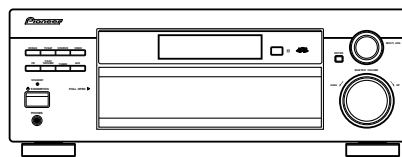


Service Manual



VSX-D712-K

ORDER NO.
RRV2754

AUDIO/VIDEO MULTI-CHANNEL RECEIVER

VSX-D712-K

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

Model	Type	Power Requirement	Remarks
VSX-D712-K	KUXJI	AC120V	
VSX-D712-K	KCXJI	AC120V	



For details, refer to "Important symbols for good services".

SAFETY INFORMATION



This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual. Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

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

Health & Safety Code Section 25249.6 – Proposition 65

NOTICE

(FOR CANADIAN MODEL ONLY)

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

REMARQUE

(POUR MODÈLE CANADIEN SEULEMENT)

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

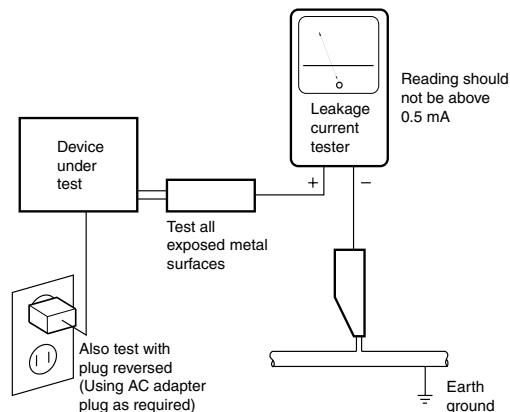
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

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

LEAKAGE CURRENT CHECK

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



AC Leakage Test

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

2. PRODUCT SAFETY NOTICE

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

Electrical components having such features are identified by marking with a Δ on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

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

[Important symbols for good services]

In this manual, the symbols shown-below indicate that adjustments, settings or cleaning should be made securely. When you find the procedures bearing any of the symbols, be sure to fulfill them:

1. Product safety

You should conform to the regulations governing the product (safety, radio and noise, and other regulations), and should keep the safety during servicing by following the safety instructions described in this manual.

2. Adjustments

To keep the original performances of the product, optimum adjustments or specification confirmation is indispensable. In accordance with the procedures or instructions described in this manual, adjustments should be performed.

3. Cleaning

For optical pickups, tape-deck heads, lenses and mirrors used in projection monitors, and other parts requiring cleaning, proper cleaning should be performed to restore their performances.

4. Shipping mode and shipping screws

To protect the product from damages or failures that may be caused during transit, the shipping mode should be set or the shipping screws should be installed before shipping out in accordance with this manual, if necessary.

5. Lubricants, glues, and replacement parts

Appropriately applying grease or glue can maintain the product performances. But improper lubrication or applying glue may lead to failures or troubles in the product. By following the instructions in this manual, be sure to apply the prescribed grease or glue to proper portions by the appropriate amount. For replacement parts or tools, the prescribed ones should be used.

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1. SPECIFICATIONS

Amplifier section

Continuous average power output of 100 watts* per channel, min., at 8 ohms, from 20 Hz to 20,000 Hz with no more than 0.2 %** total harmonic distortion (front).

Continuous power output (stereo)

Front. 100 W per channel
(20–20,000 Hz, THD 0.2 %, 8Ω)

Continuous power output (surround)

Front. 100 W per channel
(1kHz, 1.0 %, 8Ω)
Center 100 W (1kHz, 1.0 %, 8 Ω)
Surround. 100 W per channel
(1kHz, 1.0 %, 8Ω)

Input (Sensitivity/Impedance)

CD, VCR/DVR, CD-R/TAPE/MD,
DVD/LD, TV/SAT 200 mV/47 kΩ

Frequency response

CD, VCR/DVR, CD-R/TAPE/MD, DVD/LD,
TV/SAT. 5 Hz to 100,000 Hz±3 dB

Output (Level/Impedance)

VCR/DVR REC, CD-R/TAPE/
MD REC. 200 mV/2.2 kΩ

Tone control

Bass. ± 6 dB (100 Hz)
Treble. ± 6 dB (10 kHz)
Loudness. +6.5 dB/+3 dB (100 Hz/10 kHz)
(at volume level -50 dB)

Signal-to-Noise Ratio

(IHF, short circuited, A network)
CD, VCR/DVR, CD-R/TAPE/MD,
DVD/LD, TV/SAT 96 dB

Signal-to Noise Ratio

EIA, at 1 W (1 kHz)
CD, VCR/DVR, CD-R/TAPE/MD,
DVD/LD, TV/SAT. 79 dB

Video section

Input (Sensitivity/Impedance)

VCR/DVR, DVD/LD, TV/SAT 1 Vp-p/75 Ω

Output (Level/Impedance)

VCR/DVR, MONITOR OUT 1 Vp-p/75 Ω

Frequency response

VCR/DVR, DVD/LD,
TV/SAT ⇒ MONITOR. 5 Hz to 7 MHz±3 dB
Signal-to-Noise Ratio. 55 dB

Component video section

Input (Sensitivity)

DVD/LD, TV/SAT. 1 Vp-p/75 Ω

Output (Level/Impedance)

MONITOR OUT. 1 Vp-p/75 Ω

Frequency response

DVD/LD,
TV/SAT ⇒ MONITOR. 5 Hz to 40 MHz±3 dB
Signal-to-Noise Ratio. 55 dB

FM tuner section

Frequency Range. 87.5 MHz to 108 MHz
Usable Sensitivity Mono: 13.2 dBf, IHF
(1.3 μV/ 75Ω)
50 dB Quieting Sensitivity. Mono: 20.2 dB
. Stereo: 38.6 dBf
Signal-to-Noise Ratio. Mono: 73 dB
(at 85 dBf)
Stereo: 70 dB (at 85 dBf)
Distortion Stereo: 0.5 % (1 kHz)
Alternate Channel Selectivity. 60 dB
(400 kHz)

Stereo Separation40 dB (1 kHz)
 Frequency Response. 30 Hz to 15 kHz
 (±1 dB)
 Antenna Input (DIN)75 Ω unbalanced

AM tuner section

Frequency Range.530 kHz to 1,700 kHz
 Sensitivity (IHF, Loop antenna). 350 μV/m
 Selectivity.25 dB
 Signal-to-Noise Ratio. 50 dB
 AntennaLoop antenna

Miscellaneous

Power Requirements. AC 120 V, 60Hz
 Power Consumption
 VSX-D712.260W, 340 VA

In standby. 0.5 W
 AC Outlet 100 W MAX. (SWITCHED)
 Dimensions . . .420 (W) x 158 (H) x 401 (D) mm
 (16-9/16 (W) x 6-4/16 (H) x 15-6/16 (D) in.)
 Weight (without package)
 VSX-D712.9.0 kg (19.8 lb)

Furnished parts

AM loop antenna. 1
 FM wire antenna 1
 AA/R6 dry cell batteries. 2
 Remote control. 1
 These operating instructions. 1



Note

- Specifications and the design are subject to possible modifications without notice, due to improvements.

* Measured pursuant to the Federal Trade Commission's Trade Regulation rule on Power Output Claims for Amplifiers.

** Measured by Audio Spectrum Analyzer.

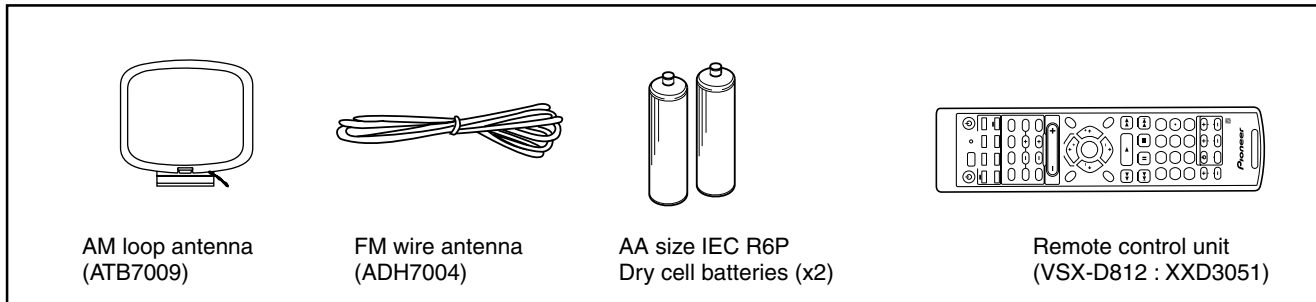
Cleaning the unit

- Use a polishing cloth or dry cloth to wipe off dust and dirt.
- When the surface is dirty, wipe with a soft cloth dipped in some neutral cleanser diluted five or six times with water, and wrung out well, and then wipe again with a dry cloth. Do not use furniture wax or cleansers.
- Never use thinners, benzene, insecticide sprays or other chemicals on or near this unit, since these will corrode the surface.

Manufactured under license from Dolby Laboratories. "Dolby", "Pro Logic", "Surround EX", and the double-D symbol are trademarks of Dolby Laboratories.

"DTS", "DTS-ES Extended Surround" and "Neo:6" are trademarks of Digital Theater Systems, Inc.

Accessories



AM loop antenna (ATB7009)

FM wire antenna (ADH7004)

AA size IEC R6P Dry cell batteries (x2)

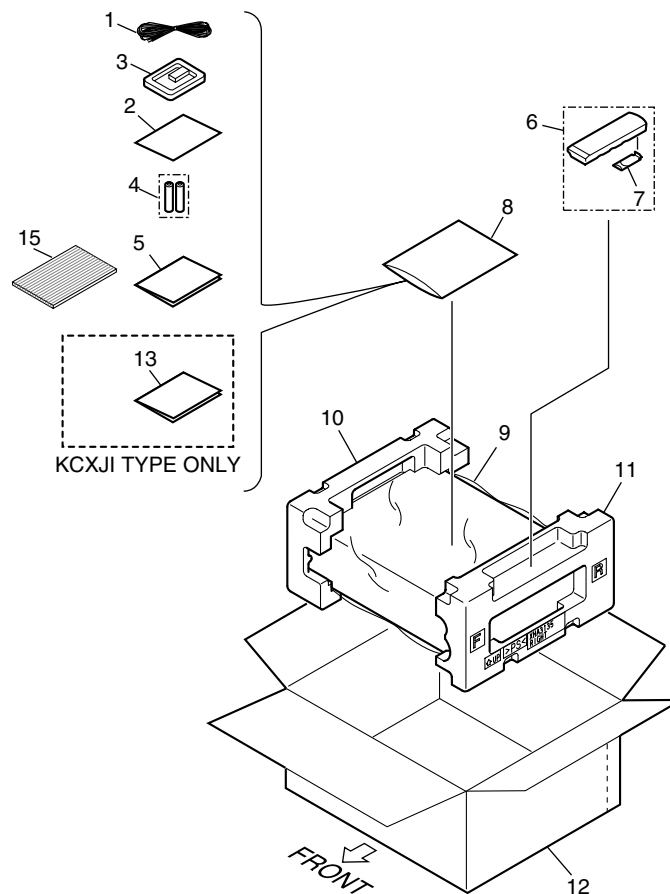
Remote control unit (VSX-D812 : XXD3051)

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 \triangle mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Screws adjacent to \blacktriangledown 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



PACKING parts List

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	FM wire antenna	ADH7004	9	Packing Sheet	AHG7069
NSP 2	Warranty Card	ARY7045	10	Left Pad R6	XHA3134
3	AM loop antenna	ATB7009	11	Right Pad R6	XHA3135
NSP 4	Dry cell batteries (AA/LR6)	VEM1031	12	Packing Case	XHD3325
5	Operating instructions (English)	XRB3020	13	Operating Instructions (French)	See Contrast table(2)
6	Remote Control Unit	XXD3051	14	•••••	
7	Battery Cover	AZA7424	NSP 15	Accessory Board R6	XHB3008
NSP 8	Literature Bag	AHG1180			

(2) CONTRAST TABLE

VSX-D712-K/KUXJI and VSX-D712-K/KCXJI are constructed the same except for the following:

Mark	NO	Symbol and Description	VSX-D712-K/ KUXJI	VSX-D712-K/ KCXJI
	13	Operating Instructions (French)	Not used	XRC3078

2.2 EXTERIOR SECTION

A

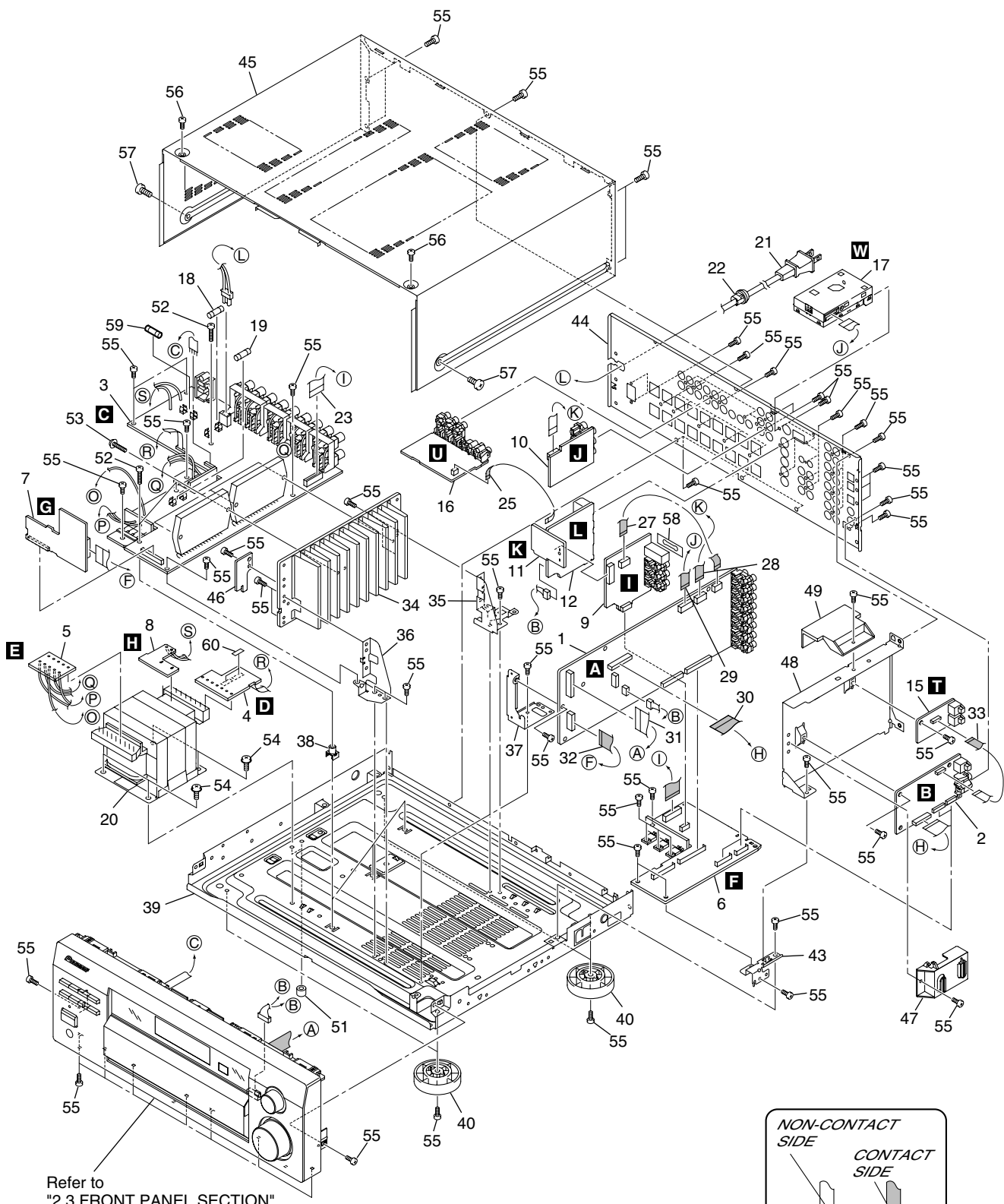
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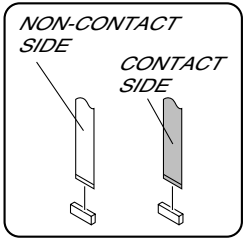
D

E

F



Refer to
"2.3 FRONT PANEL SECTION".



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	MAIN Assy	XWK3091	50	•••••	
2	DSP Assy	AWX1083			
3	AMP Assy	XWZ3666	51	Spacer	AEB7092
4	TRANS2 Assy	XWZ3682	52	Screw	BBZ30P200FMC
5	TRANS3 Assy	XWZ3686	53	Screw 3x23	ABA7043
			54	Screw	FBT40P080FZK
6	REGULATOR Assy	XWZ3675	55	Screw	BBZ30P080FZK
7	AMP INPUT Assy	XWZ3677			
8	TRANS1 Assy	XWZ3680	56	Screw	BPZ30P080FZK
9	VIDEO Assy	XWZ3644	57	Screw	FBT40P080FZK
10	6CH IN Assy	XWZ3649	58	Vjack Spacer R6	XEC3038
			⚠ 59	FU2 Fuse (8A)	REK1086
11	BOARD TO BOARD Assy	XWZ3664	NSP 60	ICP Label	XAX3319
12	S. VIDEO Assy	XWZ3660			
13	•••••				
14	•••••				
15	DIGITAL IN Assy	XWZ3657			
16	COMPONENT Assy	XWZ3661			
17	FM/AM TUNER MODULE	AXQ7231			
⚠ 18	FU1 Fuse (10A)	REK1087			
⚠ 19	FU701 Fuse (10A)	REK1087			
⚠ 20	T1 Power Transformer	XTS3058			
⚠ 21	AC Power Cord	ADG7024			
22	Cord Stopper	CM-22C			
23	J36 23P F.F.C/30V	XDD3102			
24	•••••				
25	J38 5P F.F.C/30V	XDD3104			
26	•••••				
27	J33 11P F.F.C/30V	XDD3123			
28	J48 9P F.F.C/30V	XDD3124			
29	J34 13P F.F.C/30V	XDD3122			
30	J43 19P F.F.C/30V	XDD3126			
31	J31 17P F.F.C/30V	XDD3118			
32	J35 19P F.F.C/30V	XDD3101			
33	J37 10P F.F.C/30V	XDD3127			
NSP 34	Heatsink R6A CORR	ANH7112			
35	H/S Angle Rear	ANG7252			
36	H/S Angle Front	ANG7251			
37	PCB Angle R5	XNG3073			
38	PCB Mold	AMR2533			
NSP 39	Under Base R6	XNA3012			
40	Insulator	PNW2766			
41	•••••				
42	•••••				
43	REG Support R6	XNG3093			
44	Rear Panel 712K	XNC3186			
45	Bonnet	XZN3126			
NSP 46	HOLDER Assy	XWZ3692			
47	FFC Holder R6	XMR3072			
48	Shield A R6	XNG3068			
49	FFC Cover R6	XMR3060			

2.3 FRONT PANEL SECTION

A

B

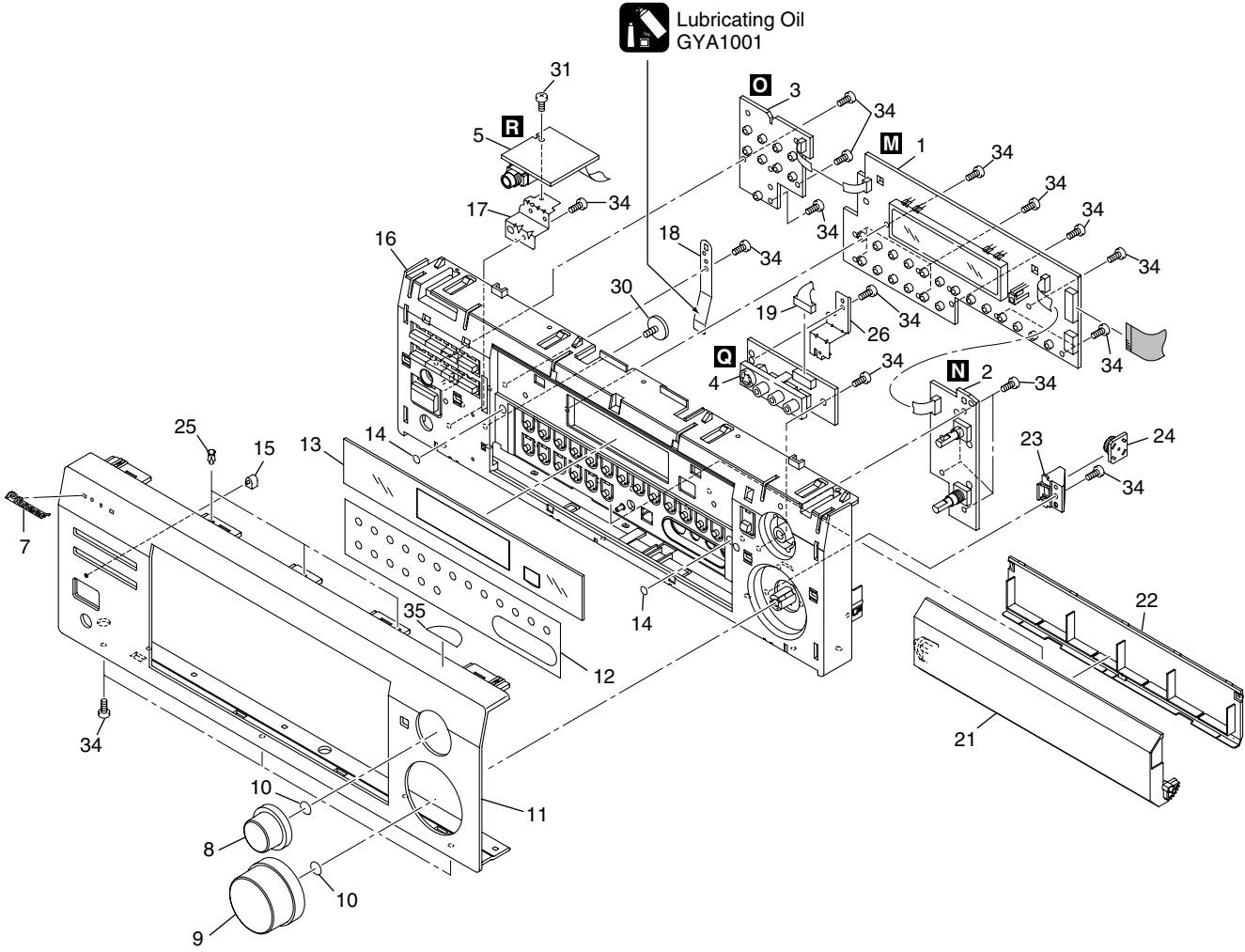
C

D

E

F

Lubricating Oil
GYA1001



FRONT PANEL SECTION parts List

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
1	FRONT ASSY	XWZ3648
2	R. ENCODER Assy	XWZ3652
3	POWER SW Assy	XWZ3651
4	FRONT VIDEO Assy	XWZ3655
5	H.P. Assy	XWZ3654
6	•••••	
7	Pioneer Badge B	XAM3006
8	Select Knob	XAB3023
9	Volume Knob	XAB3025
NSP 10	C Ring DIM 8.1	XBH3016
11	FRT Panel	XMB3096
12	BN Cover	XAK3355
13	D Panel R6 W	XAK3348
14	Cushion	XED3001
15	LED Lens	PNW2019
16	Panel Stay	XMB3093
17	Earth Plate R5 HP	XNG3066
18	Door Spring R6	XBK3002
19	J29 8P Shield Cable	XDX3012
20	•••••	
21	Door	XAK3356
22	Door Cover	XAK3358
23	Holder L R6	XMR3059
24	Damper Assy	XXA3025
25	Push Rivet	AEC7025
26	Earth Plate FI R6	XNG3091
27	•••••	
28	•••••	
29	•••••	
30	Screw	XBA3010
31	Screw	BBZ30P080FZK
32	•••••	
33	•••••	
34	Screw	PPZ30P100FMC
NSP 35	Energy Star Label	AAX7876

