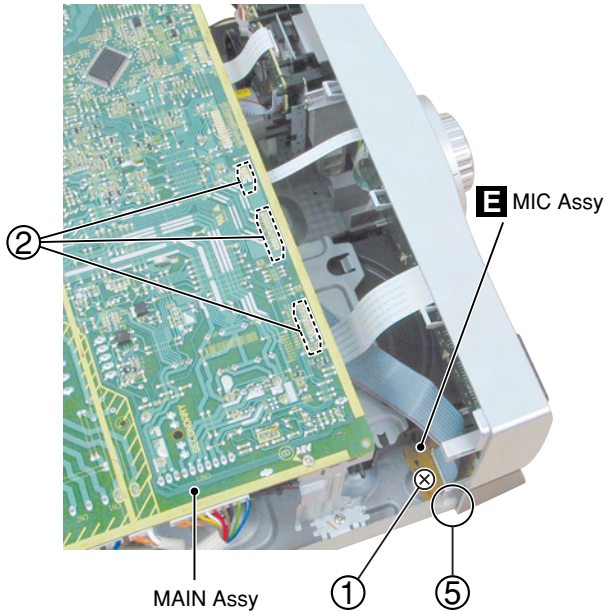
- ⑥ Press the ▲ OPEN/CLOSE button to close the Tray. (Test disc is clamped.)
- ⑦ Press the ⏻ STANDBY/ON button to turn off the power.
- ⑧ Pull out the Power cord.

● **How to open the Tray when the power cannot be on**  
 Insert a Tweezer(as shown in the photo) into the Slit located at the bottom of the unit and slide the projection of the Drive Cam in the Loader Assy in the direction of the arrow, as indicated in the photo.  
 If the Tray pops out a little, fully pull it out by hand.

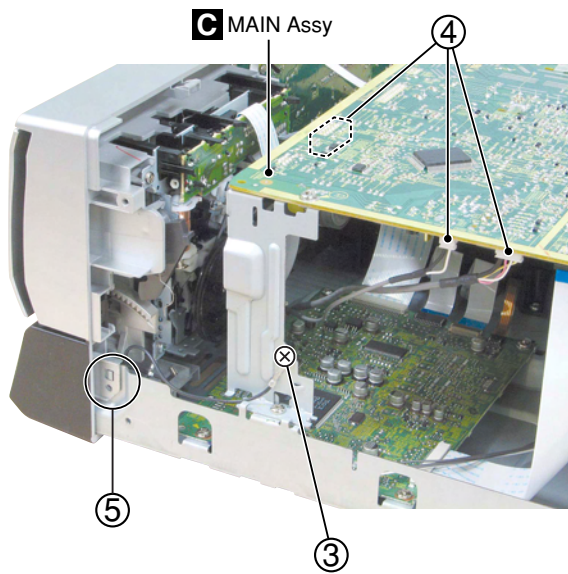


## 2 Front Panel and Rear Panel

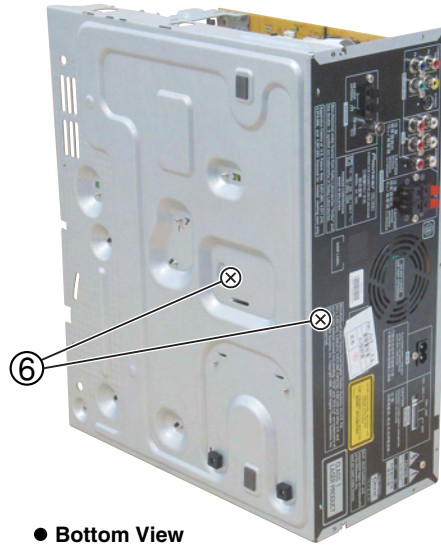
- ① Remove the grounding screw of the MIC Assy.
- ② Disconnect FFC Cables at CN5651, CN3991 and CN3051.



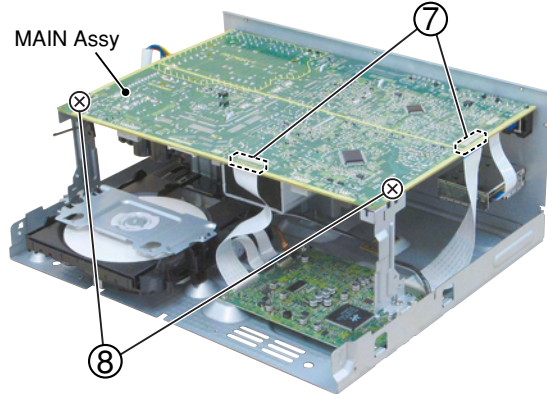
- ③ Remove the grounding screw.
- ④ Disconnect the cables at CN2302, CN2301 and CN2901.
- ⑤ Released the hook at the right and left side of the Front Panel Assy.



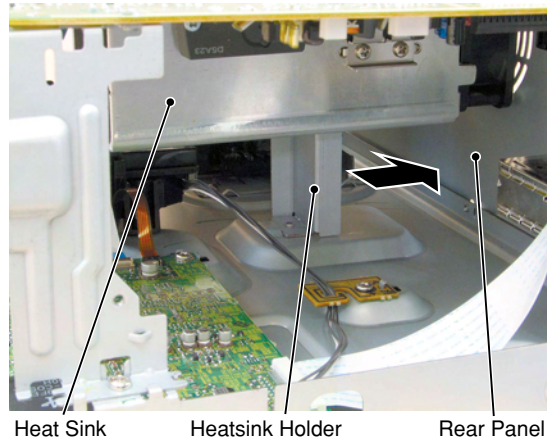
- ⑥ Remove 2 screws from Bottom Chassis and Rear Panel.



- ⑦ Disconnect the FFC Cables at CN1501 and CN3001. (Do not remove other cables.)
- ⑧ Remove 2 screws on the MAIN Assy.



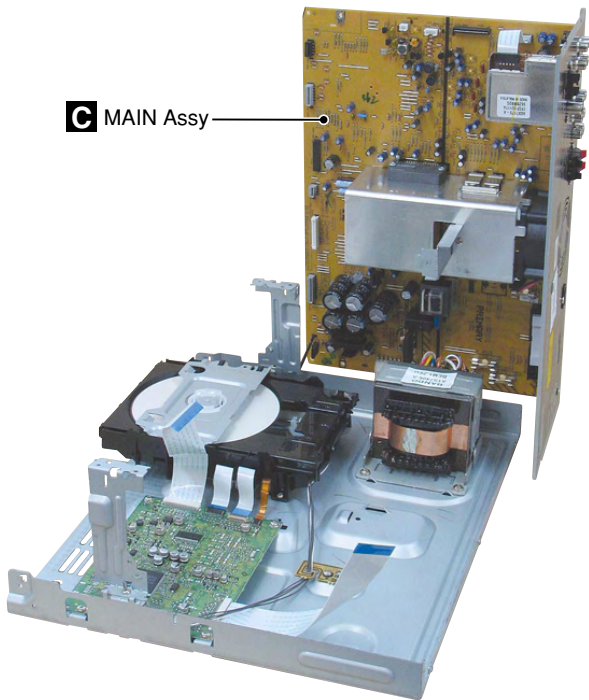
- ⑨ Slide the Heatsink Holder to the Rear Panel side, and take out the Rear Panel and MAIN Assy.