A

B

C

D

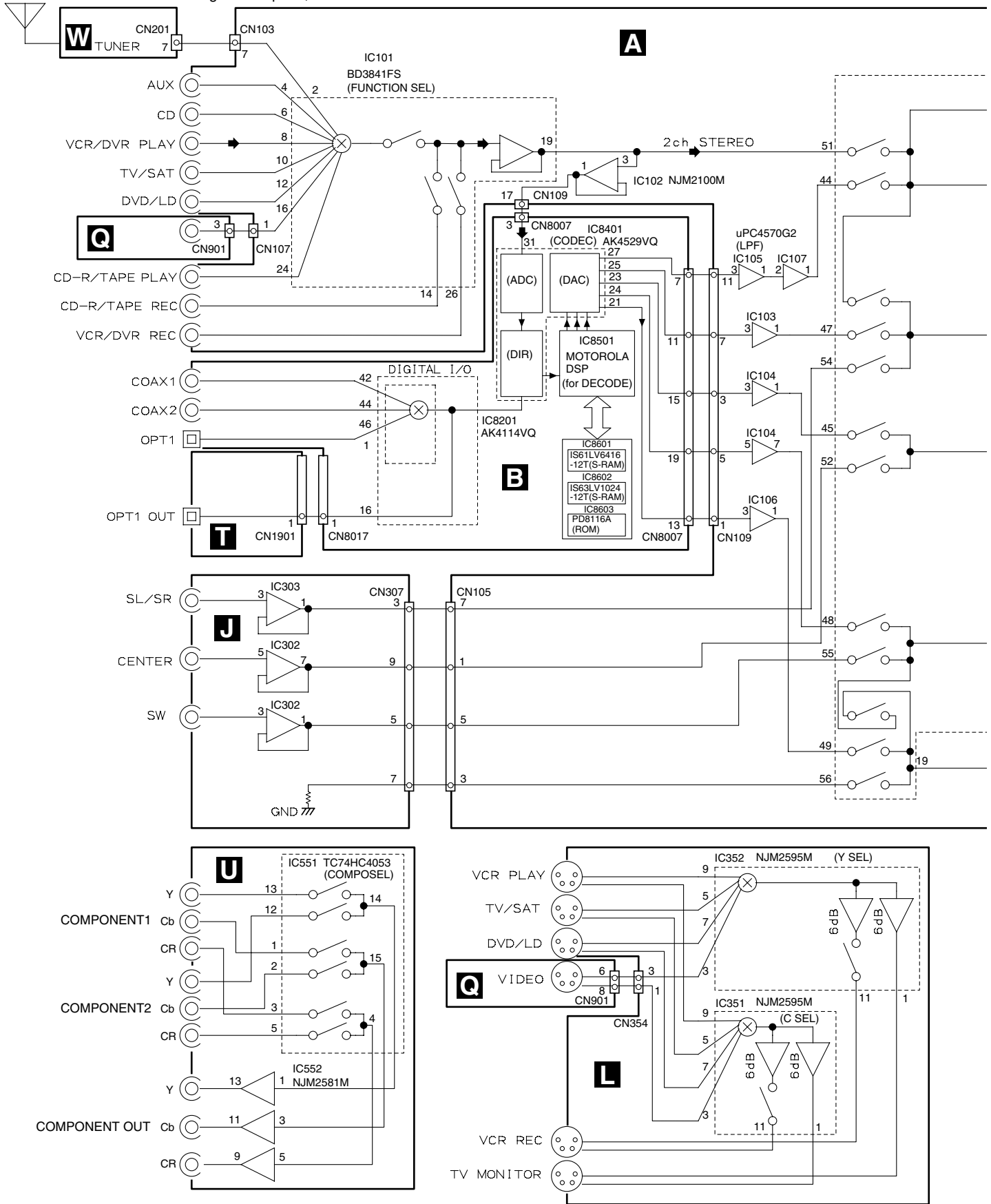
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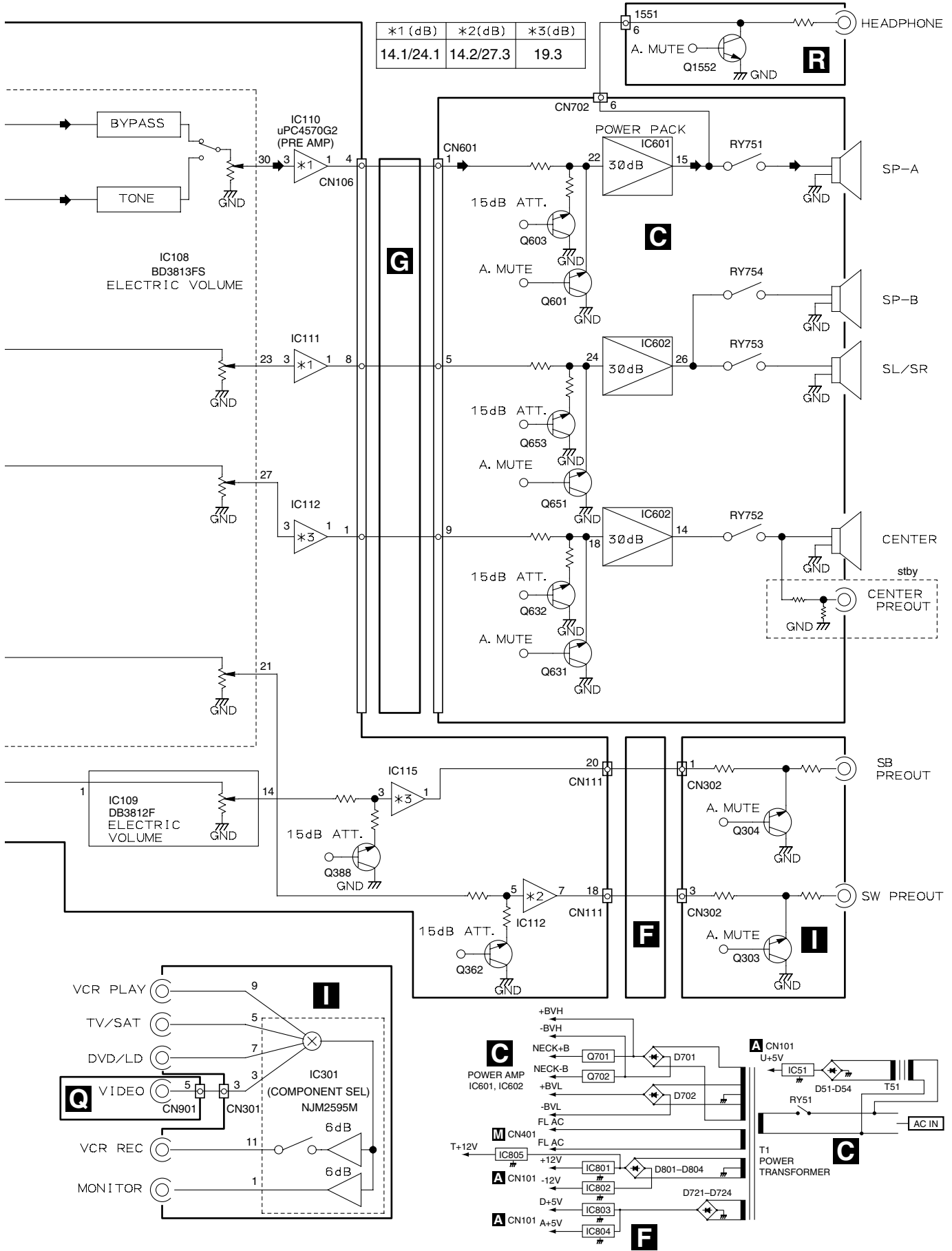
F

3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

3.1 BLOCK DIAGRAM

Note : When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".





3.2 OVERALL WIRING CONNECTION DIAGRAM

A

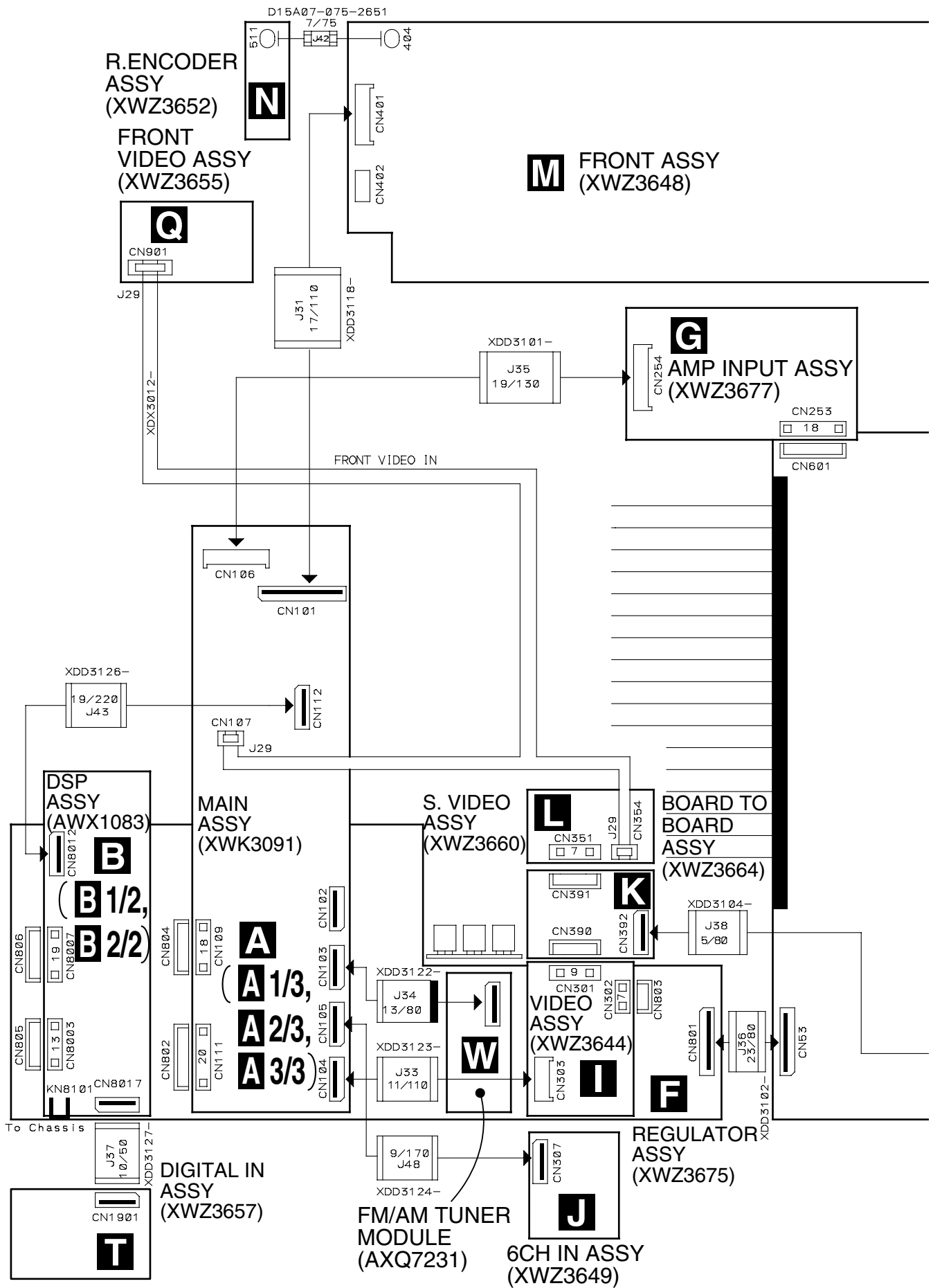
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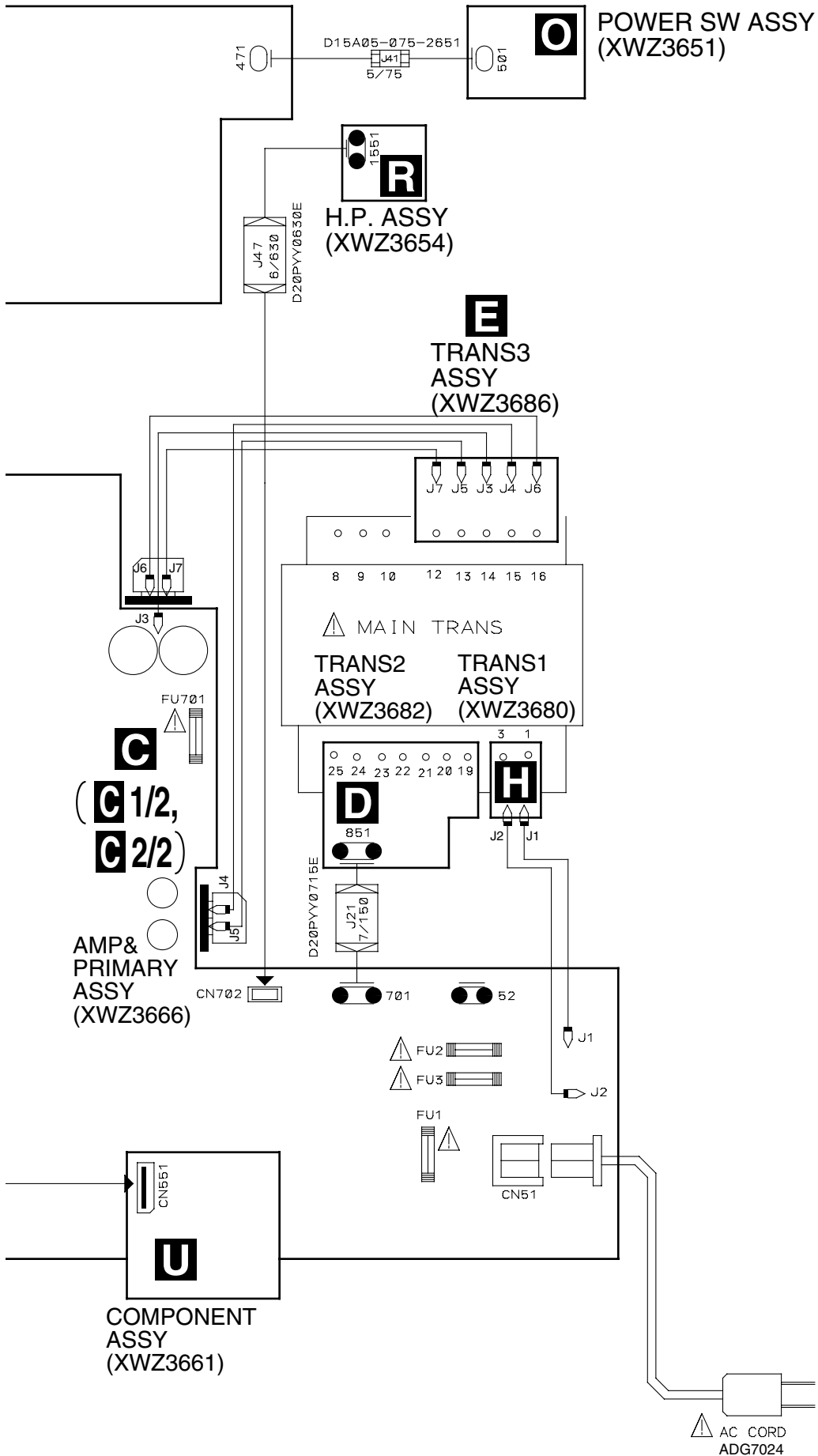
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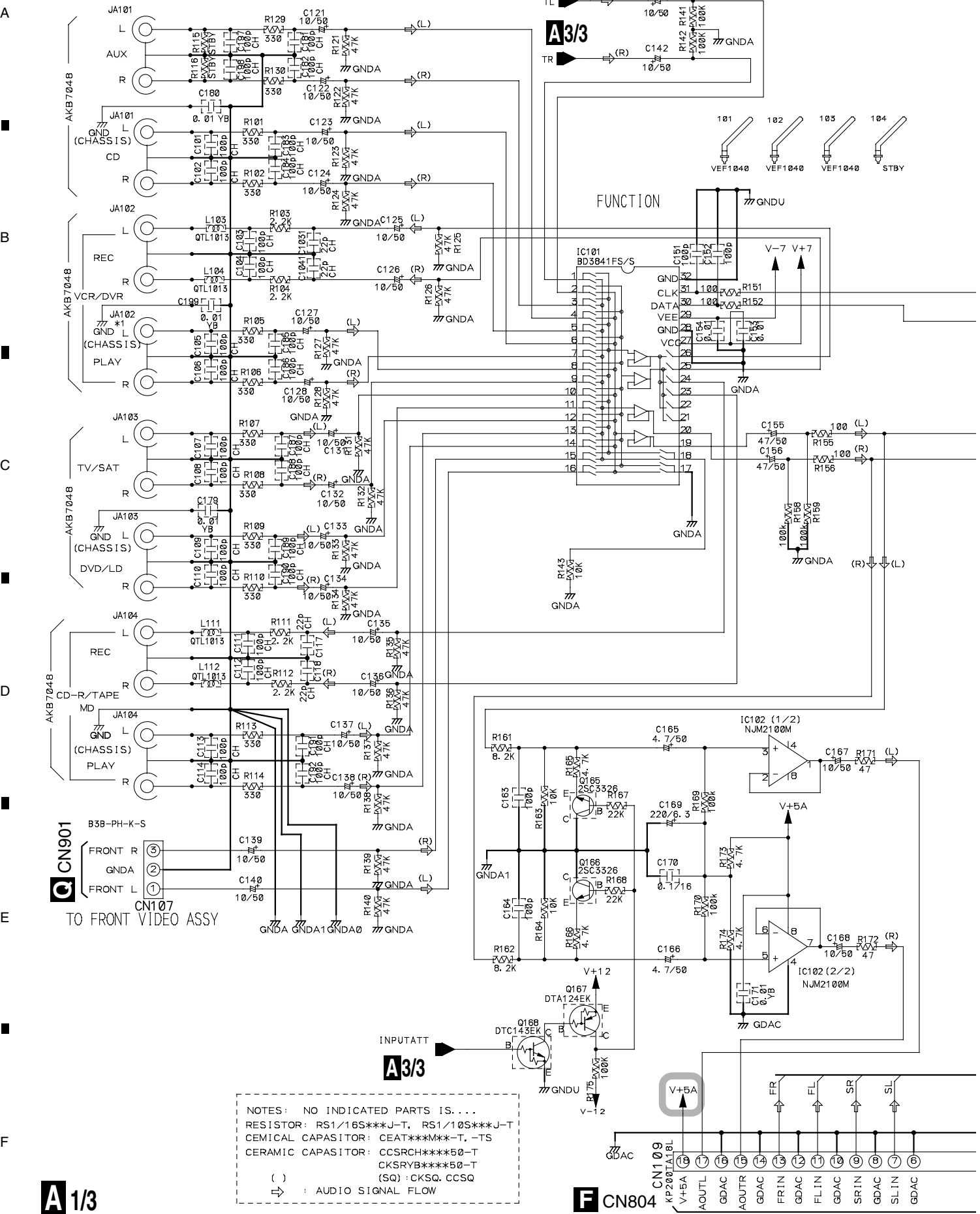
F





- BxB-PH-K-S PH CONNECTOR
- 1.25mm FFC
- 1.25mm REVERSE FFC
- 2.0mm FLAT CABLE
- 1.5mm FLAT CABLE
- BOARD IN
- 1.25mm FFC CONNECTOR (L)
- 1.25mm FFC CONNECTOR
- 2.0mm CABLE HOLDER
- 1.5mm CABLE HOLDER
- 2.0mm WIRE TRAP
- KP200TA**L 2.0mm BOARD to BOARD
- KM200TA** 2.0mm BOARD to BOARD
- AKP7070, AKP7073 1.25mm BOARD to BOARD
- AKP7059, AKP7062 1.25mm BOARD to BOARD
- AC CODE SOCKET
- AC CODE CONNECTOR

3.3 MAIN ASSY (1/3)

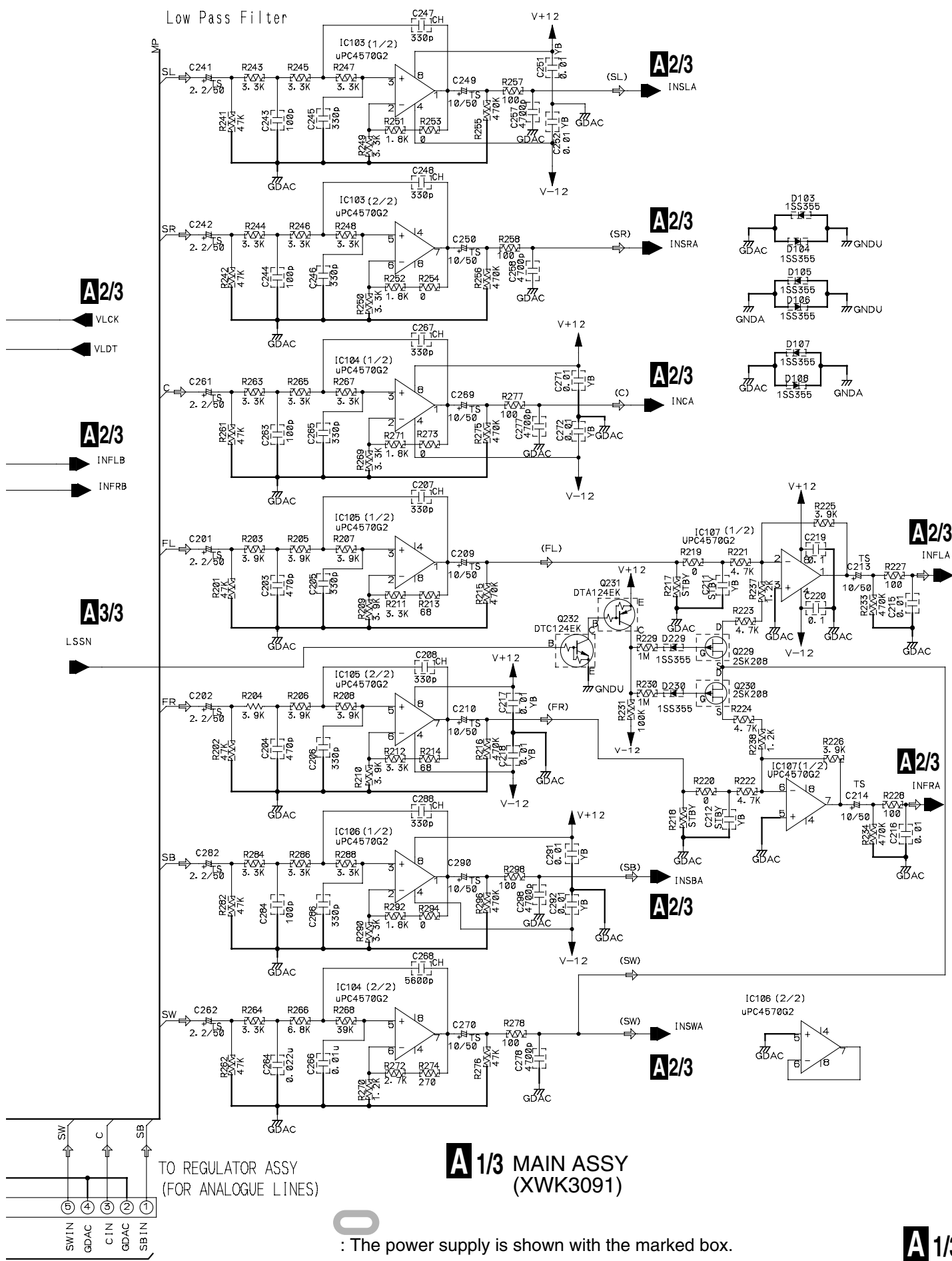


NOTES: NO INDICATED PARTS IS...
 RESISTOR: RS1/16S***J-T, RS1/10S***J-T
 CEMICAL CAPASITOR: CEAT***M***-T, -TS
 CERAMIC CAPASITOR: CCSRCH***50-T
 CKSRVB***50-T
 () CKSQ, CCSQ
 ⇨ : AUDIO SIGNAL FLOW

A 1/3

F CN804

VSX-D712-K



TO REGULATOR ASSY
(FOR ANALOGUE LINES)

A 1/3 MAIN ASSY (XWK3091)

O : The power supply is shown with the marked box.