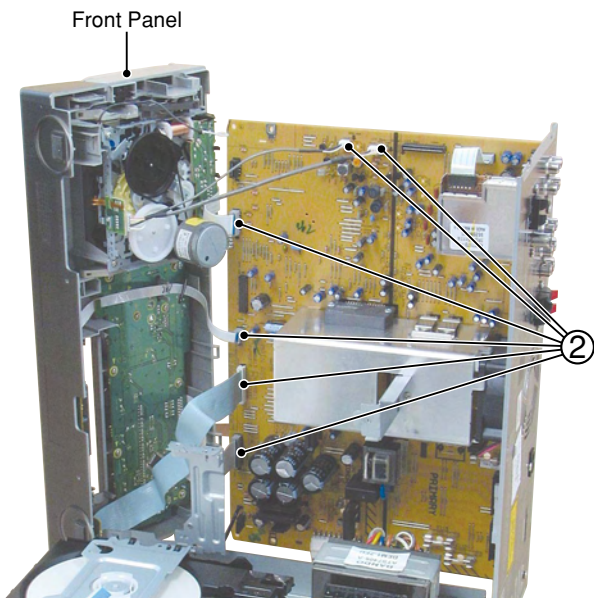


### 3 MAIN Assy diagnosis

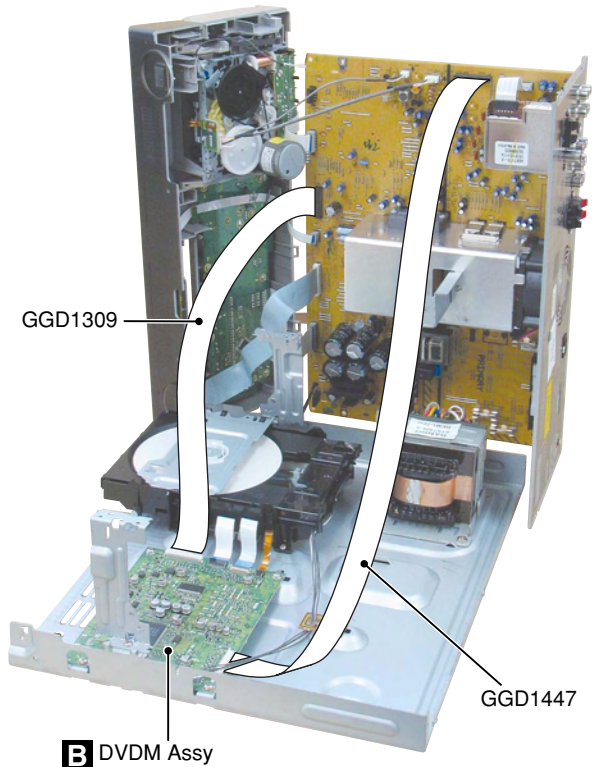
① Set the Rear Panel and MAIN Assy upright.



② Set the Front Panel upright, which you took off in the previous procedure, and connect the six cables to CN5651, CN3991, CN3051, CN2901, CN2302, and CN2301 of the MAIN Assy, respectively.



③ Take the original cable off from CN901 of the DVDM Assy to use the GGD1309 cable to connect to CN1501 of the MAIN Assy. In the same way, take the original cable off from CN902 of the DVDM Assy to use the GGD1447 cable to connect to CN3001 of the MAIN Assy.

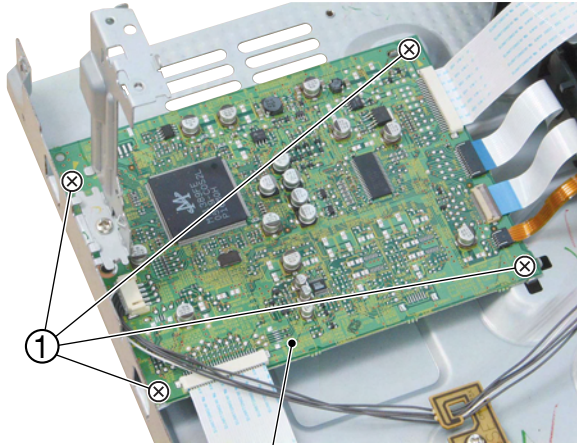


A  
B  
C  
D  
E  
F



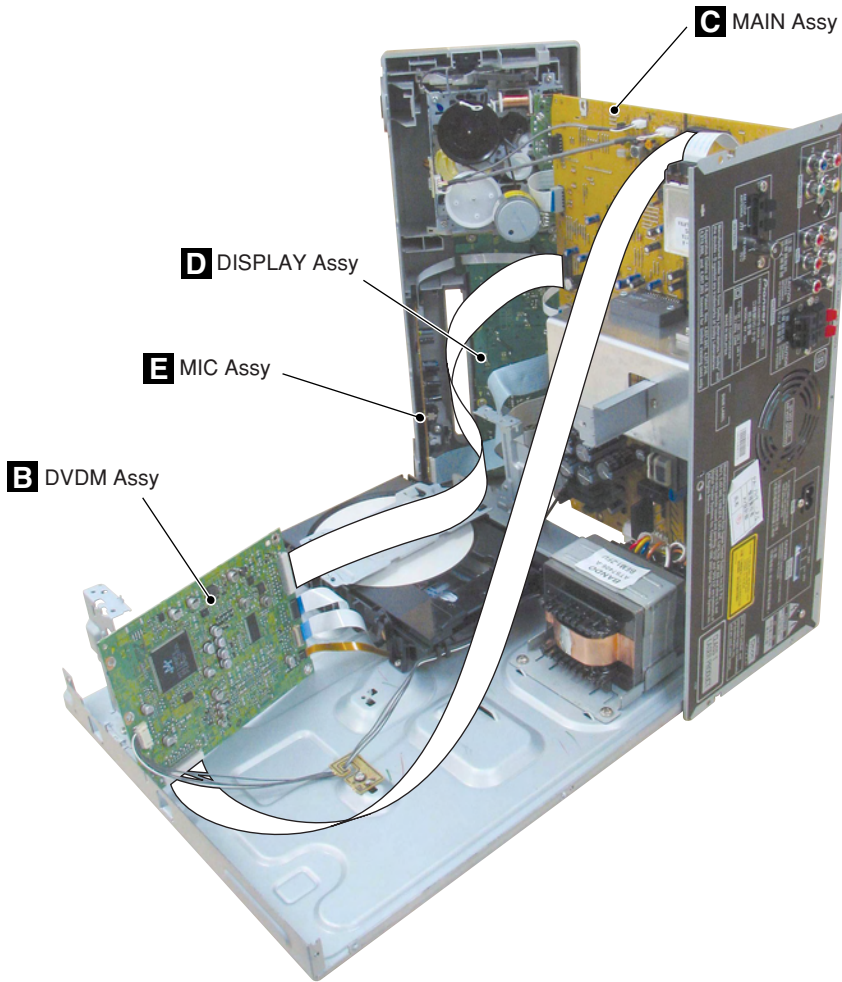
#### 4 DVD Main Board diagnosis

① Remove 4 screws on the DVDM Assy.