A 1/3

3.4 MAIN ASSY (2/3)

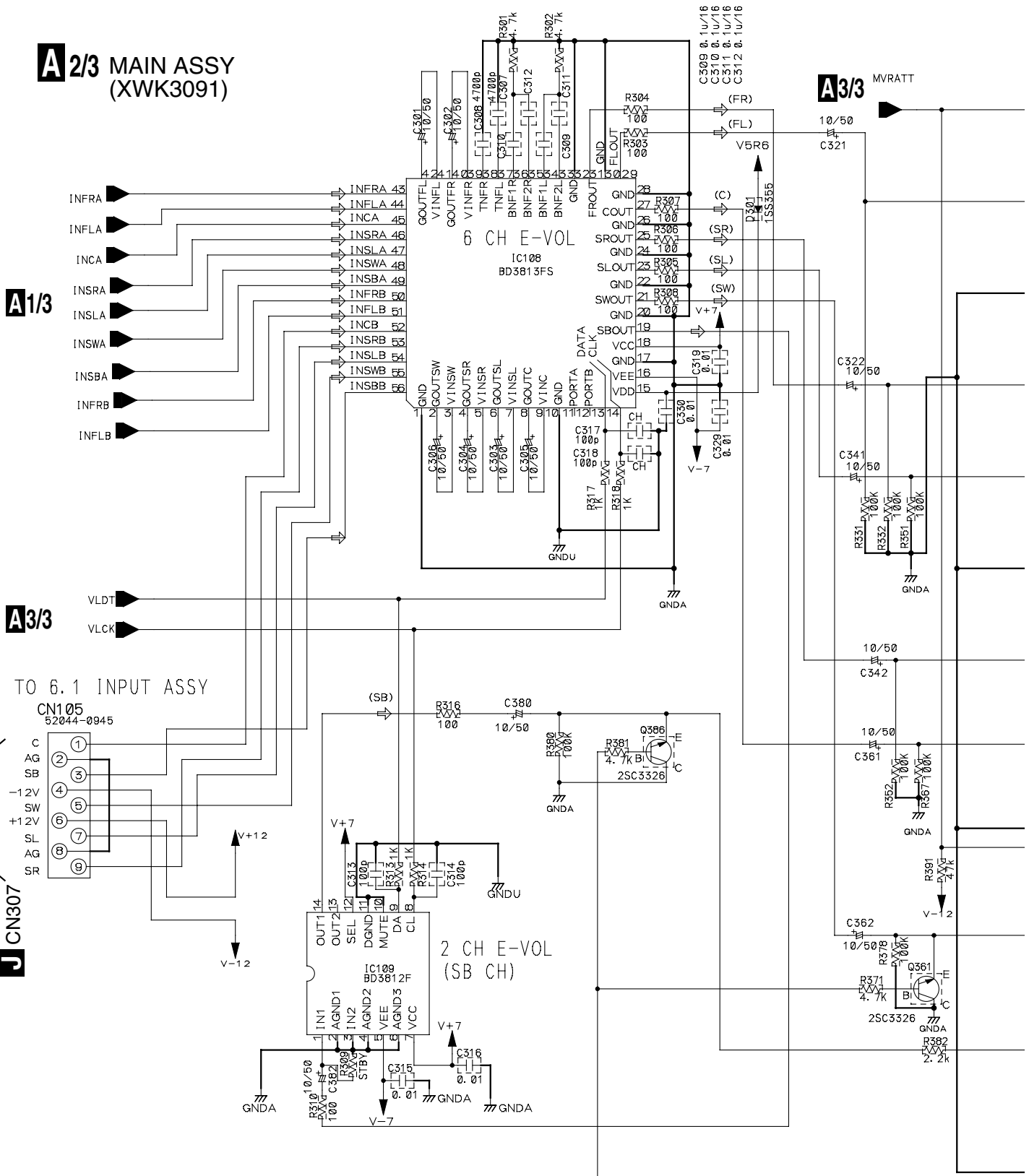
A 2/3 MAIN ASSY (XWK3091)

A1/3

A3/3

J CN307

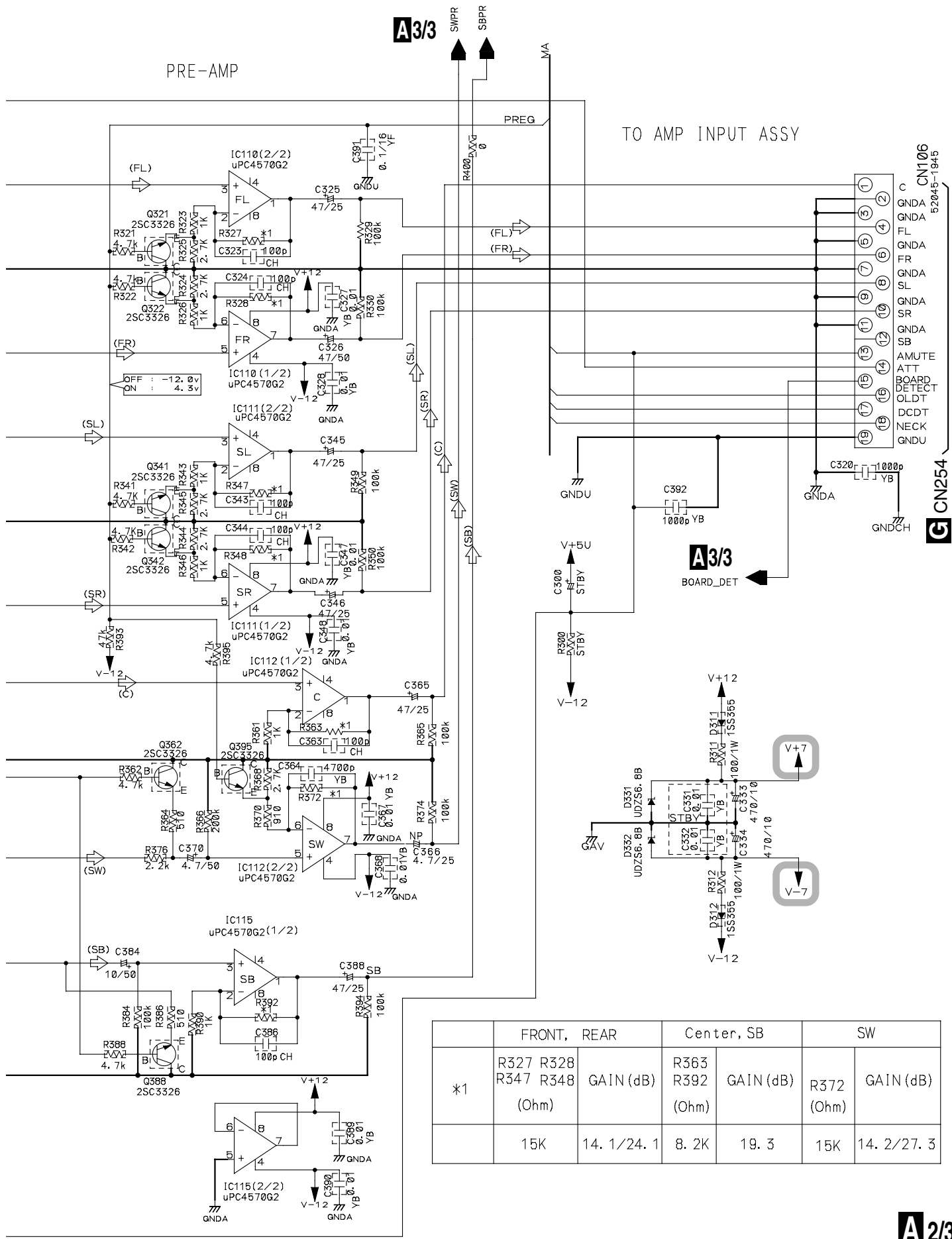
A3/3 MVRATT



NOTE

- RESISTORS
Unit: k- Ω , M- Ω or Ω unless otherwise noted.
Rated power: 1/10W unless otherwise noted.
Tolerance: (J) \pm 5% unless otherwise noted.
- CAPACITORS
Unit: p-pF or μ F unless otherwise noted.
Ratings: Capacity (μ F)/Voltage (V) unless otherwise noted.
Rated Voltage: 50V expect for electrolytic capacitors.
JA:CE:UA

⇒ : AUDIO SIGNAL FLOW



A3/3

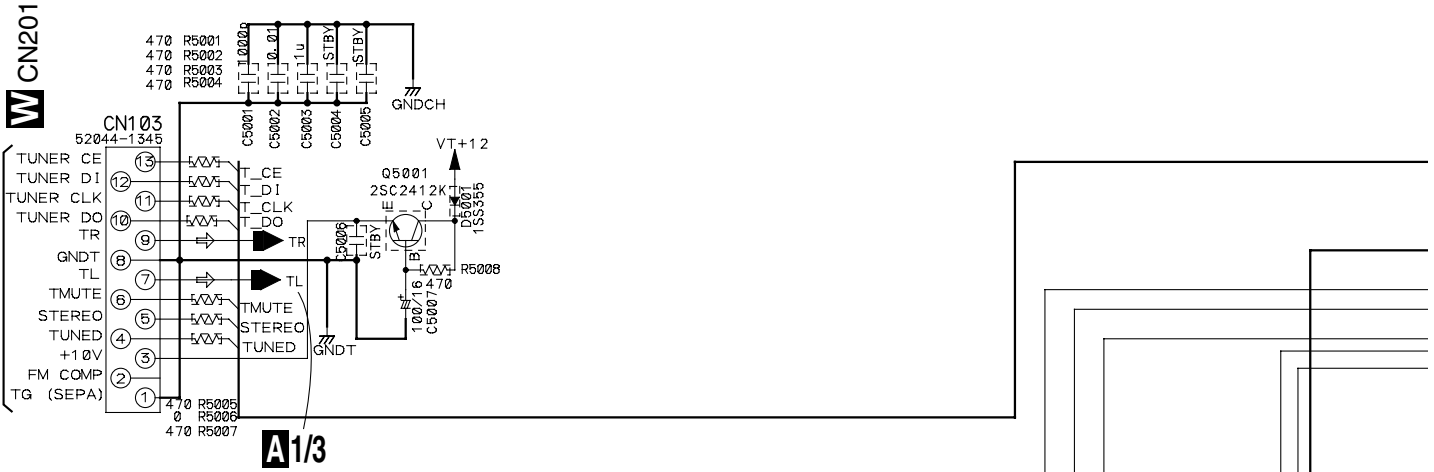
A3/3

A 2/3

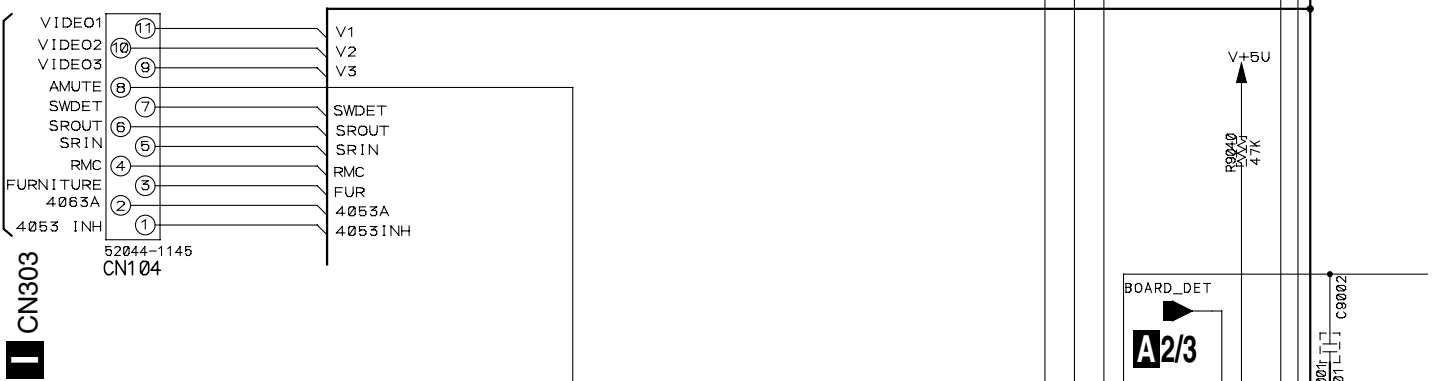
	FRONT, REAR	Center, SB	SW
*1	R327 R328 R347 R348	R363 R392	R372
	GAIN (dB) (Ohm)	GAIN (dB) (Ohm)	GAIN (dB) (Ohm)
	15K 14.1/24.1	8.2K 19.3	15K 14.2/27.3

3.5 MAIN ASSY (3/3)

A



B



C

*1	ASSY	R9023	R9024	R9025	R9026
VSX-D712/KU	XWK3091	-	-	0	0

D

E

*3 R9042, R9043, R9044 : 10K

O : The power supply is shown with the marked box.

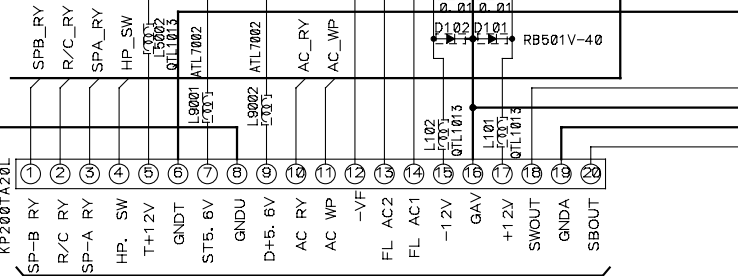
F

NOTE

- RESISTORS
Unit: k- Ω , M- Ω or Ω unless otherwise noted.
Rated power: 1/10W unless otherwise noted.
Tolerance: (J) $\%$ unless otherwise noted.
- CAPACITORS
Unit: p-pF or μ F unless otherwise noted.
Ratings: Capacity(μ F)/Voltage(V) unless otherwise noted.
Rated Voltage: 50V expect for electrolytic capacitors.

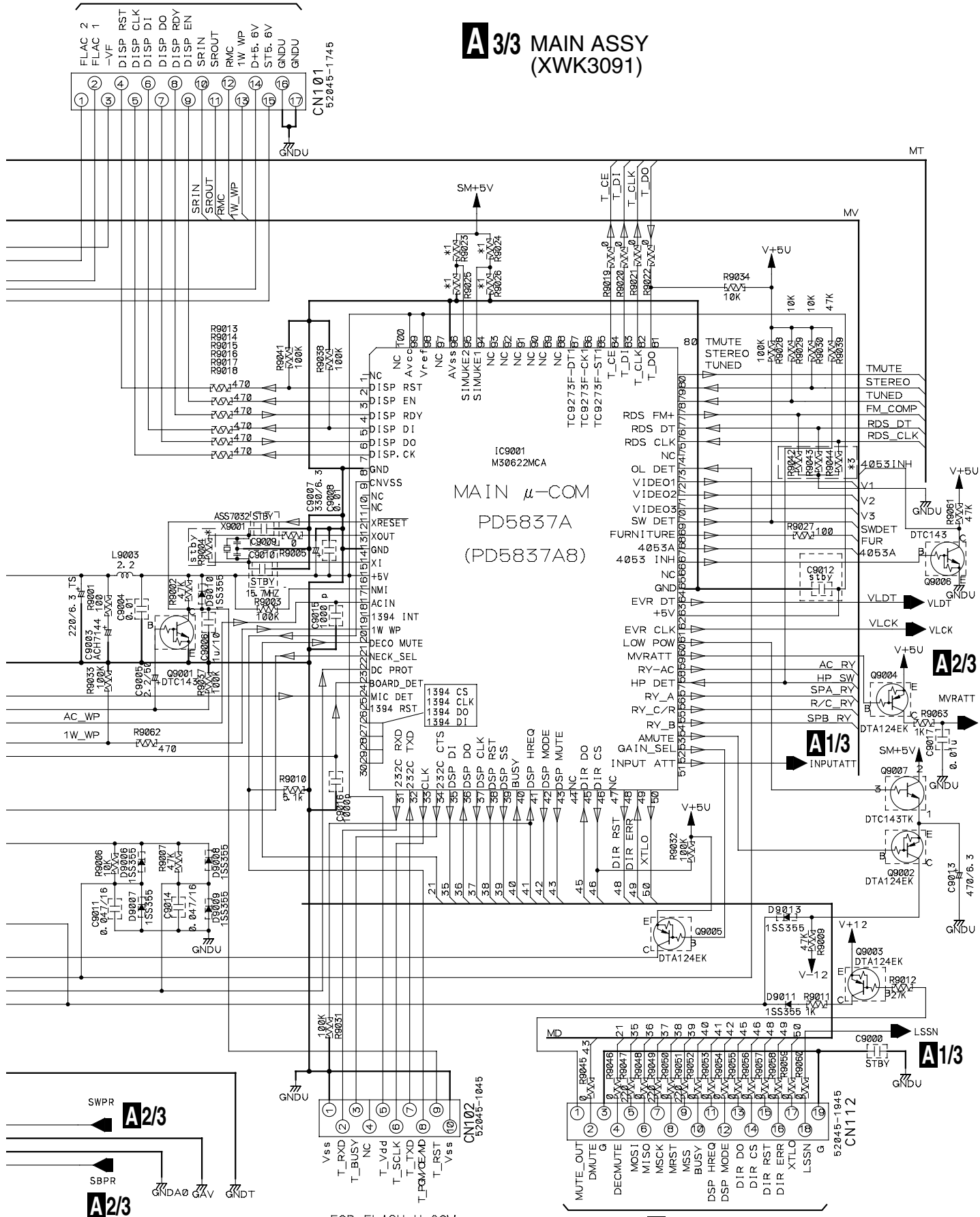
\Rightarrow : AUDIO SIGNAL FLOW

F CN802



M CN401

A 3/3 MAIN ASSY (XWK3091)



A/2/3 SWPR
A/2/3 SBPR

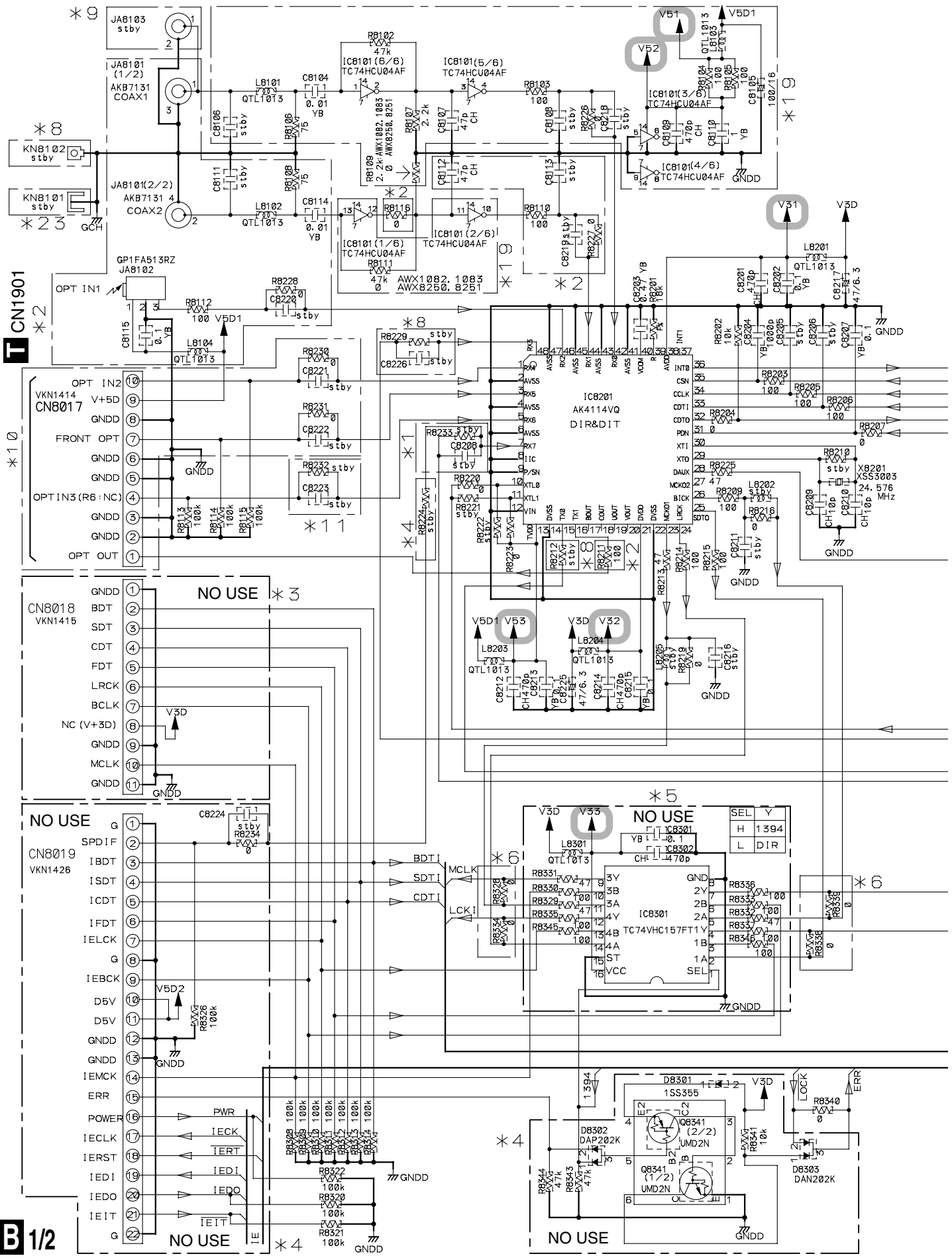
FOR FLASH U-COM

B/2/2 CN8012

A 3/3

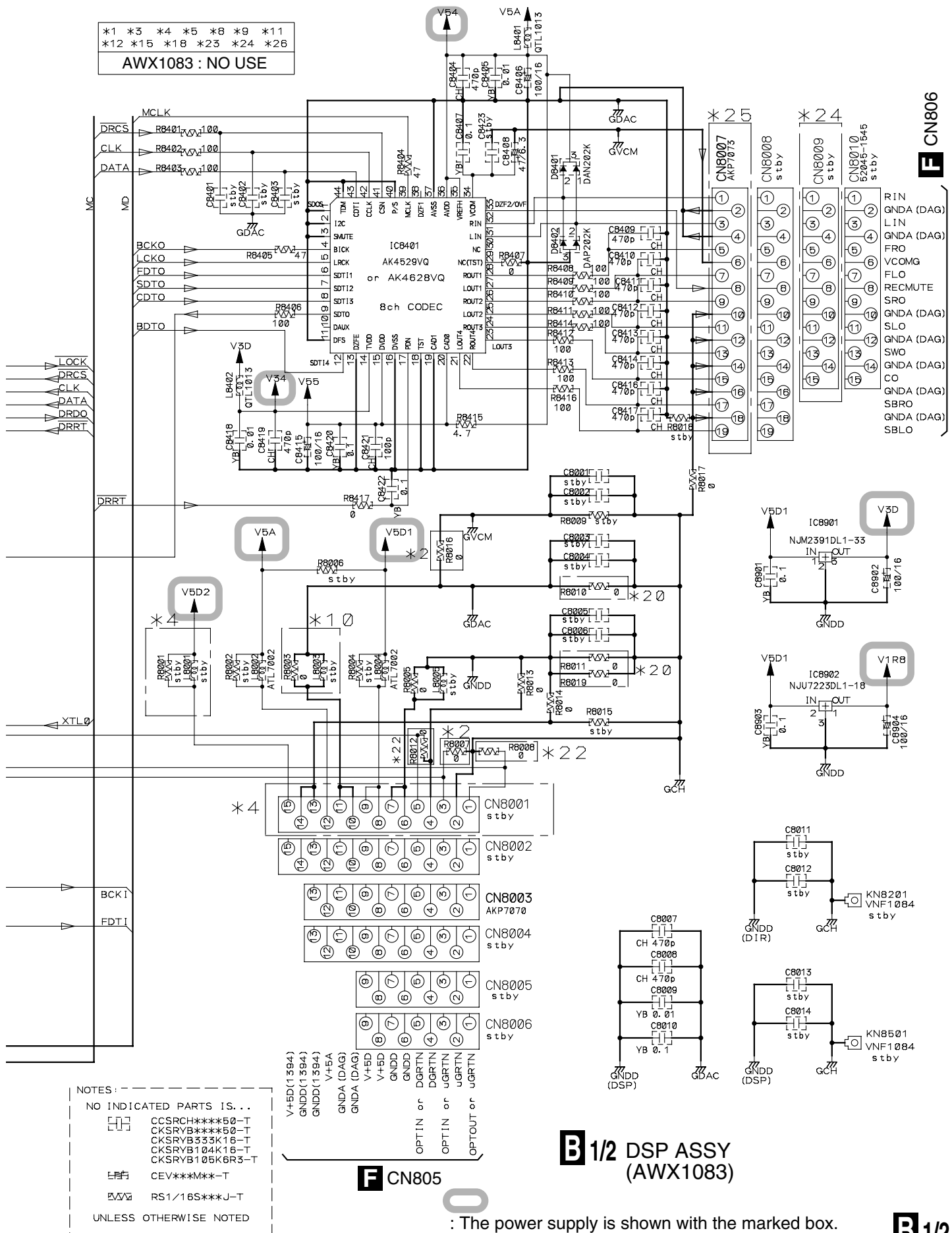
3.6 DSP ASSY (1/2)

A
B
C
D
E
F



B 1/2

*1 *3 *4 *5 *8 *9 *11
 *12 *15 *18 *23 *24 *26
AWX1083 : NO USE



NOTES:
 NO INDICATED PARTS IS...
 CCSRCH***50-T
 CKSRYB***50-T
 CKSRYB333K16-T
 CKSRYB104K16-T
 CKSRYB105K6R3-T
 CEV***M*-T
 RS1/16S***J-T
 UNLESS OTHERWISE NOTED

F CN805

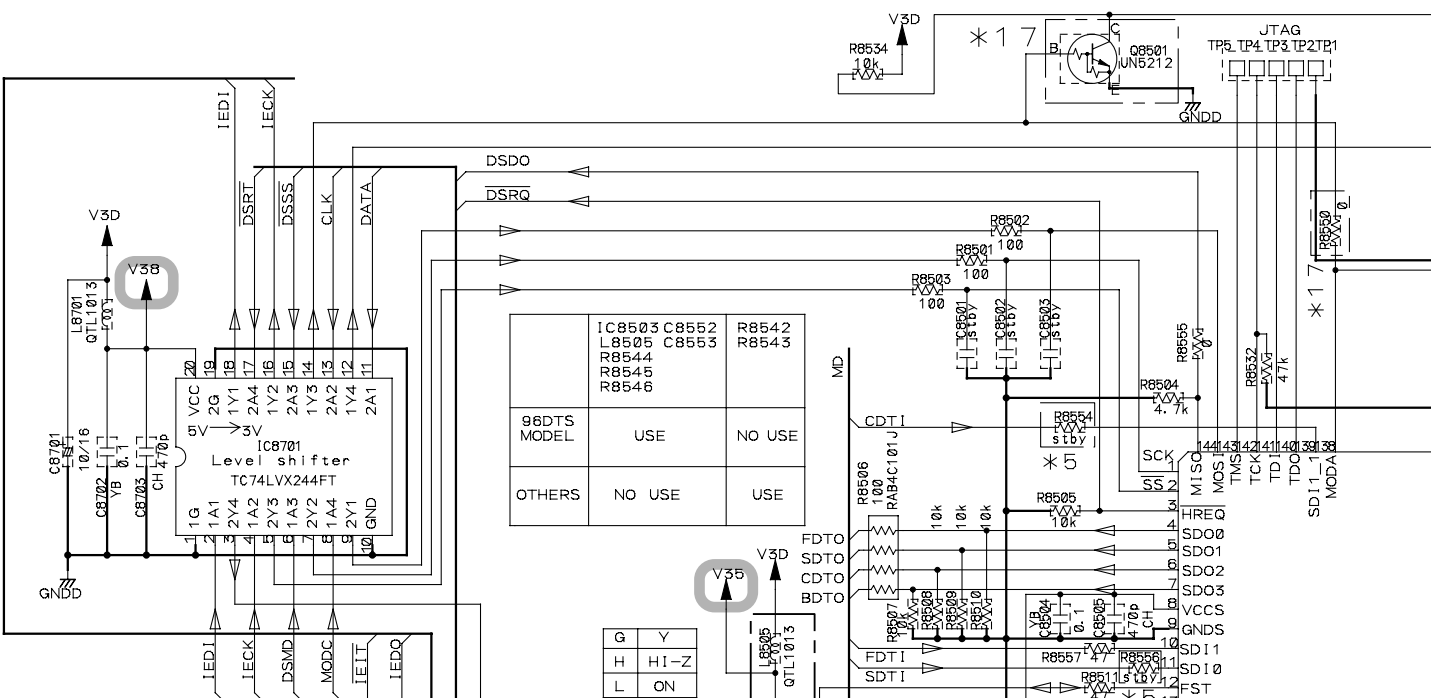
B 1/2 DSP ASSY (AWX1083)

: The power supply is shown with the marked box.

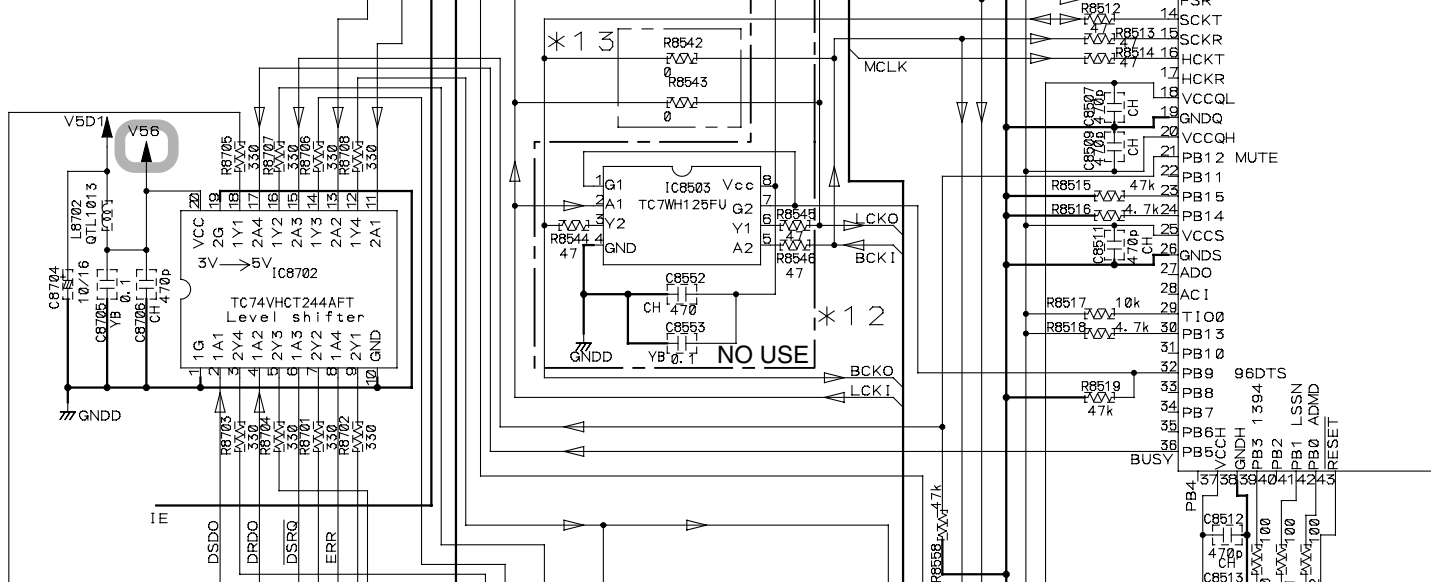
B 1/2

3.7 DSP ASSY (2/2)

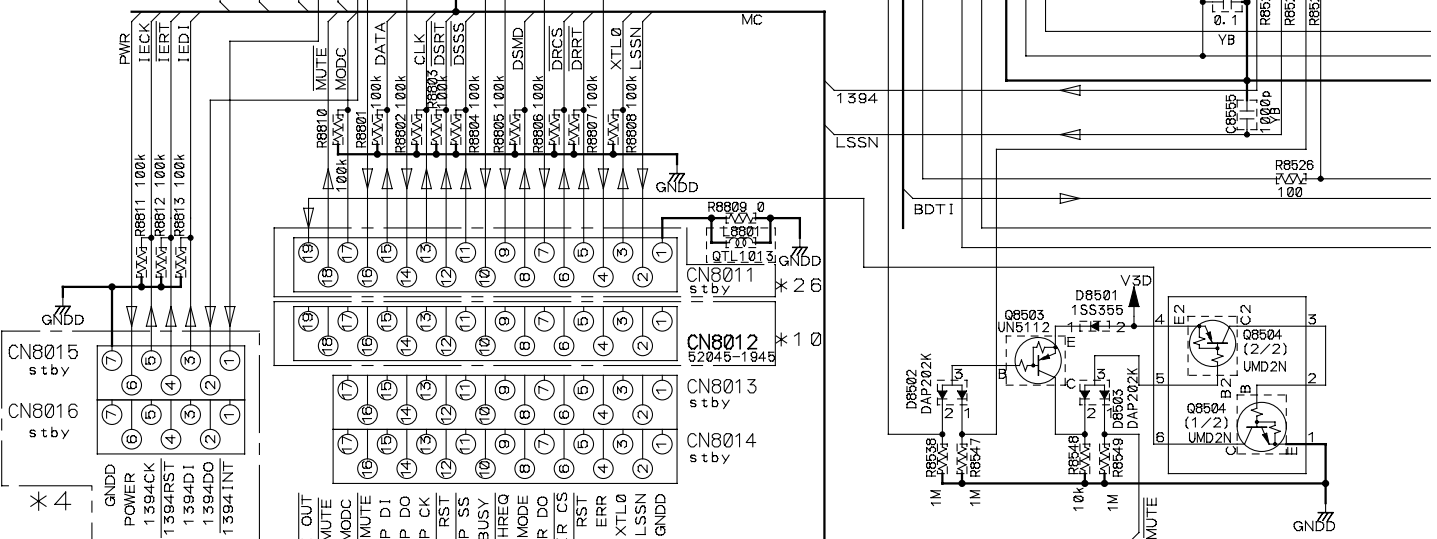
A



B



C

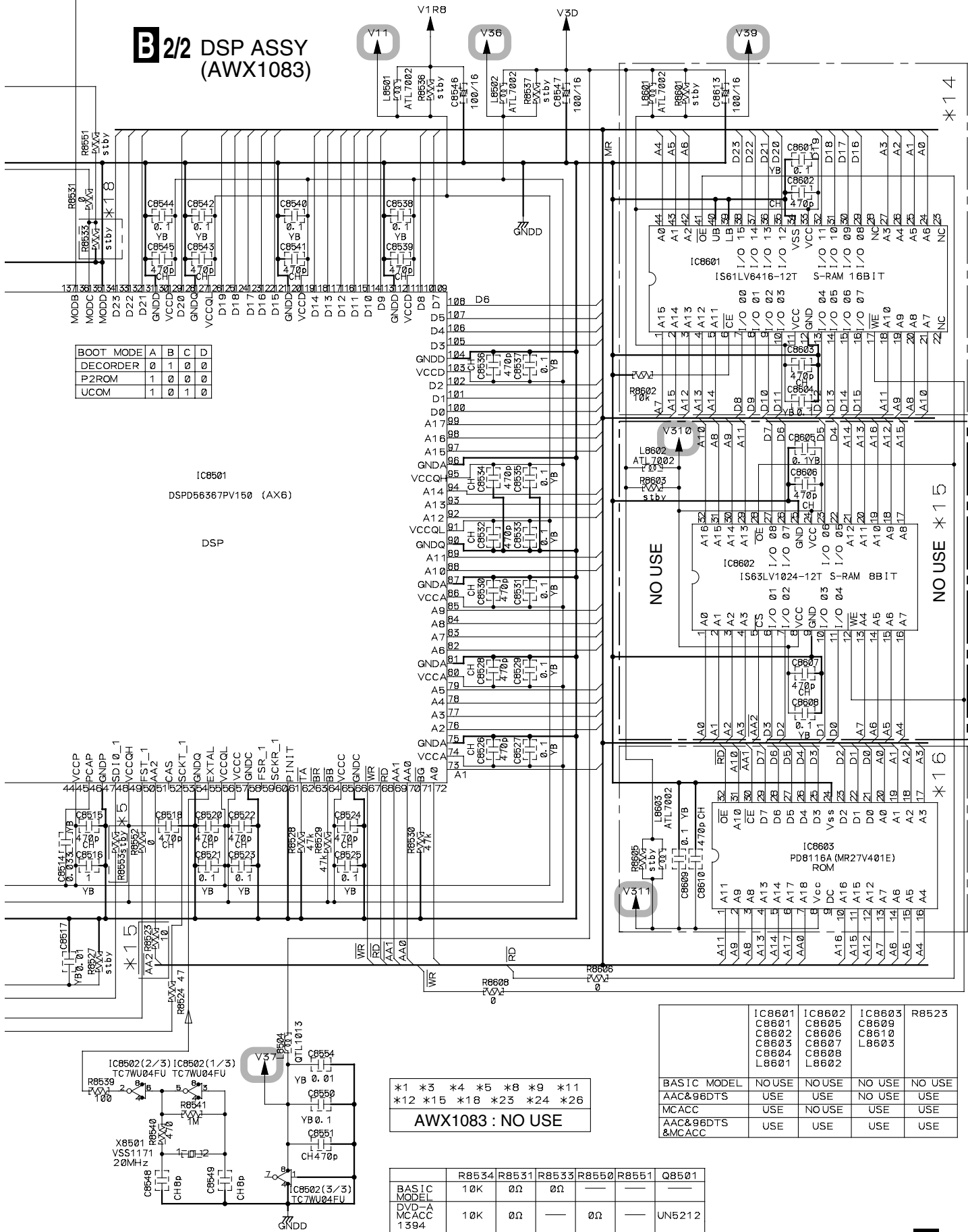


F

B/2/

A/3/3 CN112

B 2/2 DSP ASSY (AWX1083)



BOOT MODE	A	B	C	D
DECORDER	0	1	0	0
P2ROM	1	0	0	0
UCOM	1	0	1	0

IC8501
DSP56367PV150 (AX6)
DSP

NO USE

NO USE

	*1	*3	*4	*5	*8	*9	*11
AWX1083 : NO USE	*12	*15	*18	*23	*24	*26	

	R8534	R8531	R8533	R8550	R8551	Q8501
BASIC MODEL	10K	0Ω	0Ω			
DVD-A MCACC 1394	10K	0Ω		0Ω		UN5212

	IC8601	IC8602	IC8603	R8523
BASIC MODEL	NO USE	NO USE	NO USE	NO USE
AAC&96DTS	USE	USE	NO USE	USE
MCACC	USE	NO USE	USE	USE
AAC&96DTS &MCACC	USE	USE	USE	USE

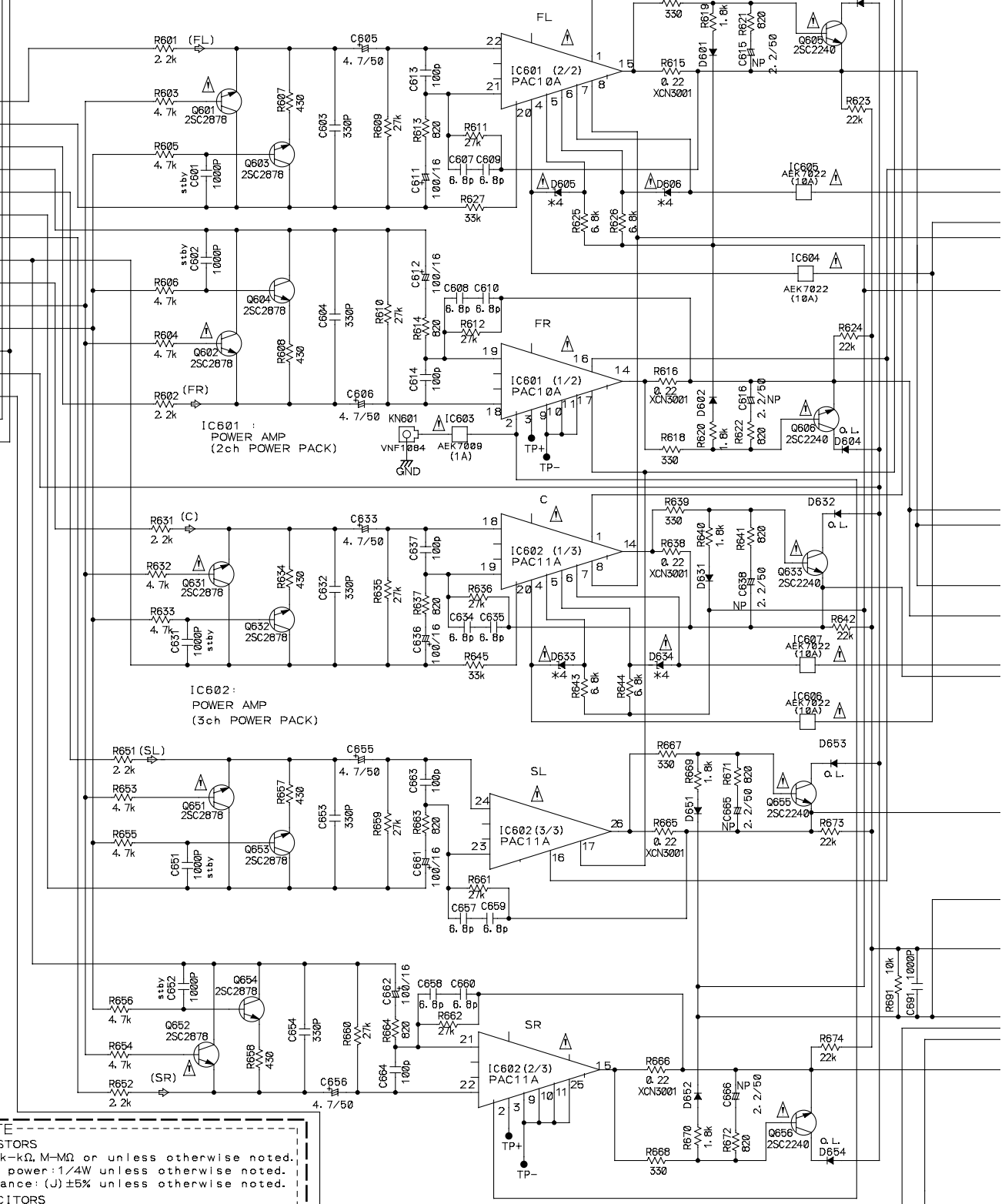
3.8 AMP & PRIMARY (1/2), TRANS2 and TRANS3 ASSYS

C 1/2 AMP&PRIMARY ASSY (XWZ3666)

AMP&PRIMARY (1/2)

- CN601 KM200TA16
- FL ①
- GND A ②
- FR ③
- GND B ④
- SL ⑤
- GND C ⑥
- SR ⑦
- GND D ⑧
- A. MUTE ⑨
- ATT. ⑩
- BOARD DETECT ⑪
- OL ⑫
- DC DET. ⑬
- NECK ⑭
- GND U ⑮

G CN253



- NOTE
1. RESISTORS
Unit: k-kΩ, M-MΩ or unless otherwise noted.
Rated power: 1/4W unless otherwise noted.
Tolerance: (J) ±5% unless otherwise noted.
 2. CAPACITORS
Unit: p-pF or μF unless otherwise noted.
Ratings: Capacity (μF)/Voltage (V) unless otherwise noted.
Rated Voltage: 50V except for electrolytic capacitors.
 3. DIODES
Indicated in 1SS133-T

*4	KUXJI, KCXJI	MTZJ1 6A	
*5	C751, 752, 755, 761, 762 C753, 754, 756, 763, 764 D751, 755, 757	Q. 1 YA JP JP	
	*6	KUXJI, KCXJI	3. 9k/2W
		R711	

G2/2

GND U

G 1/2

VSX-D712-K

CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 49101.6 FOR IC853 MFD, BY LITTELFUSE INC.