**B** DVDM Assy

② Set the DVDM Assy upright.





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

## 1 05 LOADER Assy

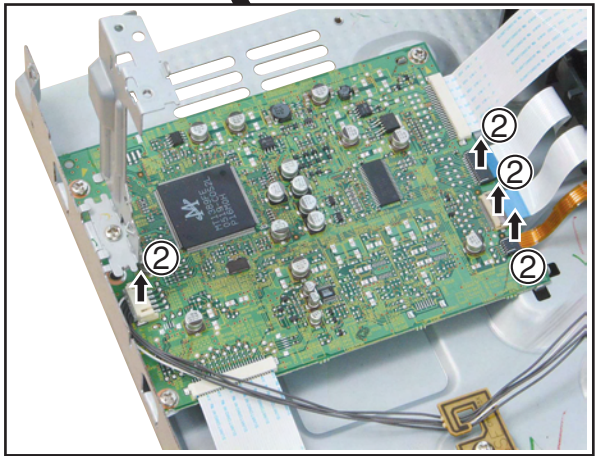
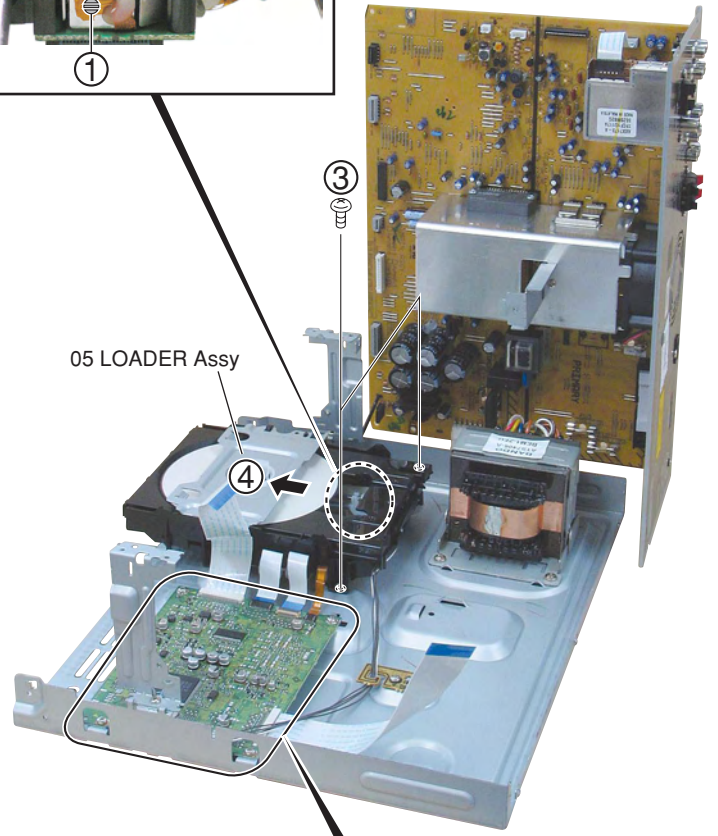
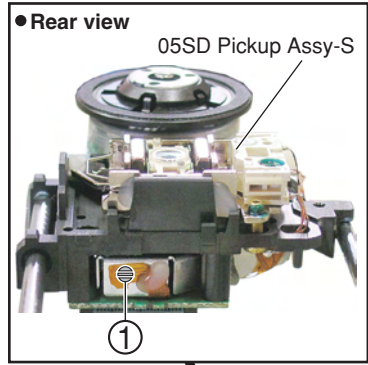
① Short-circuit point by soldering.

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

② Disconnect the four connectors.

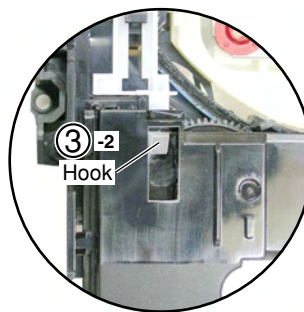
③ Remove the two screws.

④ Remove the 05 LOADER Assy.

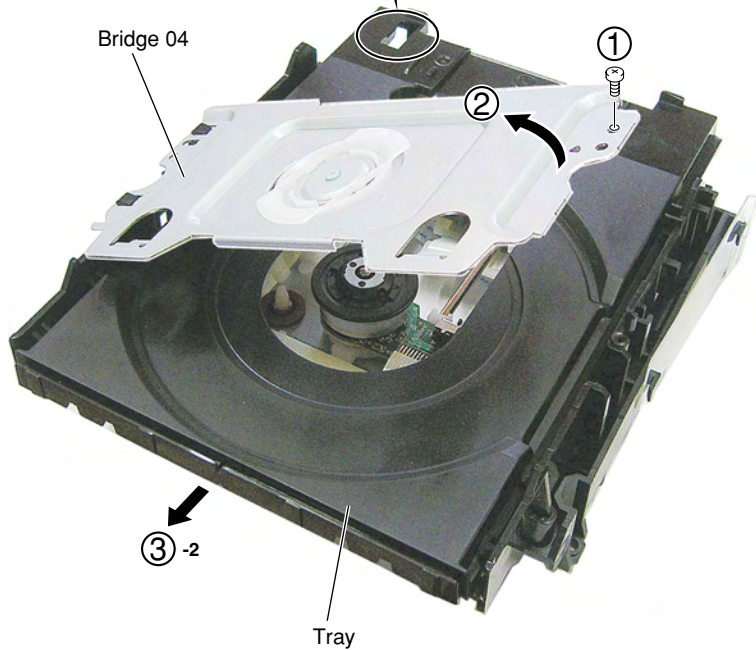


## 2 Bridge 04, Tray

- A ① Remove the one screw.
- ② Remove the bridge 04.
- ③ Pull out the tray, then remove it by pressing the hook.



B



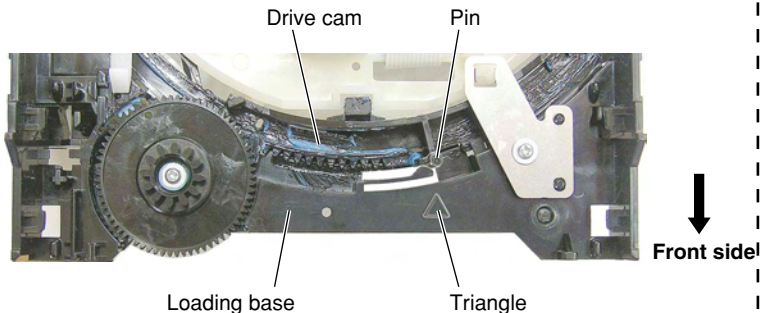
C

D

E

### Note when reinserting the tray

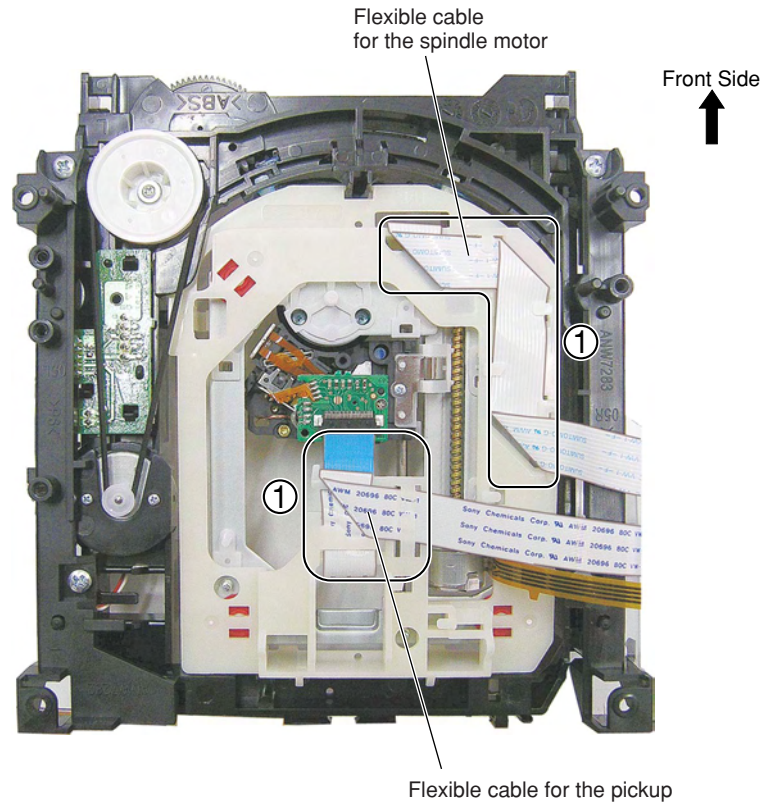
When reinserting the tray, first align the triangle printed on the loading base and the pin of the drive cam, then insert the tray.



F

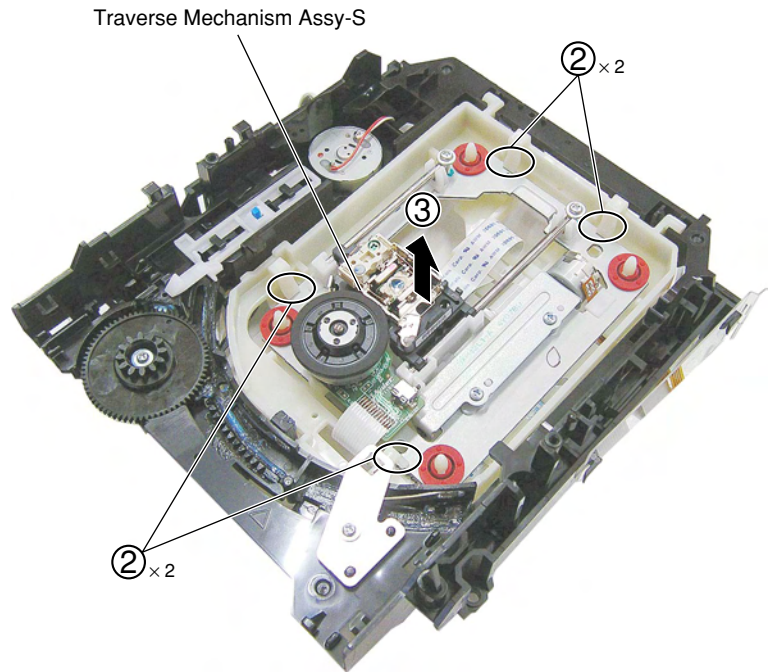
### 3 Traverse Mechanism Assy-S

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



● Bottom view

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

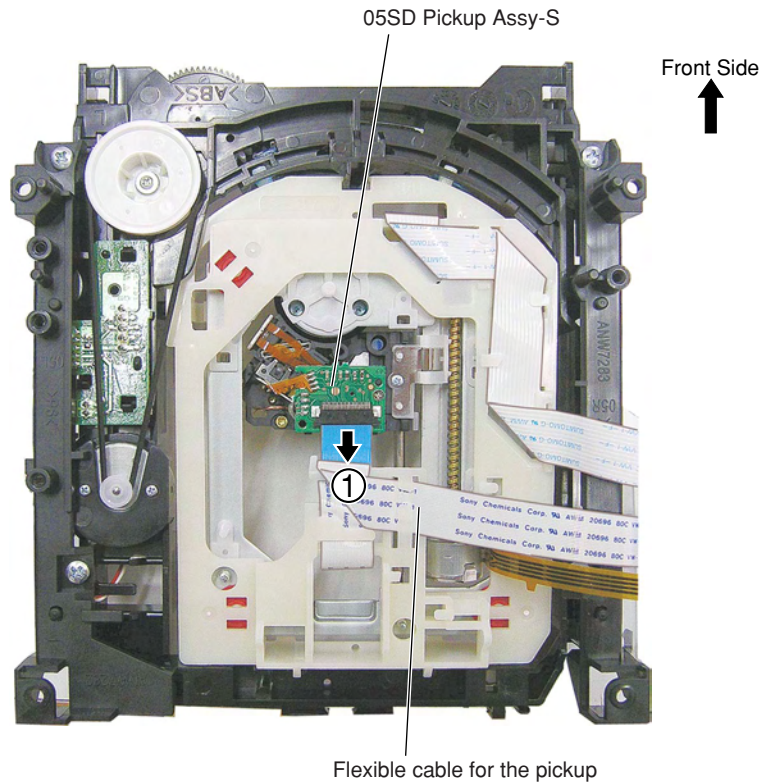




### 4 05SD Pickup Assy-S

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

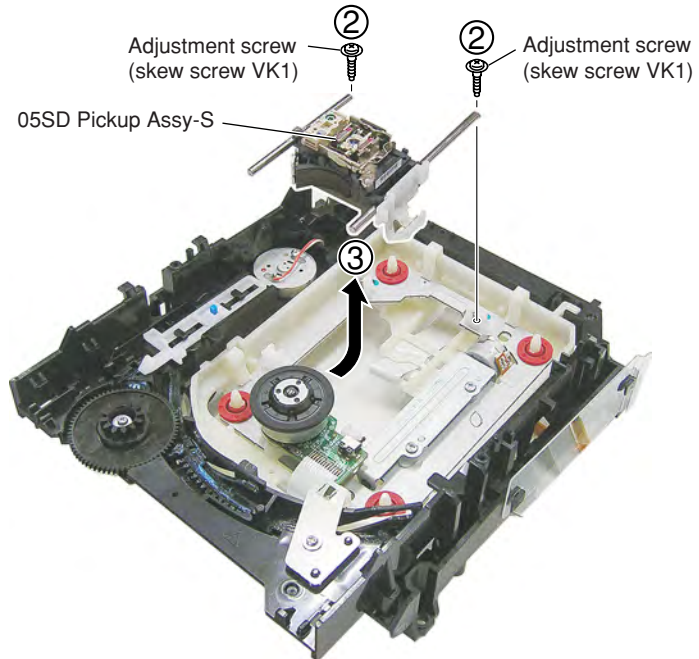
① Disconnect the flexible cable for the pickup.