TRANS3 ASSY (XWZ3686)

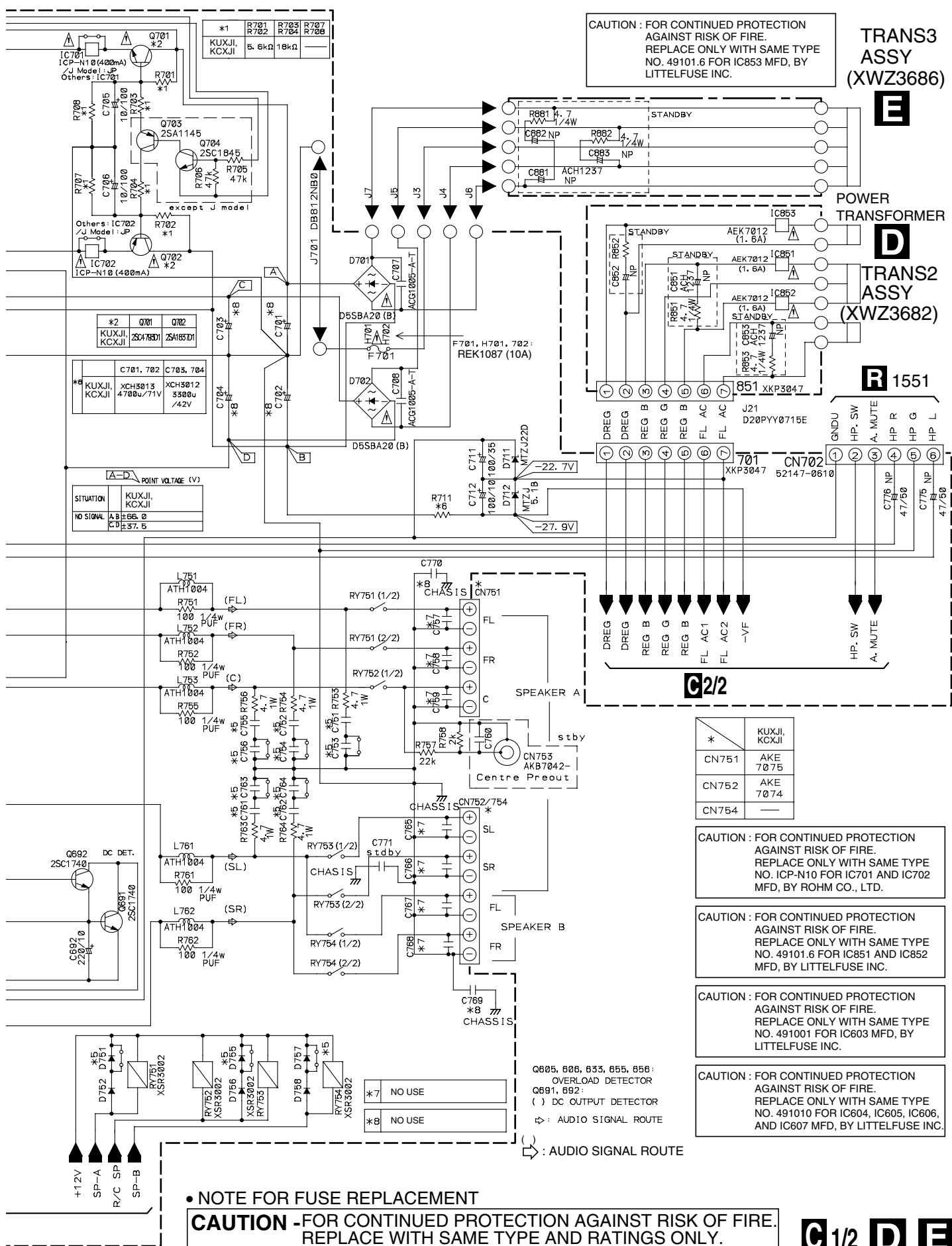
E

POWER TRANSFORMER

D

TRANS2 ASSY (XWZ3682)

R 1551



A-D POINT VOLTAGE (V)

SITUATION	KUXJI, KCXJI
NO SIGNAL	A B H 66.0 C D H 57.5

*	KUXJI, KCXJI
CN751	AKE 7075
CN752	AKE 7074
CN754	—

CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. ICP-N10 FOR IC701 AND IC702 MFD, BY ROHM CO., LTD.

CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 49101.6 FOR IC851 AND IC852 MFD, BY LITTELFUSE INC.

CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 491001 FOR IC603 MFD, BY LITTELFUSE INC.

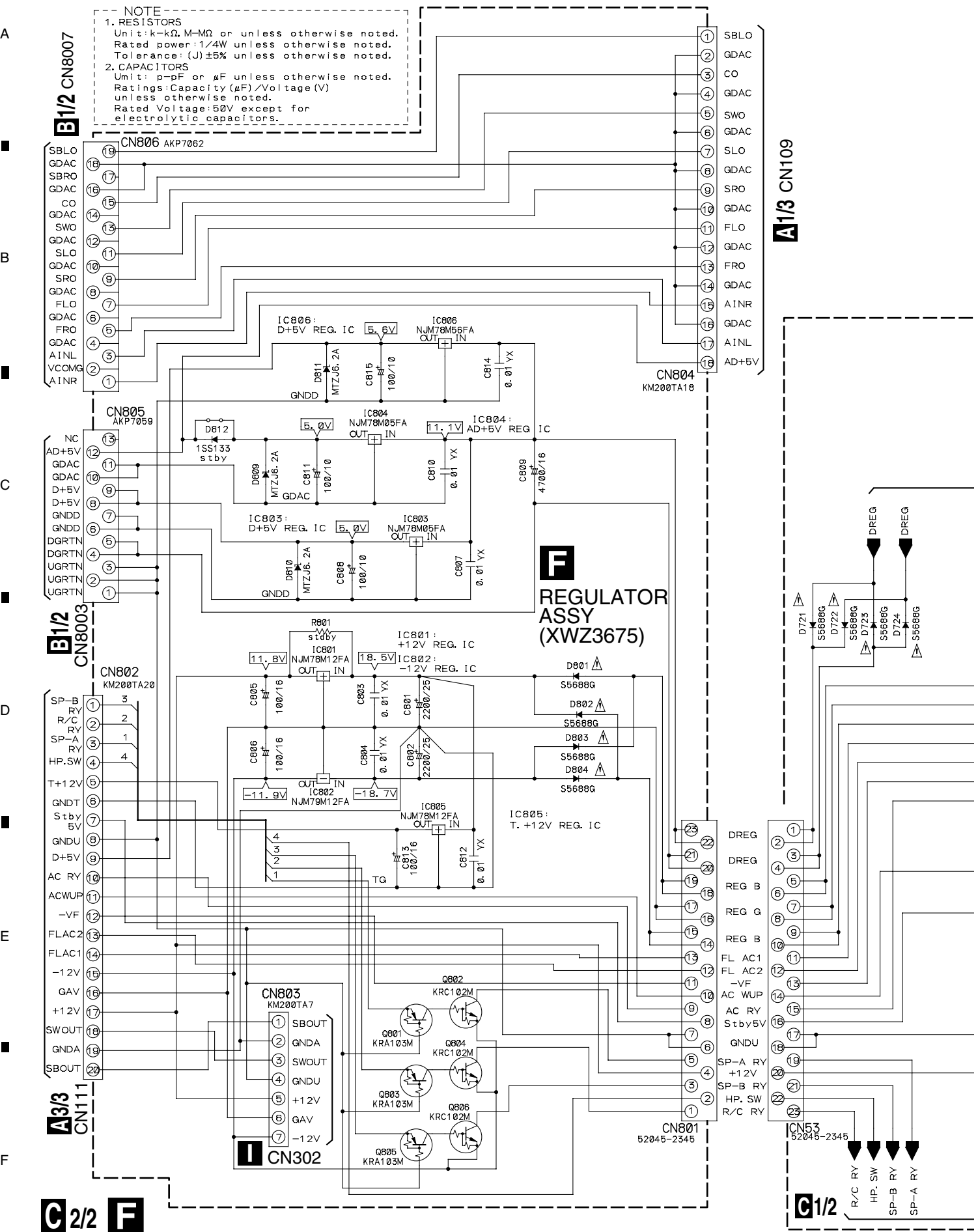
CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 491010 FOR IC604, IC605, IC606, AND IC607 MFD, BY LITTELFUSE INC.

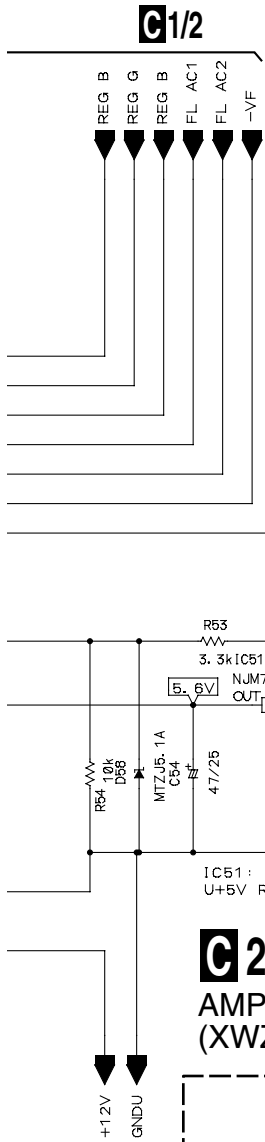
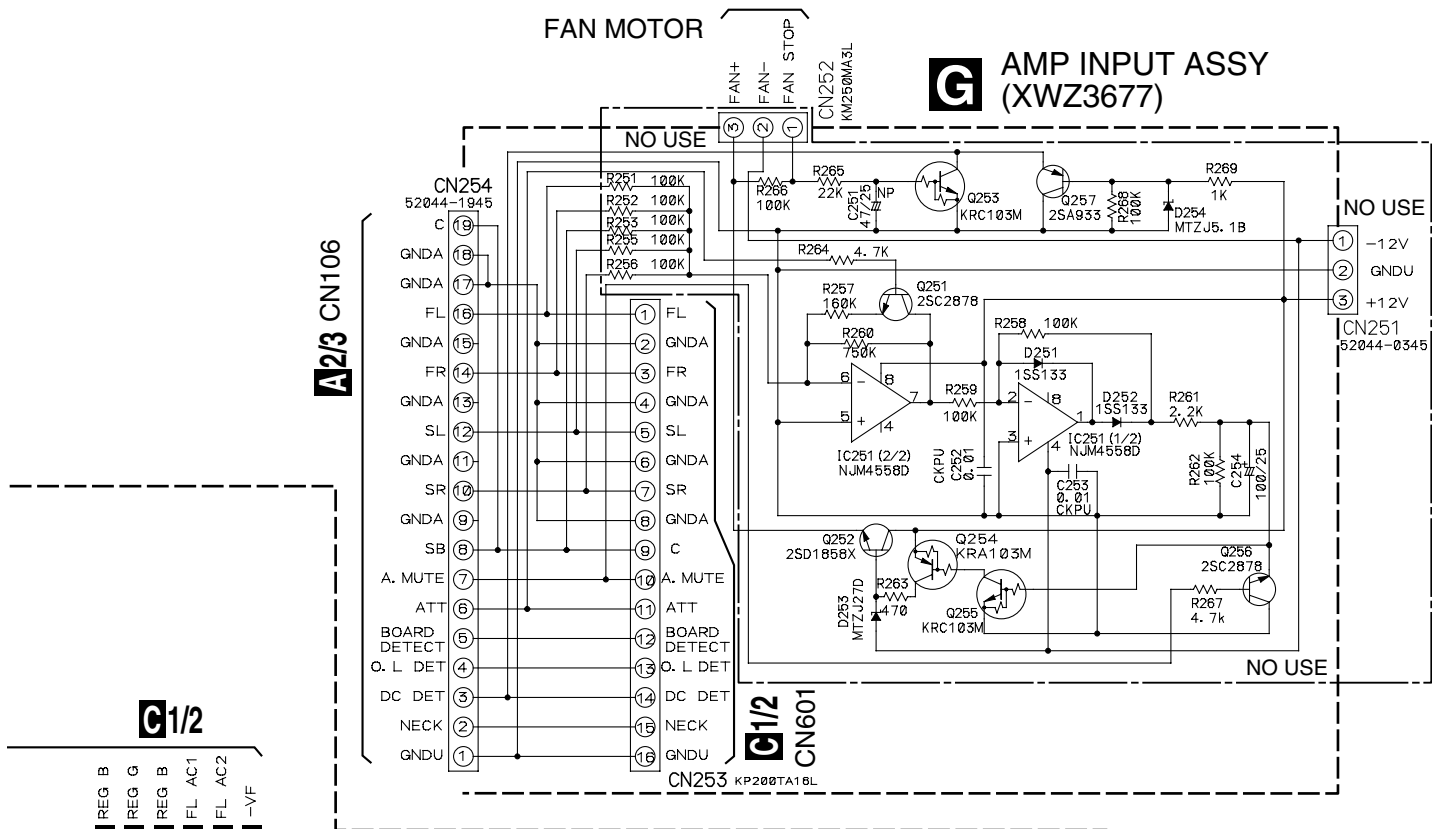
Q605, 606, 633, 655, 656 : OVERLOAD DETECTOR
Q691, 692 :
() DC OUTPUT DETECTOR
⤴ : AUDIO SIGNAL ROUTE

• NOTE FOR FUSE REPLACEMENT
CAUTION -FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE WITH SAME TYPE AND RATINGS ONLY.

C 1/2 **D** **E**

3.9 AMP & PRIMARY (2/2), REG., AMP INPUT and TRANS1 ASSYS

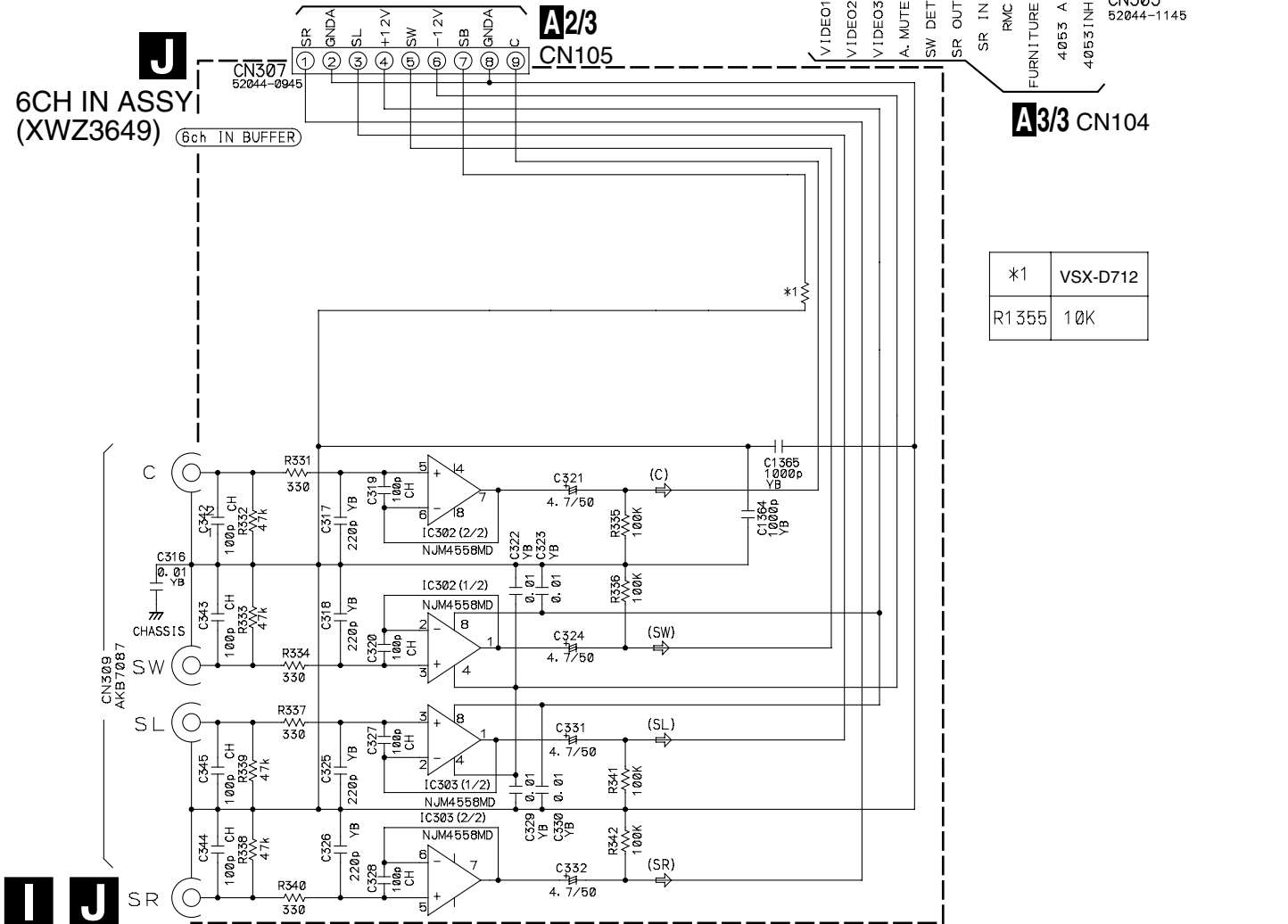
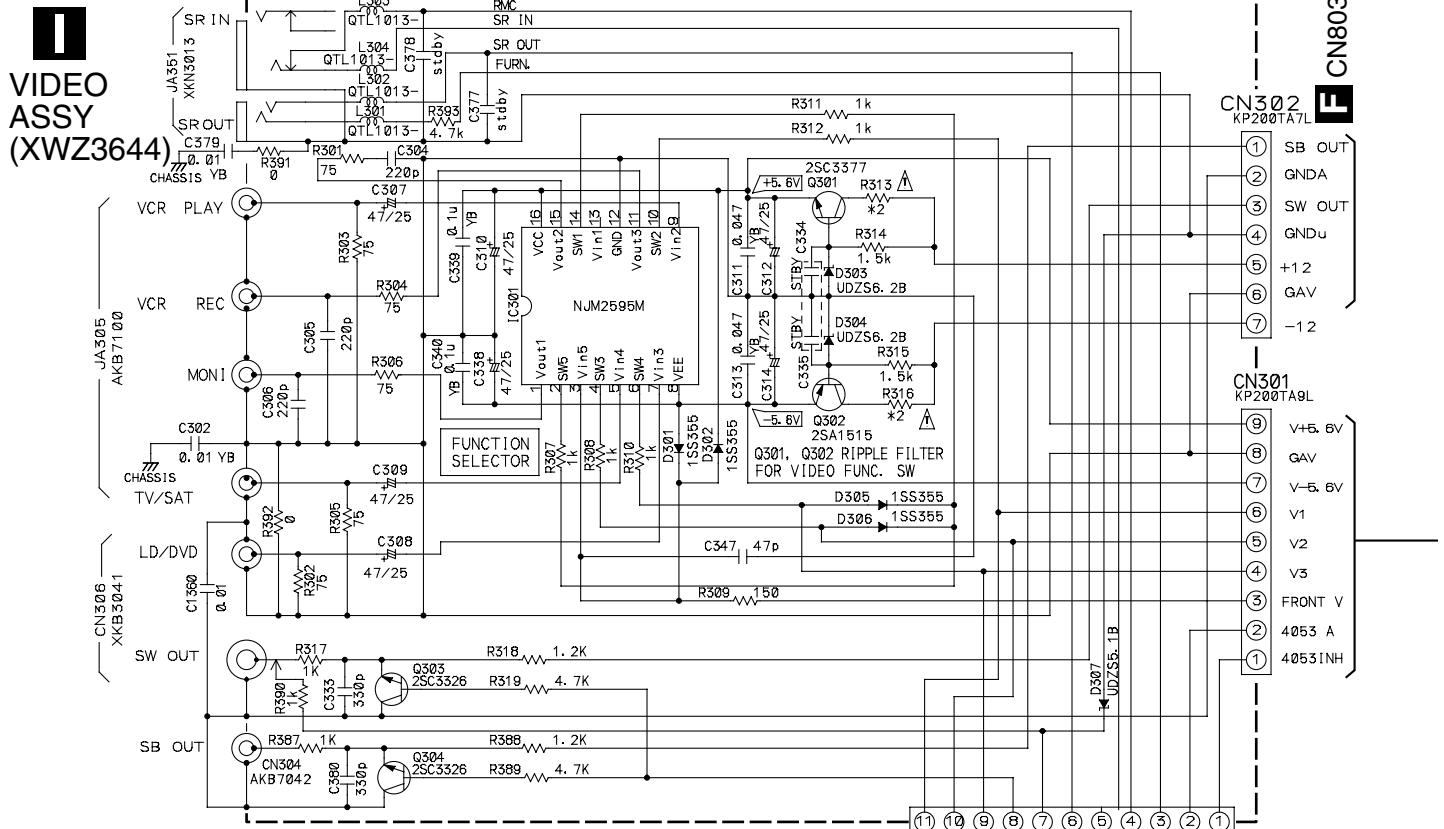




• NOTE FOR FUSE REPLACEMENT
CAUTION -FOR CONTINUED PROTECTION AGAINST RISK OF FIRE.
 REPLACE WITH SAME TYPE AND RATINGS ONLY.



3.10 VIDEO, 6CH IN, BOARD TO BOARD and S. VIDEO ASSYS



*1	VSX-D712
R1355	10K

K
BOARD TO BOARD ASSY
(XWZ3664)

NOTE

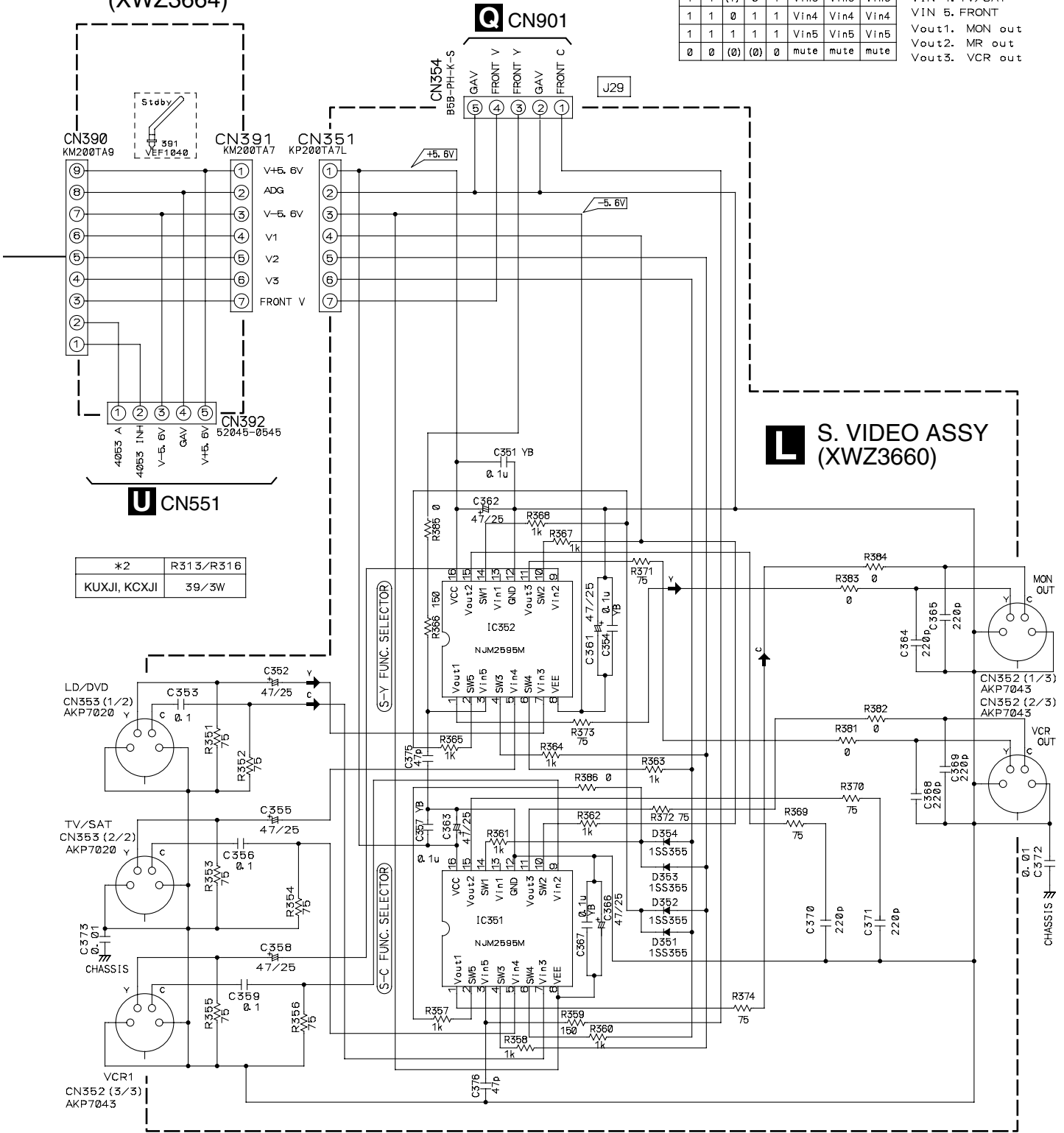
1. RESISTORS
 Unit: k- Ω , M-M Ω or Ω unless otherwise noted.
 Rated power: 1/10W unless otherwise noted.
 Tolerance: (J) .5% unless otherwise noted.