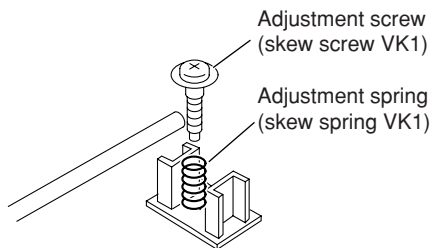
● Bottom view

② Remove the two adjustment screws.

③ Remove the 05SD Pickup Assy.

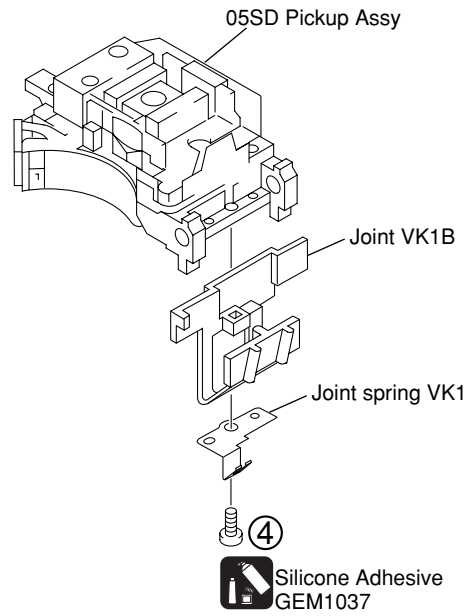


**Note:** Be careful not to lose the adjustment spring (skew spring VK1).



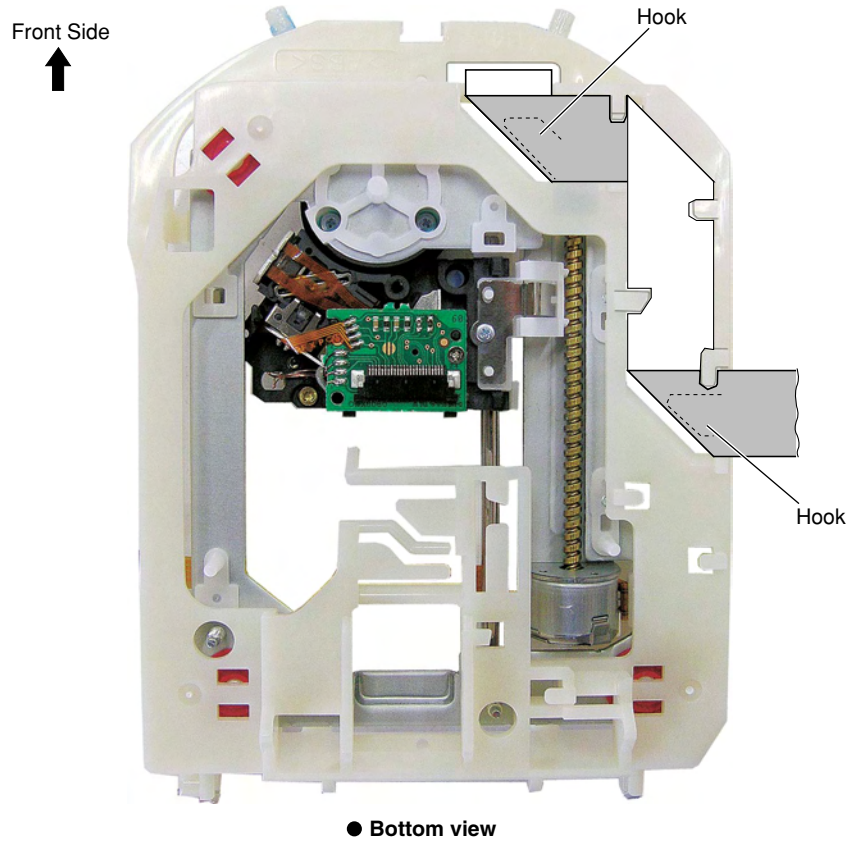
④ Remove the one screw.

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



**Arrangement of the flexible cable for the spindle motor**

■ : Conductive surface



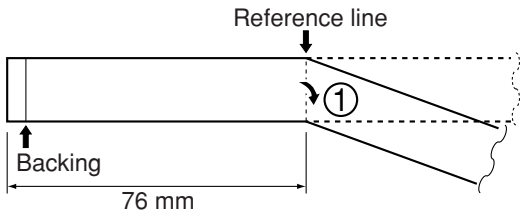
### Arrangement of the flexible cable for the pickup

A  : Conductive surface

**Note:**

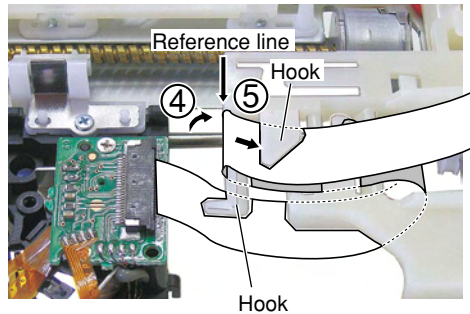
Be sure to move the 05SD Pickup Assy to the innermost perimeter.

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



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

⑤ Pass the flexible cable through the hook.



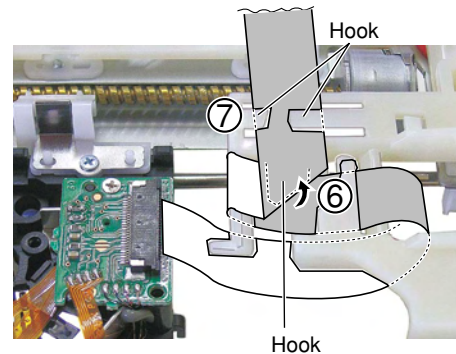
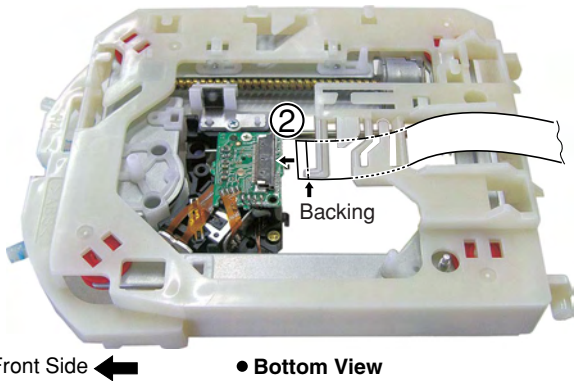
B

C

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

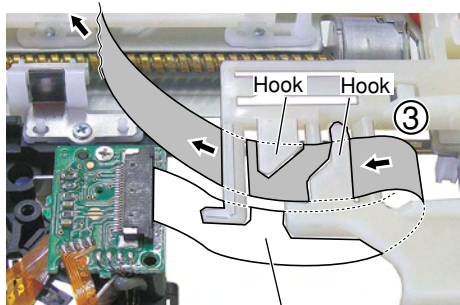
⑥ Fold the flexible cable along the hook.

⑦ Pass the flexible cable through the hook.



D

③ Pass the flexible cable through the hook.



Make sure that the cable is loose

E

F

## 7.2 PARTS

### 7.2.1 IC

• The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

#### • List of IC

PDC129A

#### ■ PDC129A (MAIN ASSY : IC5501)

• System Control Microcomputer

#### ● Pin Functions

| No. | Pin Name    | I/O | Pin Function                                                    |
|-----|-------------|-----|-----------------------------------------------------------------|
| 1   | DVDON/OFF   | O   | Control power supply for DVD module                             |
| 2   | NC          | O   |                                                                 |
| 3   | MICDET      | I   | Mic Detection                                                   |
| 4   | ACPULSE     | I   | AC PULSE input detection (Interruption 0)                       |
| 5   | NC          | O   |                                                                 |
| 6   | (RDSCLK)    | O   |                                                                 |
| 7   | REMOCON     | I   | REMOCON signal input (Interruption 3)                           |
| 8   | XRESET      | I   | μ-com reset input                                               |
| 9   | XT1         | –   | Subclock (connect to VDD when no use)                           |
| 10  | XT2         | –   | Subclock (leave open when no use, and set the bit 6 of OCR SFR) |
| 11  | VSS1        | –   |                                                                 |
| 12  | CF1         | –   | Main Clock (connect to VDD when no use)                         |
| 13  | CF2         | –   | Main Clock (leave open when no use)                             |
| 14  | VDD1        | –   |                                                                 |
| 15  | SIMUKE      | I   | Destination distinction input                                   |
| 16  | MODEL       | I   | Model distinction input                                         |
| 17  | VDET        | I   | DVD3.3V detection input                                         |
| 18  | KEY1        | I   | Key1 input                                                      |
| 19  | KEY2        | I   | Key2 input                                                      |
| 20  | JOG         | I   | JOG                                                             |
| 21  | LEVELIN     | I   | Level meter signal input                                        |
| 22  | XPROTECT    | I   |                                                                 |
| 23  | SDATA       | O   | System bus data output (for DVD)                                |
| 24  | MDATA       | I   | System bus data input (for DVD)                                 |
| 25  | SCLK        | I   | System bus clock input(for DVD)                                 |
| 26  | FLCE        | O   | CE for FL driver                                                |
| 27  | FLDATA      | O   | Data for FL driver                                              |
| 28  | FLCLK       | O   | Clock for FL driver                                             |
| 29  | NC          | O   |                                                                 |
| 30  | XREADY      | O   | Chip select for system bus (to DVD module)                      |
| 31  | NC          | O   |                                                                 |
| 32  | XRECMUTE    | O   | REC OUT MUTE                                                    |
| 33  | UTEST_CHK   | O   | UNITCHECK IN for checker                                        |
| 34  | UTEST_EEPOK | O   | EEPROM CHECK OK for checker                                     |
| 35  | RELAY       | O   | SP RELAY ON/OFF                                                 |
| 36  | NC          | O   |                                                                 |
| 37  | NC          | O   |                                                                 |
| 38  | NC          | O   |                                                                 |
| 39  | VSS4        | –   |                                                                 |
| 40  | VDD4        | –   |                                                                 |



A

| No. | Pin Name  | I/O | Pin Function                                    |
|-----|-----------|-----|-------------------------------------------------|
| 41  | NC        | O   |                                                 |
| 42  | NC        | O   |                                                 |
| 43  | STEST     | I   | Set TESTMODE for Service                        |
| 44  | UTEST     | I   | Set UNITCHECK for checker                       |
| 45  | ECHCONT1  | O   | Control for ECHO1                               |
| 46  | ECHCONT2  | O   | Control for ECHO2                               |
| 47  | NC        | O   |                                                 |
| 48  | EPROM_CS  | O   | EEPROM CS                                       |
| 49  | EPROM_O   | O   | EEPROM D0                                       |
| 50  | EPROM_I   | I   | EEPROM D1                                       |
| 51  | EPROM_CLK | I   | EEPROM CLK                                      |
| 52  | TXCE      | O   | Chip enable for Tuner LSI                       |
| 53  | NC        | -   |                                                 |
| 54  | NC        | -   |                                                 |
| 55  | VDD2      | -   |                                                 |
| 56  | VSS2      | -   |                                                 |
| 57  | TCHALF    | I   | Input switch of mecha half                      |
| 58  | TCMODE    | I   | Input switch of mecha mode                      |
| 59  | TCRECF    | I   | Input switch of mecha during recording forward  |
| 60  | TCRECR    | I   | Input switch of mecha during recording reverse  |
| 61  | TXCLK     | O   | Clock for tuner LSI                             |
| 62  | TXODATA   | O   | Data for tuner LSI                              |
| 63  | NC        | O   |                                                 |
| 64  | (RDSPOW)  | O   | Control power supply of RDS(L:POWER ON)         |
| 65  | (RDSDATA) | I   | Input RDS data                                  |
| 66  | TXIDATA   | I   | Input data from tuner LSI                       |
| 67  | DVDACK    | I   | Acknowledgement from DVD MODULE(Interruption 4) |
| 68  | TCPULSE   | I   | Input pulse of TC reel                          |
| 69  | NC        | O   |                                                 |
| 70  | TCMSIN    | I   | Input MS signa                                  |
| 71  | NC        | O   |                                                 |
| 72  | NC        | O   |                                                 |
| 73  | LED1      | O   | LED1                                            |
| 74  | NC        | O   |                                                 |
| 75  | NC        | O   |                                                 |
| 76  | NC        | O   |                                                 |
| 77  | NC        | O   |                                                 |
| 78  | NC        | O   |                                                 |
| 79  | NC        | O   |                                                 |
| 80  | NC        | O   |                                                 |