2. CAPACITORS
 Unit: p-pF or μ F unless otherwise noted.
 Ratings: Capacity(μ F)/Voltage(V) unless otherwise noted.
 Rated Voltage: 50V except for electrolytic capacitors.

NJM2296D control port status

SW1	SW2	SW3	SW4	SW5	Vout1	Vout2	Vout3
1	0	(1)	0	1	Vin2	Vin2	mute
1	1	(1)	0	1	Vin3	Vin3	Vin3
1	1	0	1	1	Vin4	Vin4	Vin4
1	1	1	1	1	Vin5	Vin5	Vin5
0	0	(0)	(0)	0	mute	mute	mute

VIN 2. VCR
 VIN 3. DVD/LD
 VIN 4. TV/SAT
 VIN 5. FRONT
 Vout1. MON out
 Vout2. MR out
 Vout3. VCR out



*2	R313/R316
KUXJI, KCXJI	39/3W

➔ VIDEO SIGNAL FLOW
 ⇨ AUDIO SIGNAL FLOW



3.11 FRONT, R. ENCODER and POWER SW ASSYS

A

R. ENCODER ASSY (XWZ3652)

R. ENCODER ASSY
S511 : ENTER
S512 : MULTI JOG DIAL
S513 : MASTER VOLUME

(J42)

D15A07-075-2651

B

C

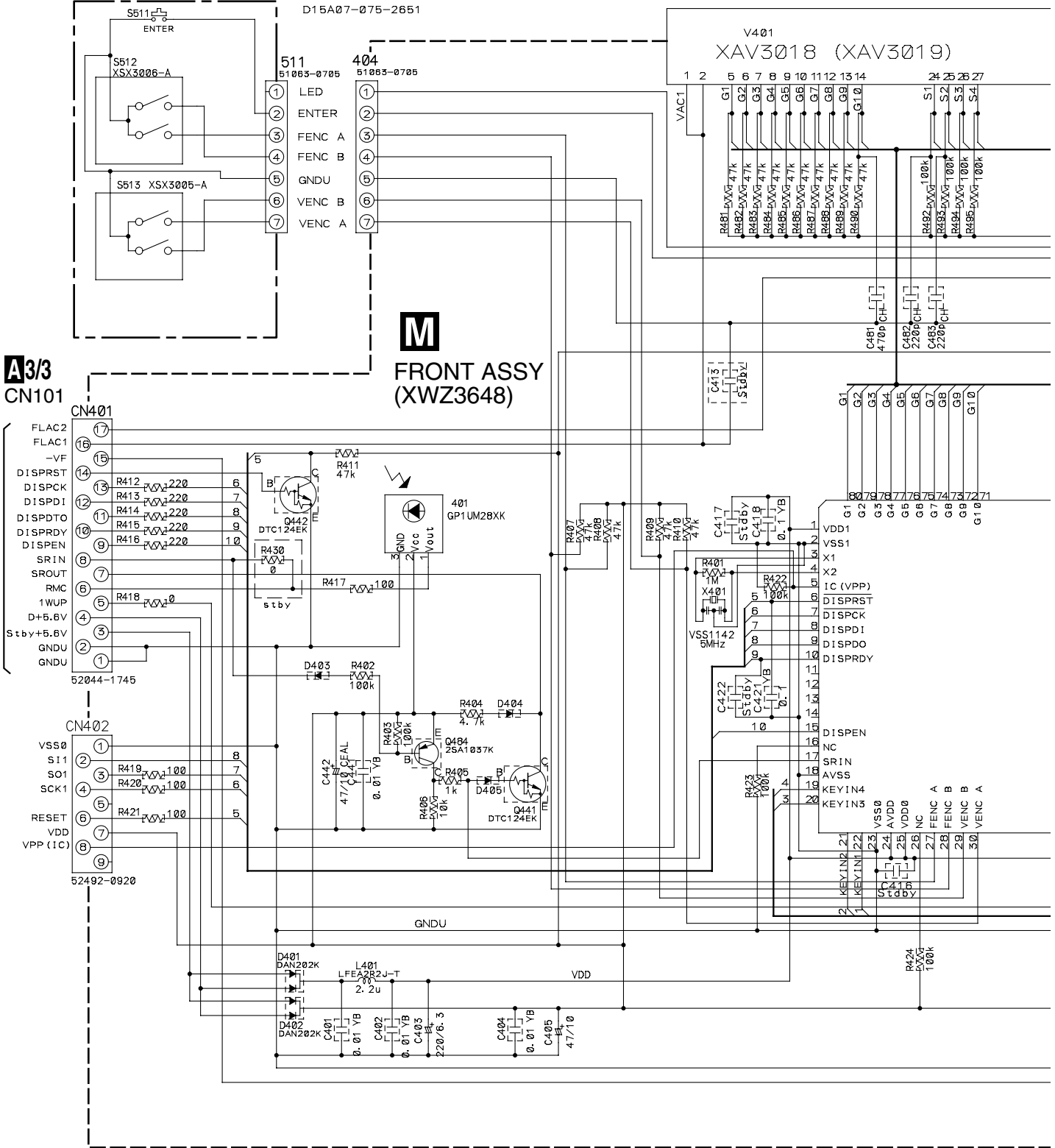
D

E

F

A3/3 CN101

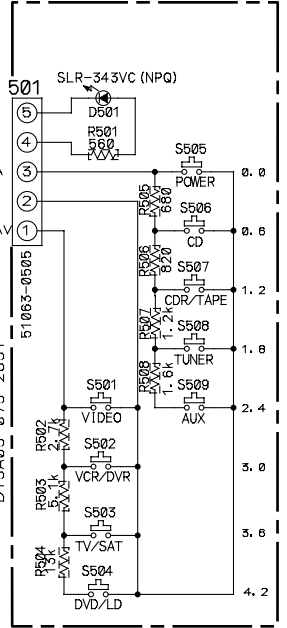
M FRONT ASSY (XWZ3648)



- POWER SW ASSY
- S501 : VIDEO
- S502 : VCR/DVR
- S503 : TV/SAT
- S504 : DVD/LD
- S505 : POWER
- STANDBY/ON
- S506 : CD
- S507 : CDR/TAPE
- S508 : TUNER
- S509 : AUX



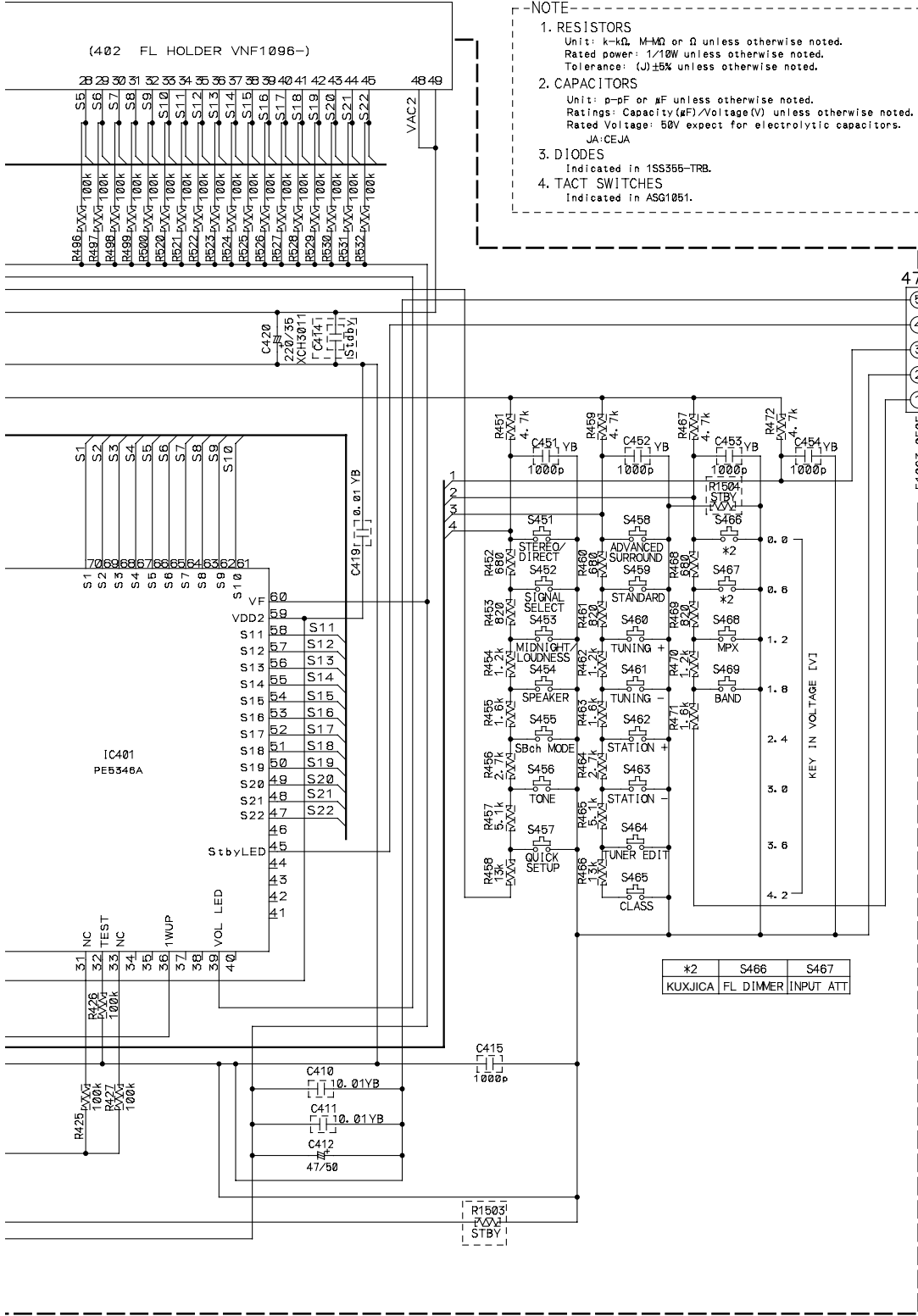
POWER SW ASSY (XWZ3651)



- FRONT ASSY**
- S451 : STEREO/DIRECT
 - S452 : SIGNAL SELECT
 - S453 : MIDNIGHT/LOUDNESS
 - S454 : SPEAKER
 - S455 : SBch MODE
 - S456 : TONE
 - S457 : QUICK SETUP
 - S458 : ADVANCED SURROUND
 - S459 : STANDARD
 - S460 : TUNING +
 - S461 : TUNING -
 - S462 : STATION +
 - S463 : STATION -
 - S464 : TUNER EDIT
 - S465 : CLASS
 - S466 : FL DIMMER
 - S467 : INPUT ATT
 - S468 : MPX
 - S476 : BAND

-NOTE-

1. RESISTORS
Unit: k-kΩ, M-MΩ or Ω unless otherwise noted.
Rated power: 1/10W unless otherwise noted.
Tolerance: (J)±5% unless otherwise noted.
2. CAPACITORS
Unit: p-pF or μF unless otherwise noted.
Ratings: Capacity(μF)/Voltage(V) unless otherwise noted.
Rated Voltage: 50V expect for electrolytic capacitors.
3. DIODES
Indicated in 1SS356-TRB.
4. TACT SWITCHES
Indicated in ASG1051.



*2	S466	S467
KUXJICA	FL DIMMER	INPUT ATT



3.12 F.VIDEO, H.P., DIGITAL IN and COMPONENT ASSYS

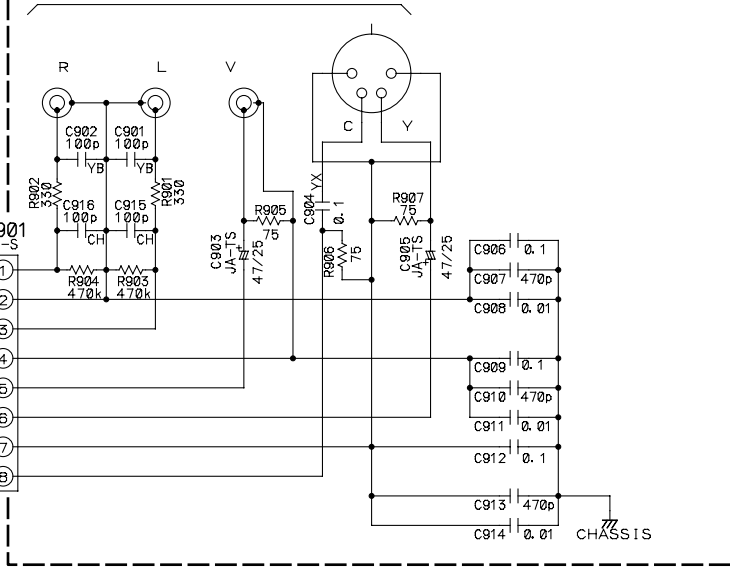
A

Q FRONT VIDEO ASSY (XWZ3655)

JA902
AKX7014

A1/3 CN107

L CN354
S8B-PH-K-S
FRONT R
GNDA
FRONT L
GAV
FRONT V
FRONT Y
GAV
FRONT C



NOTE

- RESISTORS
Unit: k-Ω, M-Ω or Ω unless otherwise noted.
Rated power: 1/10W unless otherwise noted.
Tolerance: (J) 5% unless otherwise noted.
- CAPACITORS
Unit: p-pF or μF unless otherwise noted.
Ratings: Capacity(μF)/Voltage(V) unless otherwise noted.
Rated Voltage: 50V expect for electrolytic capacitors.

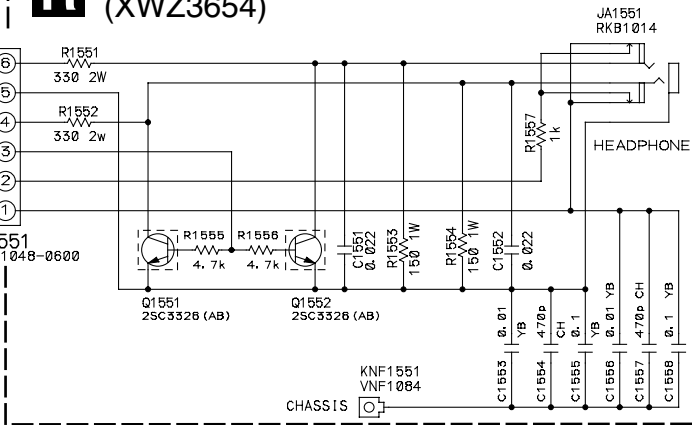
C

R H.P. ASSY (XWZ3654)

J47

D20PY0630E

C1/2 CN702
HP L
HP G
HP R
AMUTE
HP SW
GNDA

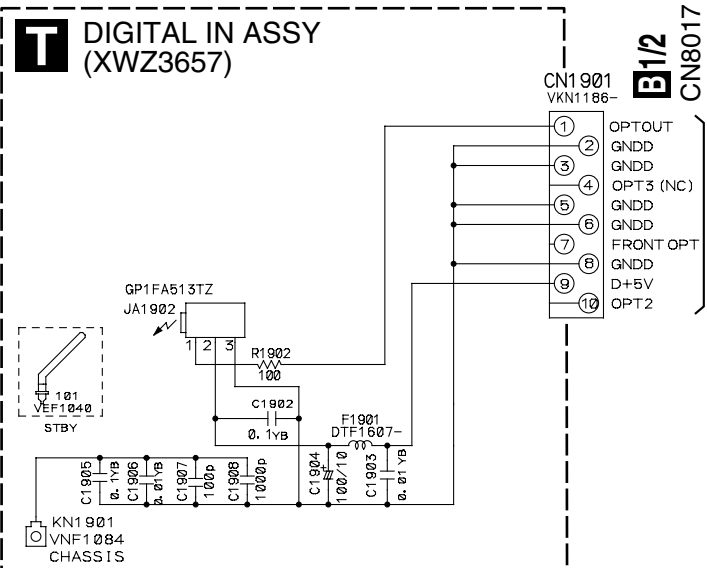


D

T DIGITAL IN ASSY (XWZ3657)

CN1901
VKN1186-

B1/2 CN8017



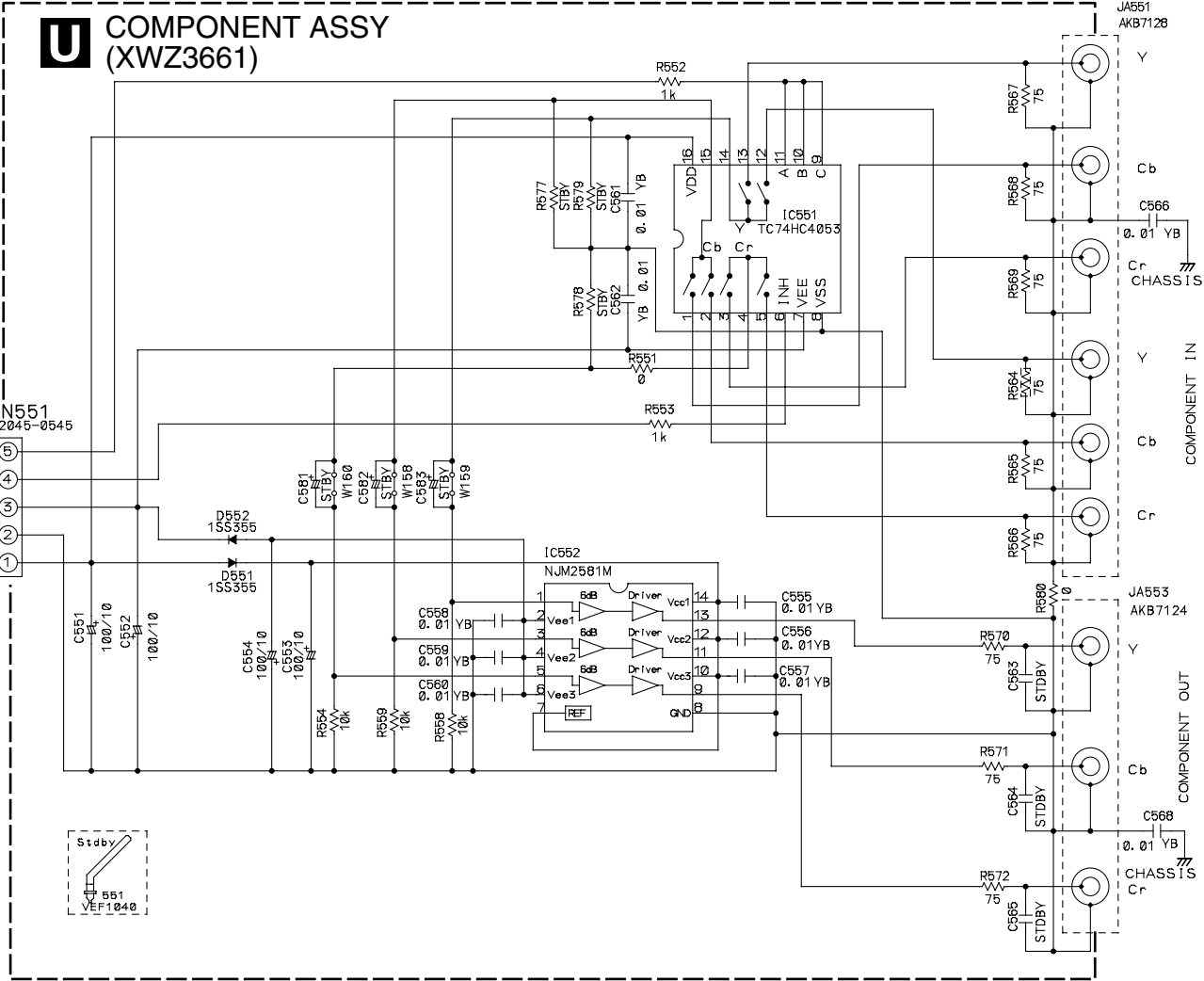
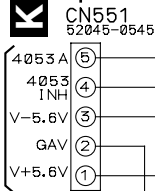
E

F

Q R T

U COMPONENT ASSY
(XWZ3661)

K CN392



A
B
C
D
E
F



3.13 FM/AM TUNER MODULE

W FM/AM TUNER MODULE (AXQ7231)

A

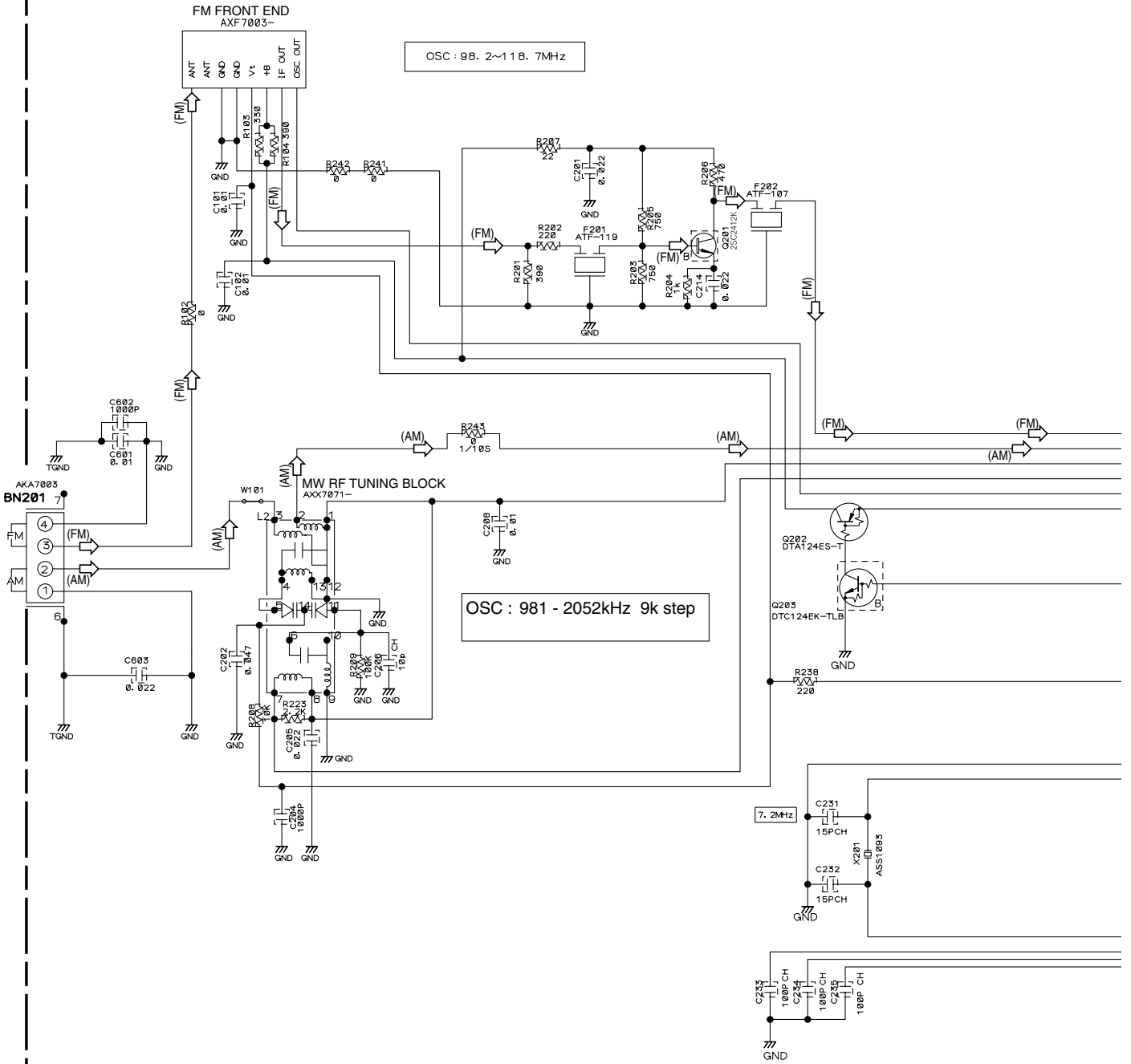
B

C

D

E

F



Notes

1. RESISTORS


Indicated in Ω, 1/16W±5% Tolerance unless otherwise noted K:KΩ, M:MΩ.