C

D

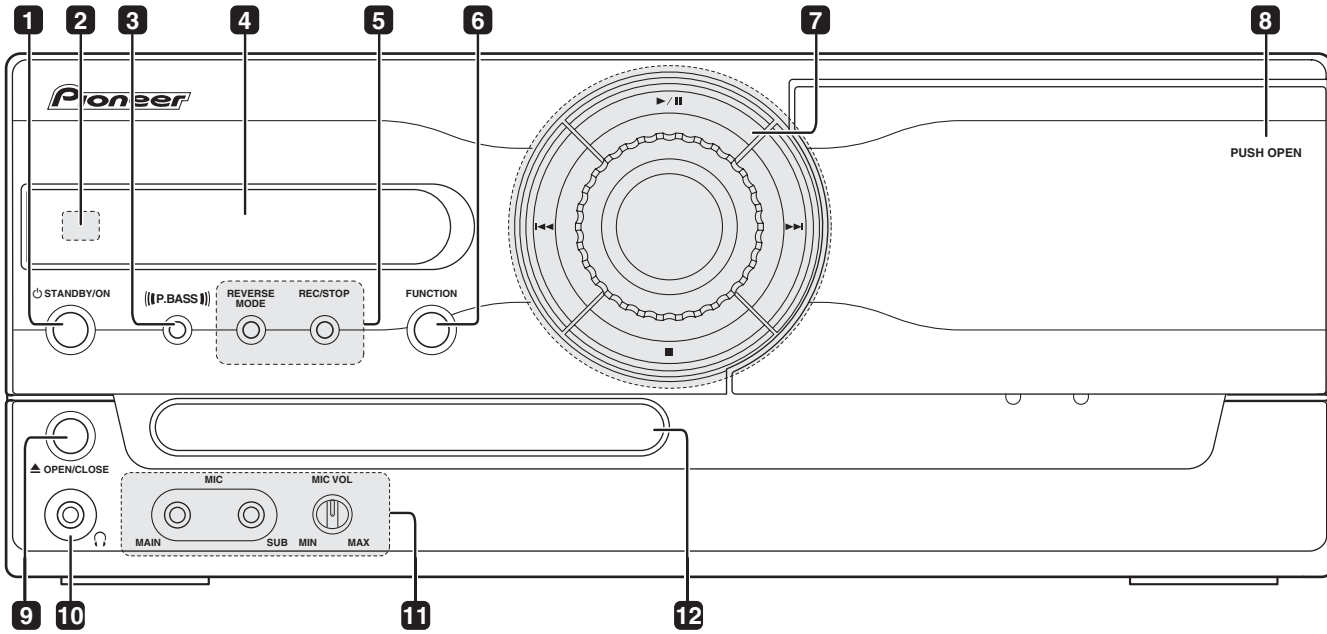
E

F

| No. | Pin Name   | I/O | Pin Function                          |
|-----|------------|-----|---------------------------------------|
| 81  | PB/XRCE    | O   | Switch PB/REC                         |
| 82  | NC         | O   |                                       |
| 83  | MOTOR      | O   | Output tape motor                     |
| 84  | SOL        | O   | Output tape solenoid                  |
| 85  | BEATCUT    | O   | Control beat cut of deck              |
| 86  | BIAS       | O   | Control bias of deck                  |
| 87  | NC         | O   |                                       |
| 88  | VSS3       | -   |                                       |
| 89  | VDD3       | -   |                                       |
| 90  | FLASHE/D   | -   | for FLASH writing / On board debugger |
| 91  | FLASHDO    | -   | for FLASH writing / On board debugger |
| 92  | FLASHCLK   | -   | for FLASH writing / On board debugger |
| 93  | XDVDRST    | O   | RESET to DVD MODULE                   |
| 94  | SYSMUTE    | O   | Control mute of system                |
| 95  | SYSPOW     | O   | Control power supply of system        |
| 96  | VOLCLK     | O   | Clock for E-vol IC                    |
| 97  | VOLDATA/CE | O   |                                       |
| 98  | NC         | O   |                                       |
| 99  | NC         | O   |                                       |
| 100 | NC         | O   |                                       |

# 8. PANEL FACILITIES

## Front panel



**1** **STANDBY/ON**

Switches the player on or into standby.

**2 Remote sensor**

**3 P.BASS**

Press to switch on the bass boost.

**4 Display**

See Display below.

**5 Tape cassette controls**

REVERSE MODE – Selects the playback mode for tapes.

REC/STOP– Starts/stops recording on the tape deck.

**6 FUNCTION**

Selects the source you want to listen to.

**7 Playback / volume control**

The playback controls are used for playing, pausing, skipping and stopping playback. Turn the middle section to adjust the volume.

**8 PUSH OPEN**

Press down on this side of the cassette door to open the tape deck.

**9** **OPEN/CLOSE**

Ejects the disc.

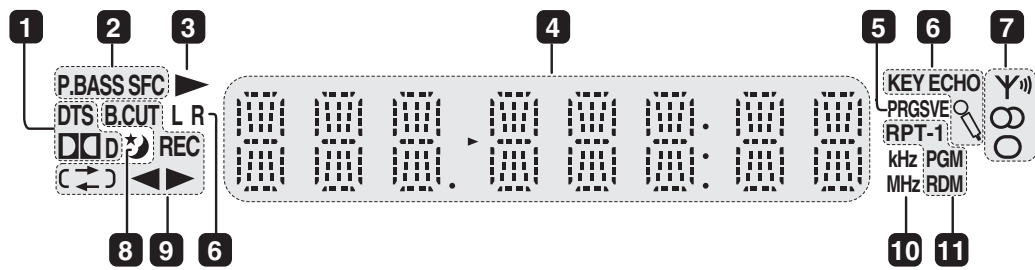
**10 Headphone jack**

**11 MIC VOL and MIC input jacks**

Controls the volume of the karaoke mics (MAIN and SUB).

**12 Disc tray**

## Display



### 1 Format indicators

**DTS** - Lights during playback of a DTS source.  
**D** - Lights during playback of a Dolby Digital source.

### 2 Sound processing indicators

**P.BASS** - Lights when the bass boost is switched on.  
**SFC** - Lights when one of the Sound Field Control modes is selected.

### 3 ▶

Lights during playback.

### 4 Character display

#### 5 PRGSVE

Lights when the player is set to output progressive scan video.

#### 6 Karaoke indicators

**ECHO** - Lights when the Karaoke **ECHO** effect is selected.

**KEY** - Lights when the Karaoke pitch control is selected.

(Vocal cancel) Vocals in the backing track are partially eliminated using EQ.

**L** - Left channel only. Use for tracks that have a vocal recorded in the right channel.

**R** - Right channel only. Use for tracks that have a vocal recorded in the left channel.

**L R** - Use to put a single-channel vocal track into the center of the mix.

#### 7 Tuner indicators

- Lights when a broadcast is being received.

- Lights when a stereo FM broadcast is being received in auto stereo mode.

- Lights when FM mono reception is selected.

#### 8

Lights when the sleep timer is active.