2. CAPACITORS

Indicated in Capacity (μF)/VOLTAGE (V) unless otherwise noted P:PF.

3. DIODES

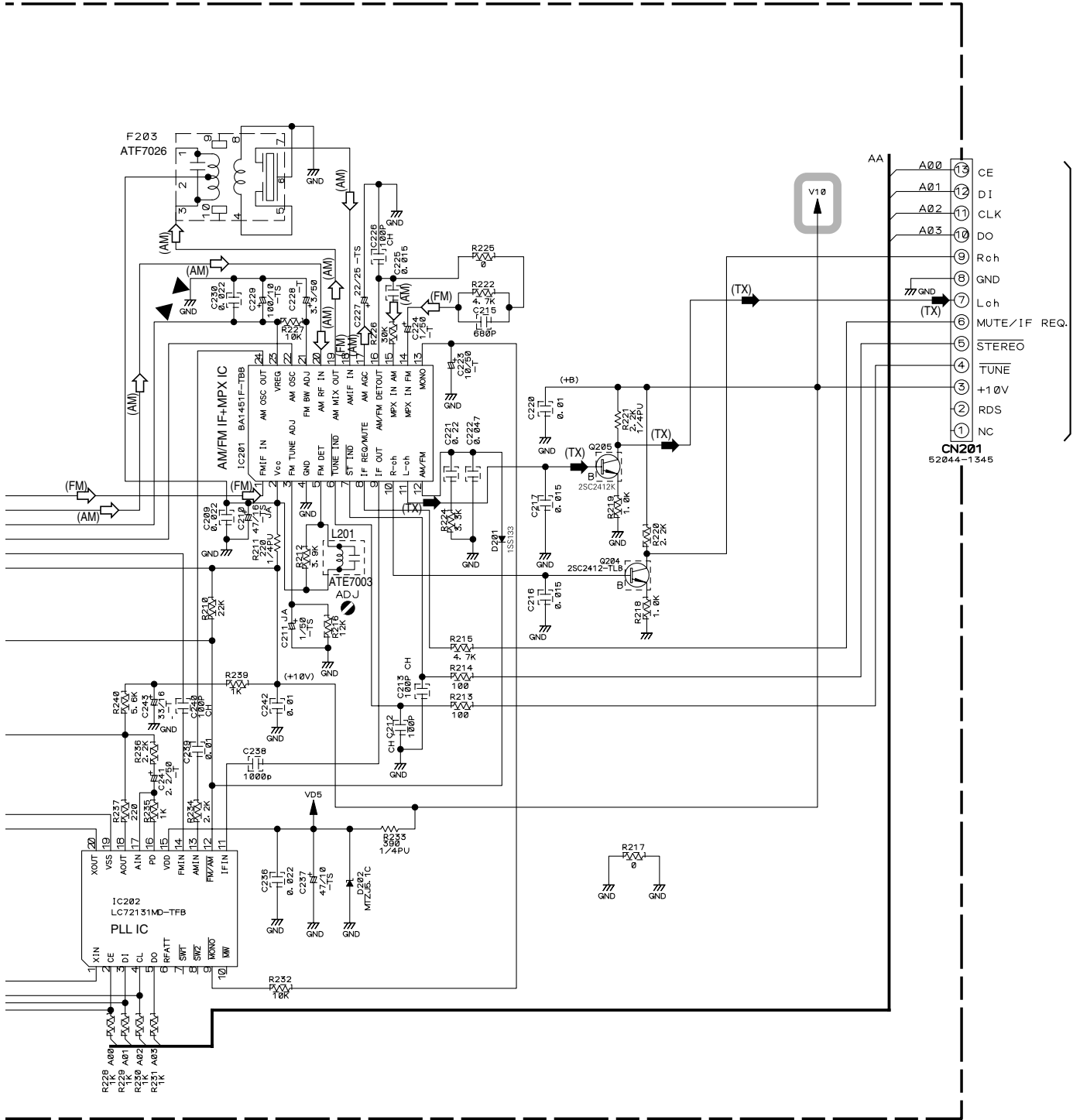
No mark diode is 1SS133.

 : The power supply is shown with the marked box.

 : AUDIO SIGNAL ROUTE (TUNER)

 : AM SIGNAL ROUTE

 : FM SIGNAL ROUTE



A3/3 CN103

CN201
52644-1345



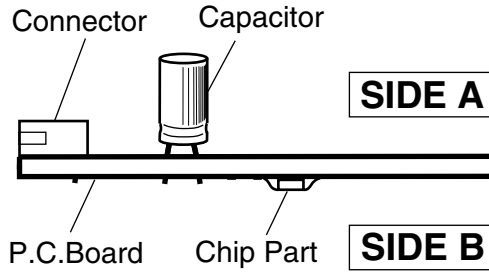
4. PCB CONNECTION DIAGRAM

NOTE FOR PCB DIAGRAMS :

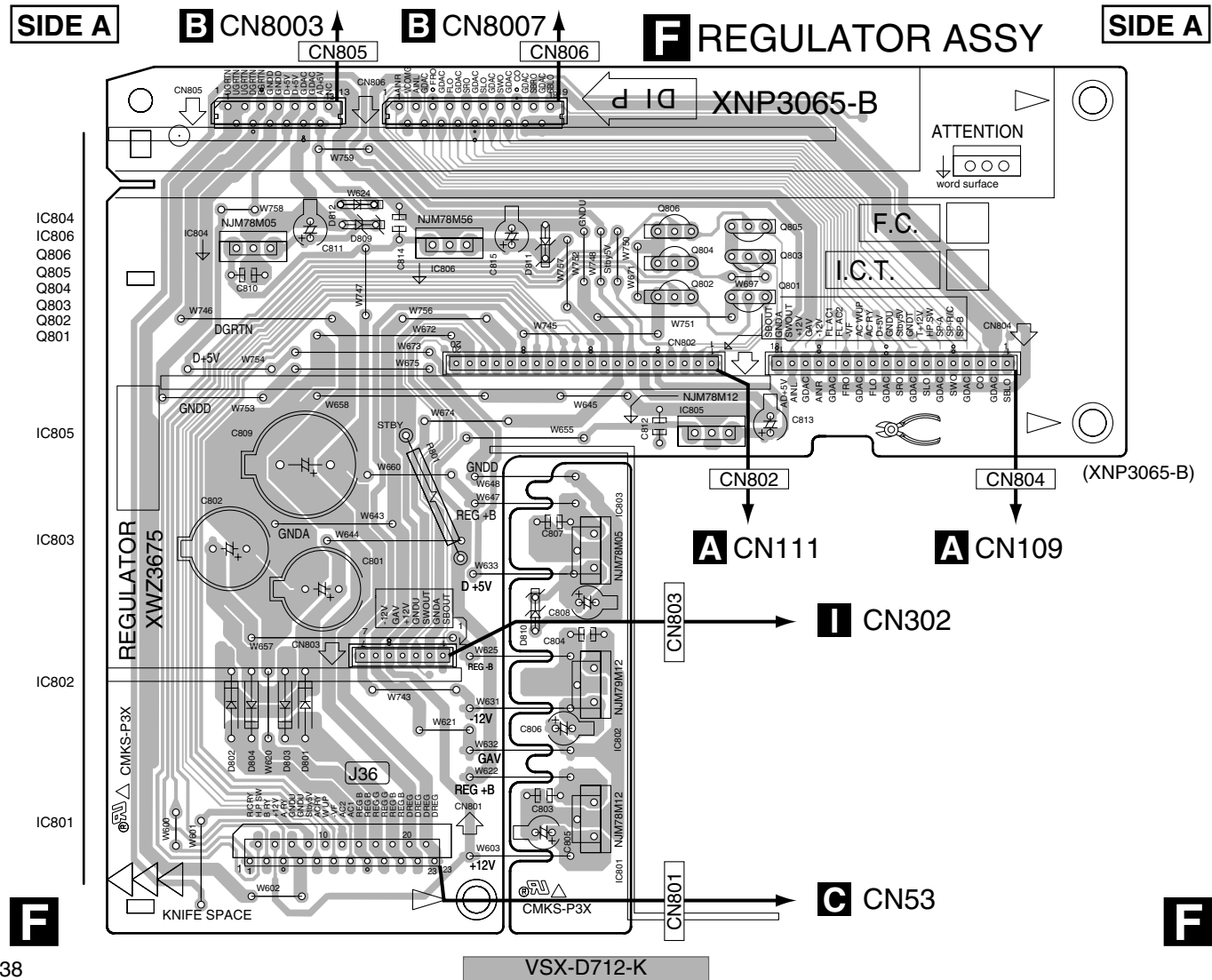
- 1. Part numbers in PCB diagrams match those in the schematic diagrams.
- 2. A comparison between the main parts of PCB and schematic diagrams is shown below.

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 REGULATOR ASSY



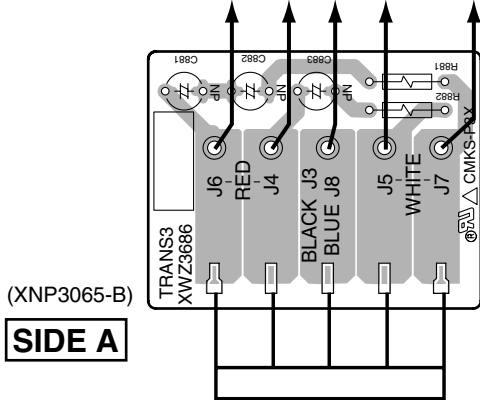
4.2 TRANS2, TRANS3 and TRANS1 ASSYS

SIDE A

SIDE A

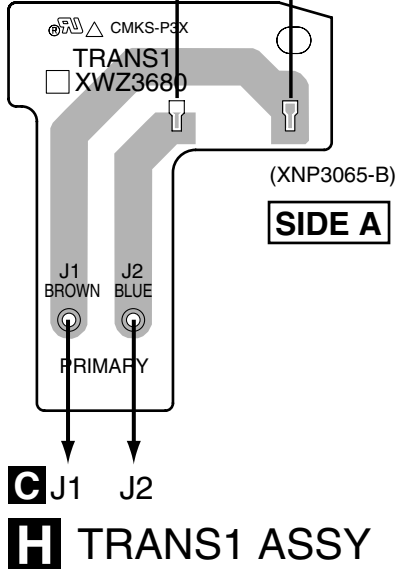
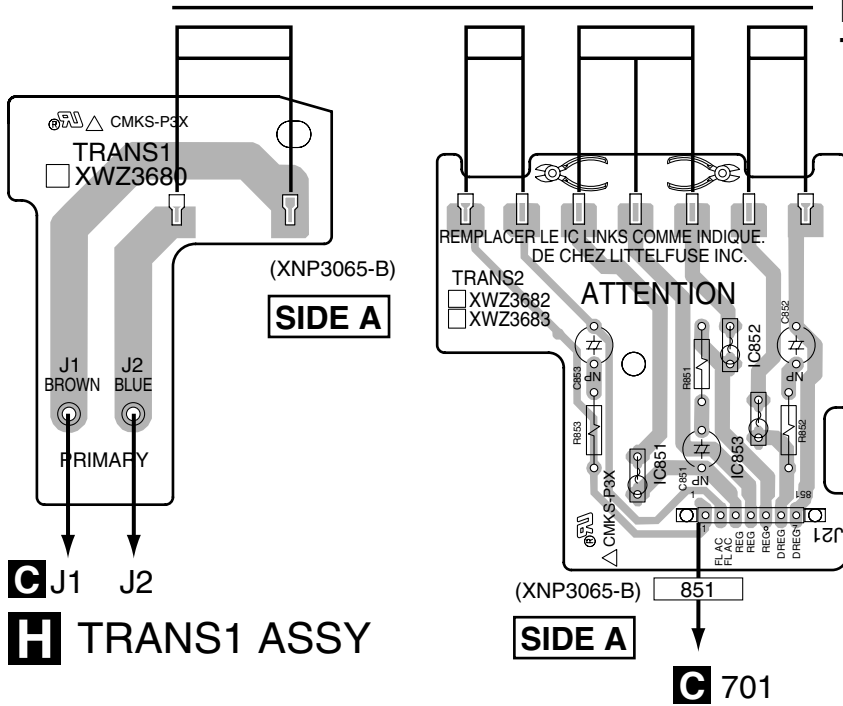
E TRANS3 ASSY

C J6 J4 J3 J5 J7



POWER TRANSFORMER

D TRANS2 ASSY

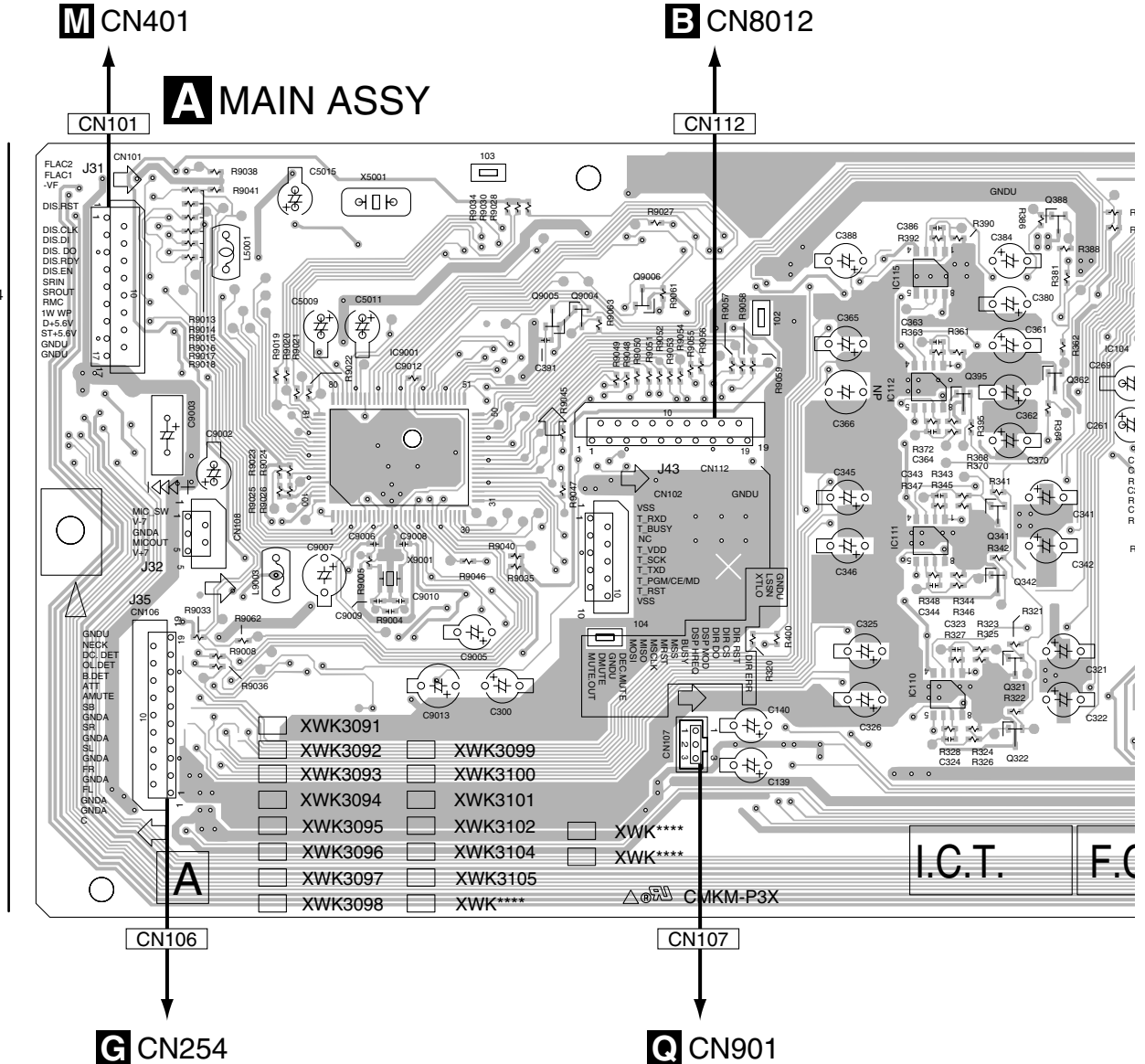


DEH

DEH

4.3 MAIN ASSY

SIDE A



A

SIDE A

A

B

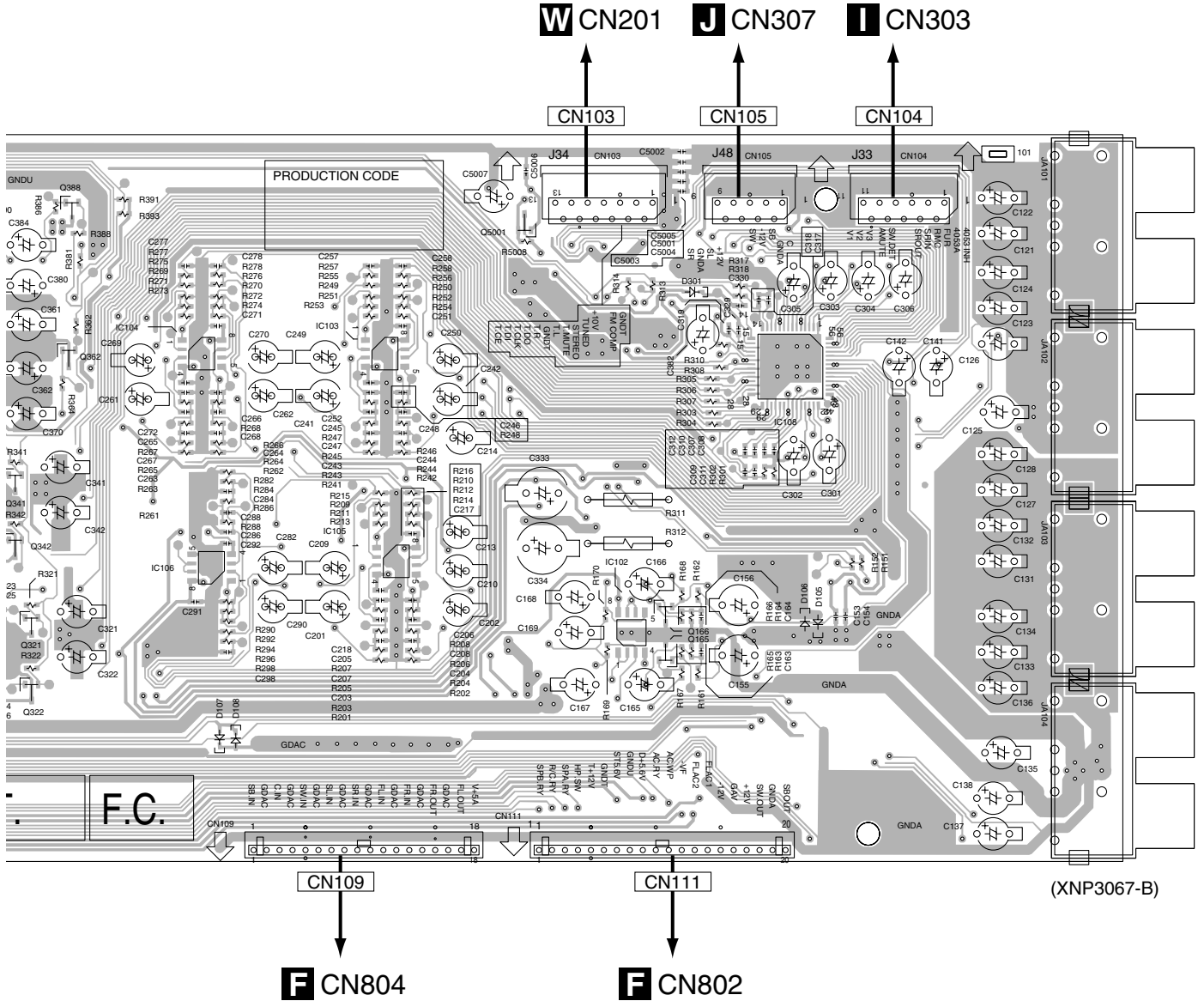
C

D

E

F

A

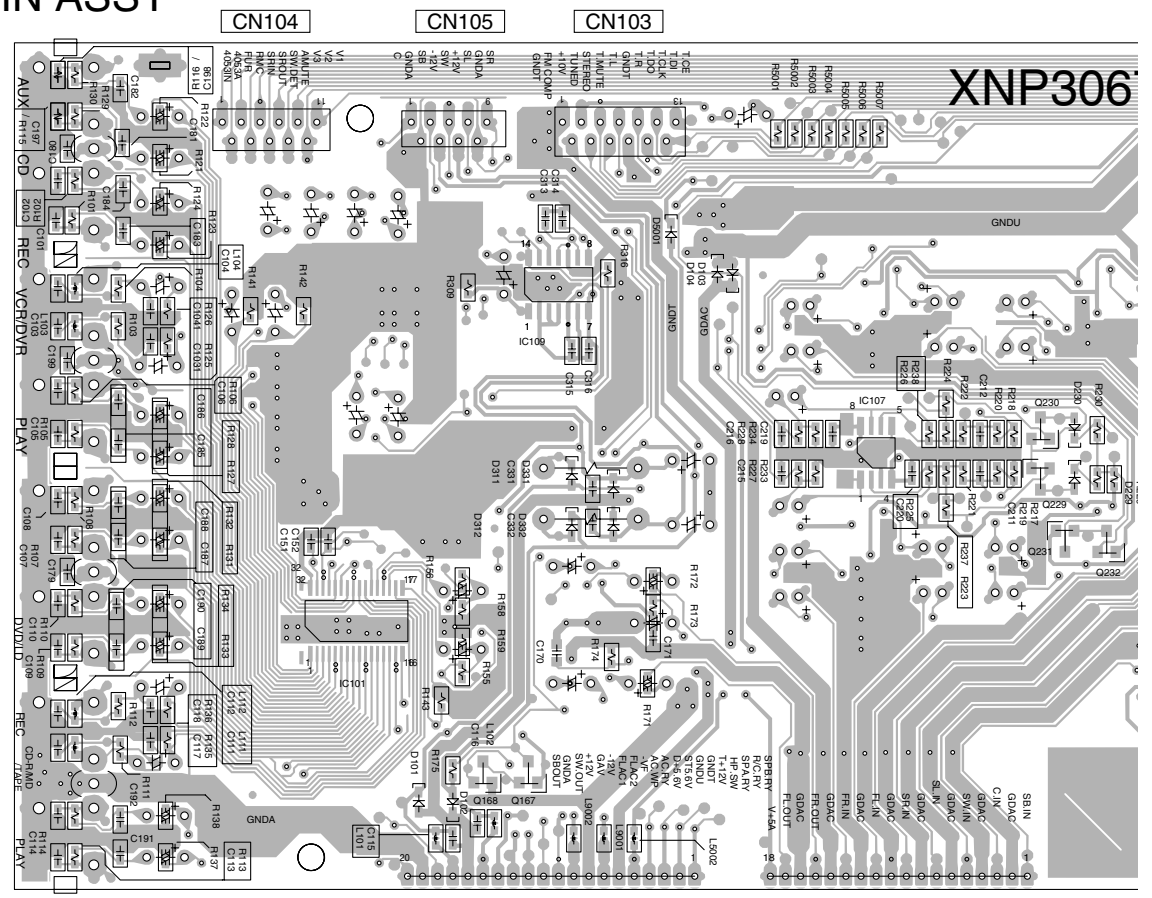


(XNP3067-B)