#### 9 Cassette deck indicators

**B.CUT** - Lights when the beat cut mode has been switched to **B.CUT 2**.

**REC** - Lights when recording to the tape deck.

- Indicates the direction of tape playback.

- Indicates the reverse mode.

#### 10 kHz / MHz

Indicates the unit of the frequency shown in the display (**kHz** for AM, **MHz** for FM).

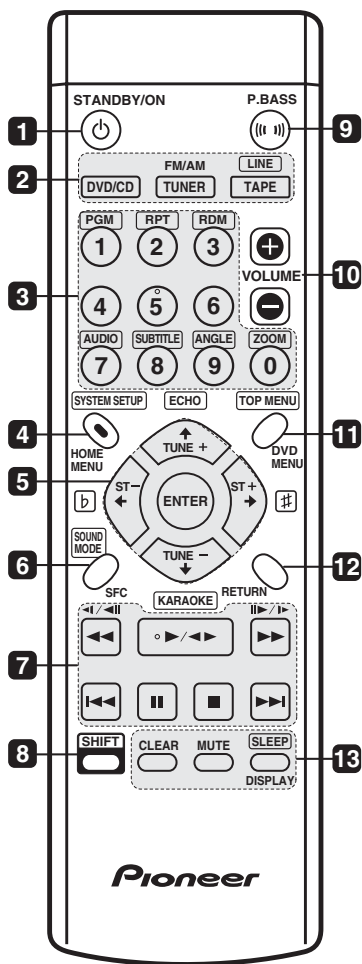
#### 11 Playback mode indicators

**RPT-1** - **RPT** lights during repeat play (**RPT-1** lights during repeat one-track/chapter play).

**PGM** - Lights during program play.

**RDM** - Lights during program play.

## Remote control



### 1 STANDBY/ON

Switches the player on or into standby.

### 2 Input source function select

Selects the source you want to listen to; **DVD/CD**, **TUNER**, **TAPE** or **LINE** (**SHIFT+TAPE**).

### 3 Number buttons and SHIFT functions

The number buttons can be used for selecting titles/chapters/tracks directly, the functions above the buttons are accessed by pressing **SHIFT** at the same time as the button.

**PGM** (**SHIFT+1**) - Use to program/play a program list.

**RPT** (**SHIFT+2**) - Selects a repeat play mode.

**RDM** (**SHIFT+3**) - Selects a random play mode.

**AUDIO** (**SHIFT+7**) - Selects the audio channel or language.

**SUBTITLE** (**SHIFT+8**) - Selects a subtitle display.

**ANGLE** (**SHIFT+9**) - Changes the camera angle during DVD multi-angle scene playback.

**ZOOM** (**SHIFT+0**) - Changes the zoom level.

### 4 HOME MENU

Press to display (or exit) the on-screen menu for Initial Settings, Play Mode functions, etc.

### SYSTEM SETUP (**SHIFT+HOME MENU**)

Use to make various system settings. Also used to save station presets and select mono FM reception when using the tuner.

### 5 Cursor buttons, ENTER, tuning and karaoke buttons

**Cursor buttons** - Use the cursor buttons (**↑/↓/←/→**) to navigate on-screen displays and menus.

**ENTER** - Selects an option or executes a command.

**TUNE (+/-)** - Tunes the radio.

**ST (+/-)** - Selects station presets when listening to the radio.

The karaoke functions are accessed by pressing **SHIFT** at the same time as the corresponding button:

**KARAOKE** (**SHIFT+↓**) - Selects audio channels for karaoke.

**ECHO** (**SHIFT+↑**) - Changes the echo level on the karaoke mics.

Key controls **b** and **#** (**SHIFT+←/→**) - Lowers/raises the pitch of the backing track.

**6 SFC**

Selects sound modes or custom settings from from the Sound Field Control.

**SOUND MODE (SHIFT+SFC)**

Accesses settings in the Sound menu, such as the tone controls.

**7 Playback controls**

See *Playing discs*, *Playing cassette tapes*, and *Disc playback features* for an explanation of these controls.

**8 SHIFT**

Some of the buttons have alternate functions (they are outlined on the remote control). Press and hold **SHIFT** to access these.

**9 P.BASS**

Press to switch on the bass boost.

**10 VOLUME**

Adjusts the volume level.

**11 DVD MENU**

Press to display a DVD disc menu, or the Disc Navigator.

**TOP MENU (SHIFT+DVD MENU)**

Displays the top menu of a DVD disc in the play position. This may be the same as pressing **DVD MENU**.

**12 RETURN**

Press to return to a previous menu screen.

**13 CLEAR**

Clears an entry.

**MUTE**

Mutes the volume.

**DISPLAY**

Switches between information displays.

**SLEEP (SHIFT+DISPLAY)** – Use for setting the sleep timer.

**Range of the remote control unit**

The remote control has a range of about 7 meters at an angle of 30° of the remote control control sensor. It may not work properly if:

- There are obstacles between the remote control and this unit's remote sensor.
- Direct sunlight or fluorescent light is shining onto the remote sensor.
- This system is located near a device that is emitting infrared rays.
- This unit is operated simultaneously with another infrared remote control unit.

## ■ Jigs list

|   | Name                        | Jig No.             | Remarks                     |
|---|-----------------------------|---------------------|-----------------------------|
| A | 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                 |
|   | Flexible Cable (27P)        | GGD1447             | diagnosis of DVDM ASSY      |
|   | Flexible Cable (25P)        | GGD1309             | diagnosis of DVDM ASSY      |
|   | DVD Data Disc               | GGV1175             | diagnosis (ID data setting) |
|   | Test Tape                   | NCT-111 or STD-301  | Tape Speed adjustment       |
|   | Test Tape                   | NCT-112 or STD-331E | Tape Playback adjustment    |
| B | Test Tape                   | STD-630 or STD-631  | Normal blank tape           |

## ■ Lubricants and Glues list

|   | Name              | Lubricants and Glues No. | Remarks                                  |
|---|-------------------|--------------------------|------------------------------------------|
|   | Lubricating Oil   | GYA1001                  | refer to "2.4 05 LOADER ASSY"            |
|   | Daifree           | GEM1036                  | refer to "2.4 05 LOADER ASSY"            |
|   | Silicone Adhesive | GEM1037                  | refer to "2.5 TRAVERSE MECHANISM ASSY-S" |
| C | Screw tight       | GYL1001                  | refer to "6.2.5 MECHANISM ADJUSTMENT"    |



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

| Position to be cleaned | Cleaning tools                                        |
|------------------------|-------------------------------------------------------|
| Pickup lenses          | Cleaning liquid : GEM1004<br>Cleaning paper : GED-008 |

| Position to be cleaned                      | Cleaning tools           |
|---------------------------------------------|--------------------------|
| Cassette heads<br>Pinch rollers<br>Capstans | Cleaning paper : GED-008 |

| Position to be cleaned | Cleaning tools           |
|------------------------|--------------------------|
| Fans                   | Cleaning paper : GED-008 |