SIDE B

A MAIN ASSY

- Q5003 Q5004
- IC5001
- Q386 Q9003
- Q5002
- Q361
- IC109
- IC107
- Q230
- Q229
- Q9001
- Q231
- Q232
- Q9002
- IC101
- Q9007
- Q168 Q167



E

F

A

SIDE B

A

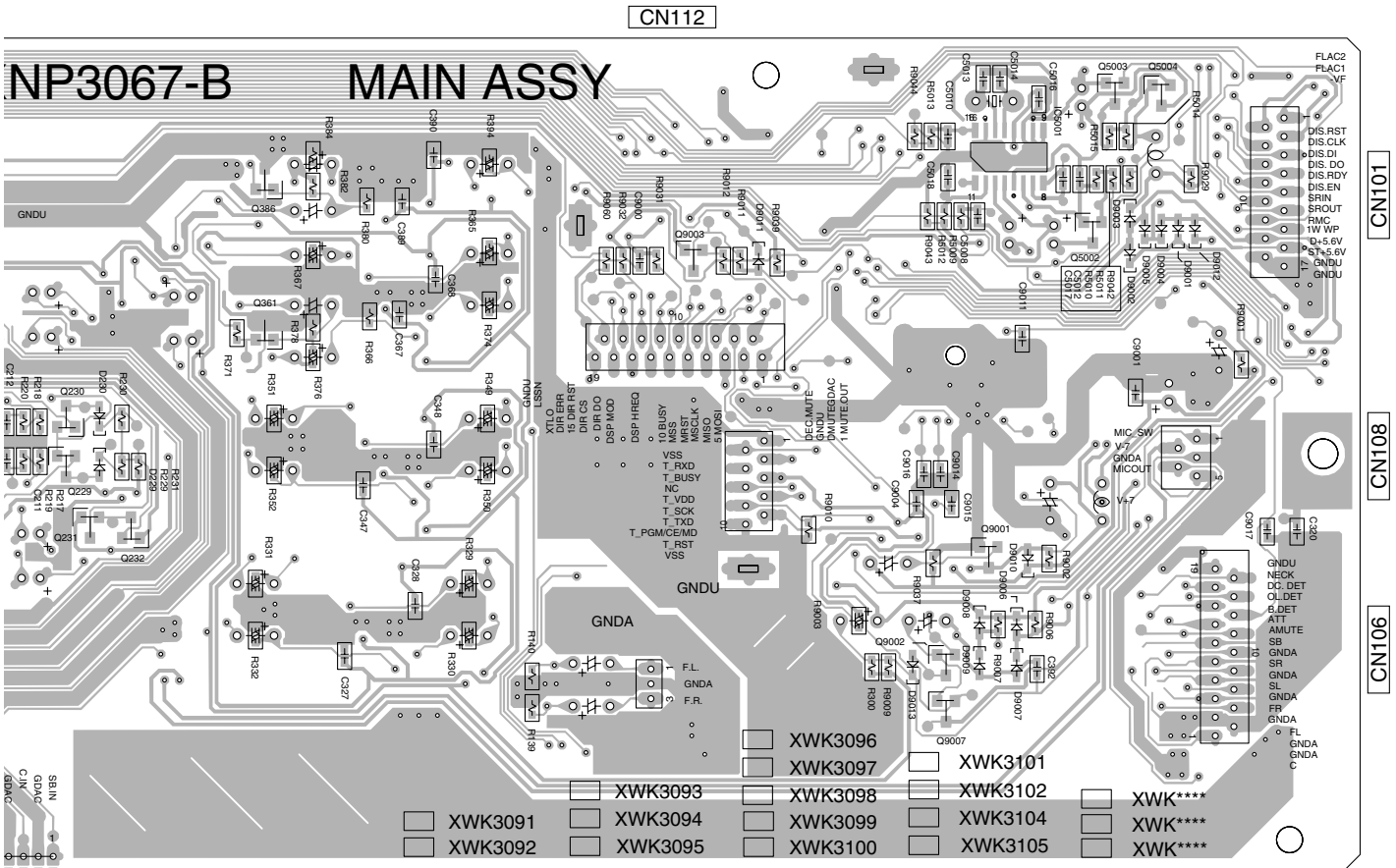
B

C

D

E

F



CN107

(XNP3067-B)



4.4 DSP ASSY

SIDE A

SIDE A

DSP ASSY

T CN1901

CN8017

CN8003

F CN805

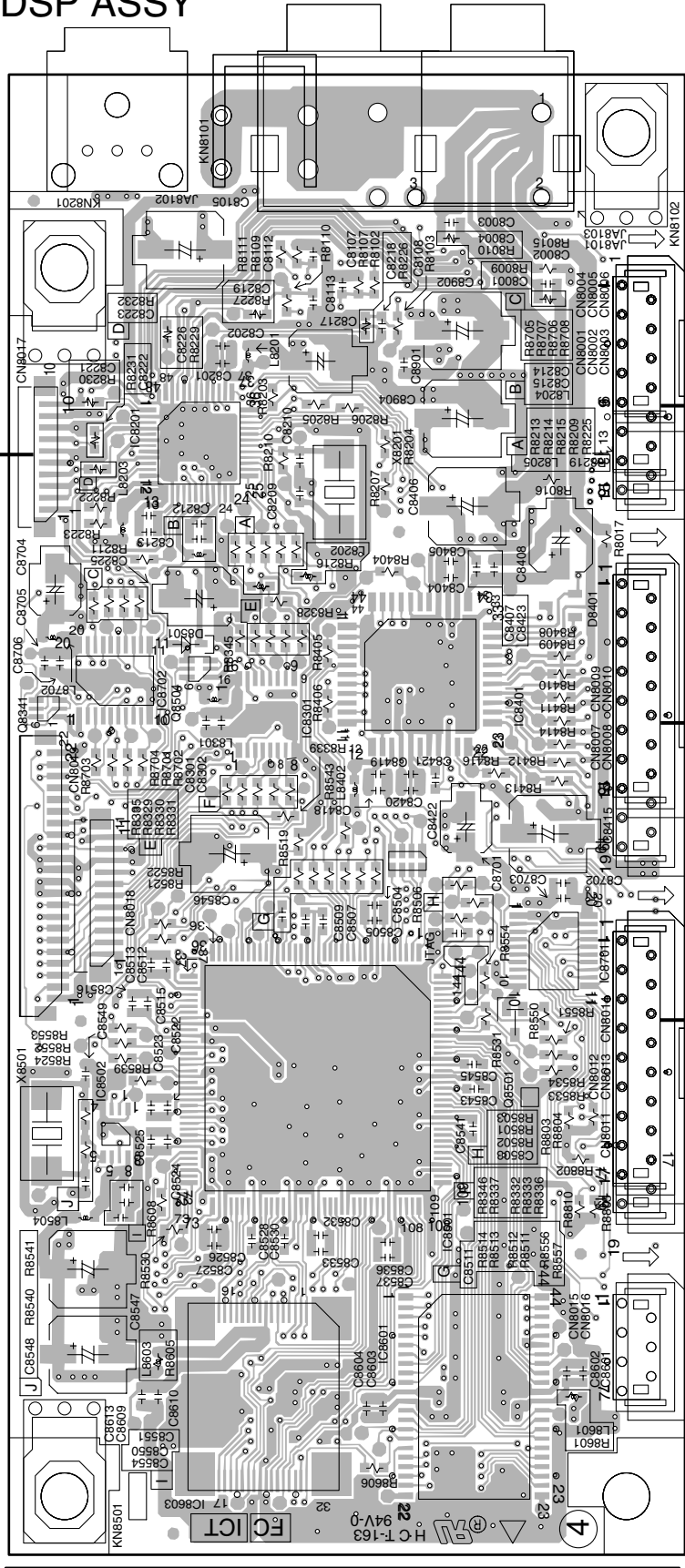
CN8007

F CN806

CN8012

A CN112

(ANP2022-B)



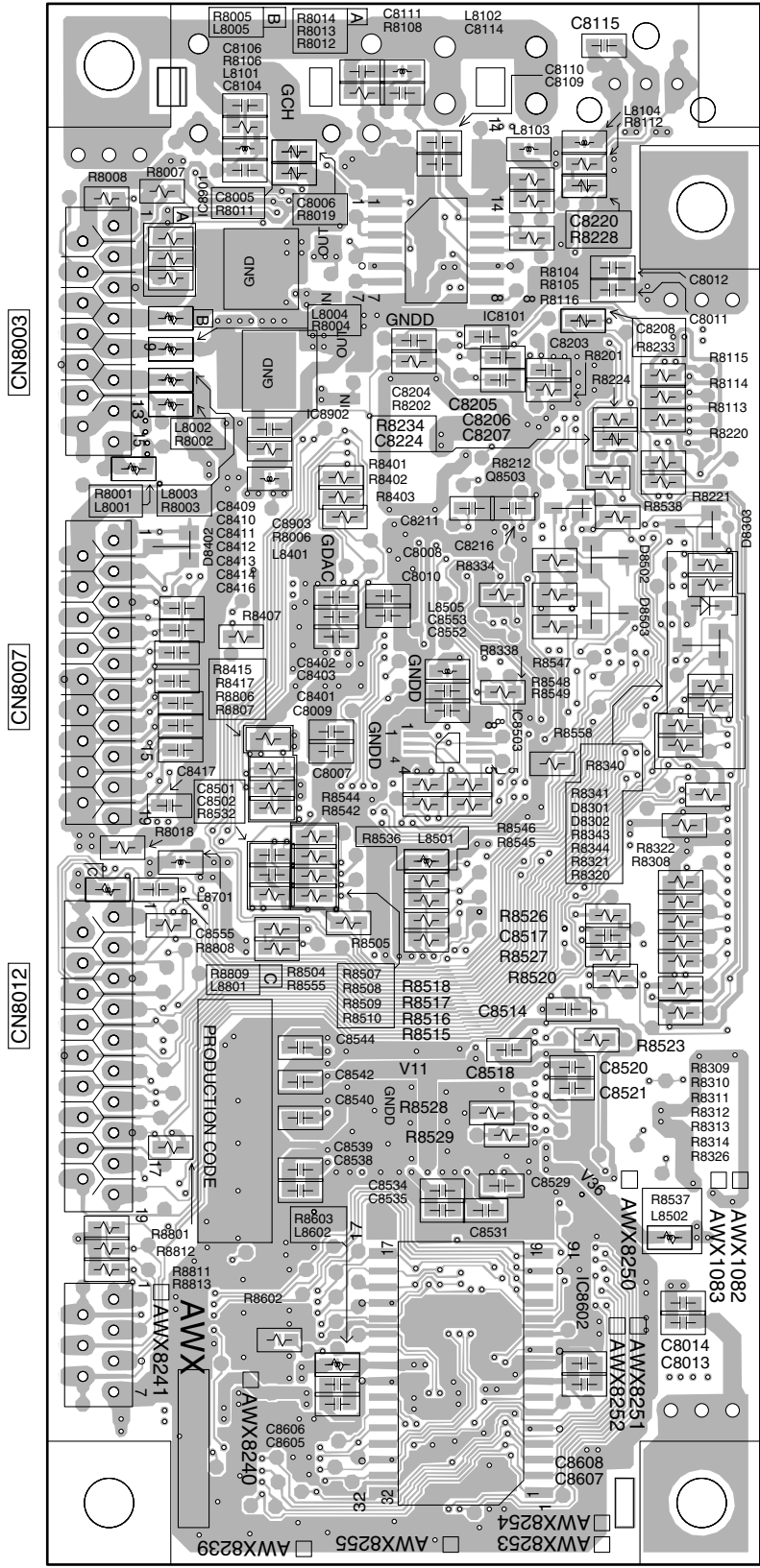
- Q8341
- IC8502
- IC8201
- IC8702
- IC8603
- IC8301
- IC8601
- IC8501
- IC8401
- IC8701
- Q8504
- Q8501

SIDE B

B DSP ASSY

SIDE B

A



B

C

D

E

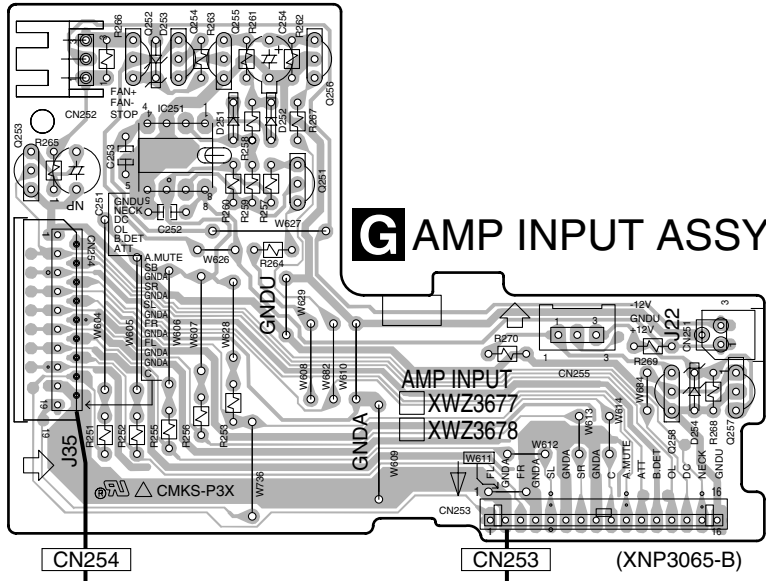
F

B

B

4.5 AMP & PRIMARY and AMP INPUT ASSYS

SIDE A

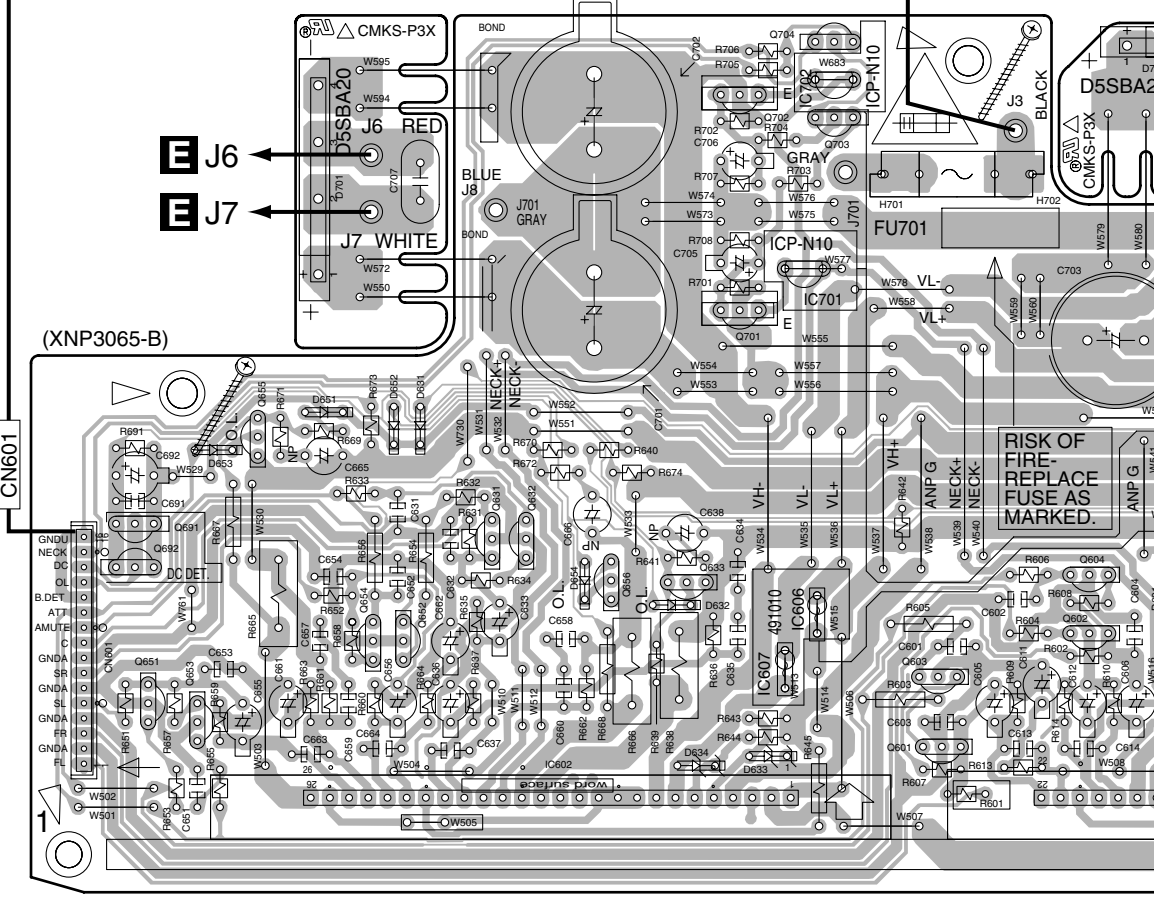


- Q252
- Q254
- Q255
- Q256
- IC251
- Q253
- Q251
- Q257
- Q258

A CN106

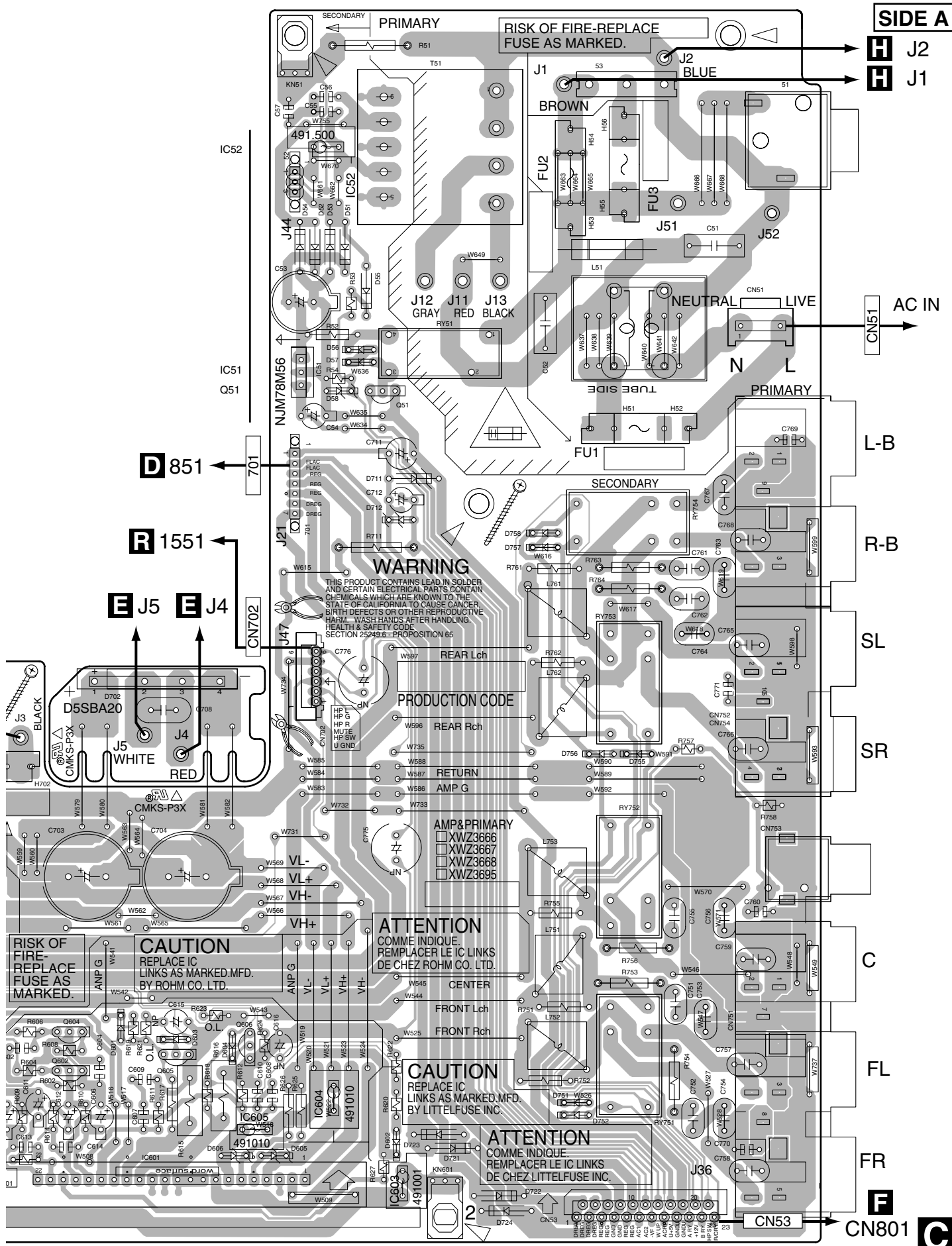
C AMP&PRIMARY ASSY

E J3



- Q704
- IC702
- Q702
- Q703
- IC701
- Q701
- Q655
- Q631 Q632
- Q691
- Q692
- Q633 Q604
- Q606
- Q656
- Q654
- Q602 Q602
- Q605
- Q651 Q603
- Q653
- IC604
- IC605
- IC607
- Q601
- IC601
- IC602
- IC603

VSX-D712-K

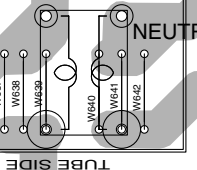


SIDE A

J2
J1

RISK OF FIRE-REPLACE FUSE AS MARKED.

AC IN



WARNING
 THIS PRODUCT CONTAINS LEAD IN SOLDER AND CERTAIN ELECTRICAL PARTS CONTAIN CHEMICALS WHICH ARE KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS OR OTHER REPRODUCTIVE HAZARD. WASH HANDS AFTER HANDLING. HEALTH & SAFETY CODE SECTION 25249.6 - PROPOSITION 65

PRODUCTION CODE
 REAR Lch
 REAR Rch
 RETURN
 AMP G

AMP & PRIMARY
 XWZ3666
 XWZ3667
 XWZ3668
 XWZ3695

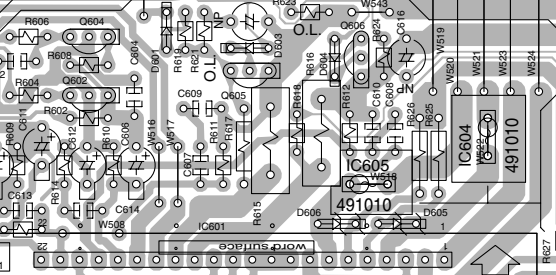
ATTENTION
 COMME INDIQUE.
 REMPLACER LE IC LINKS
 DE CHEZ ROHM CO. LTD.

CAUTION
 REPLACE IC LINKS AS MARKED.MFD.
 BY LITTELFUSE INC.

ATTENTION
 COMME INDIQUE.
 REMPLACER LE IC LINKS
 DE CHEZ LITTELFUSE INC.

RISK OF FIRE-REPLACE FUSE AS MARKED.

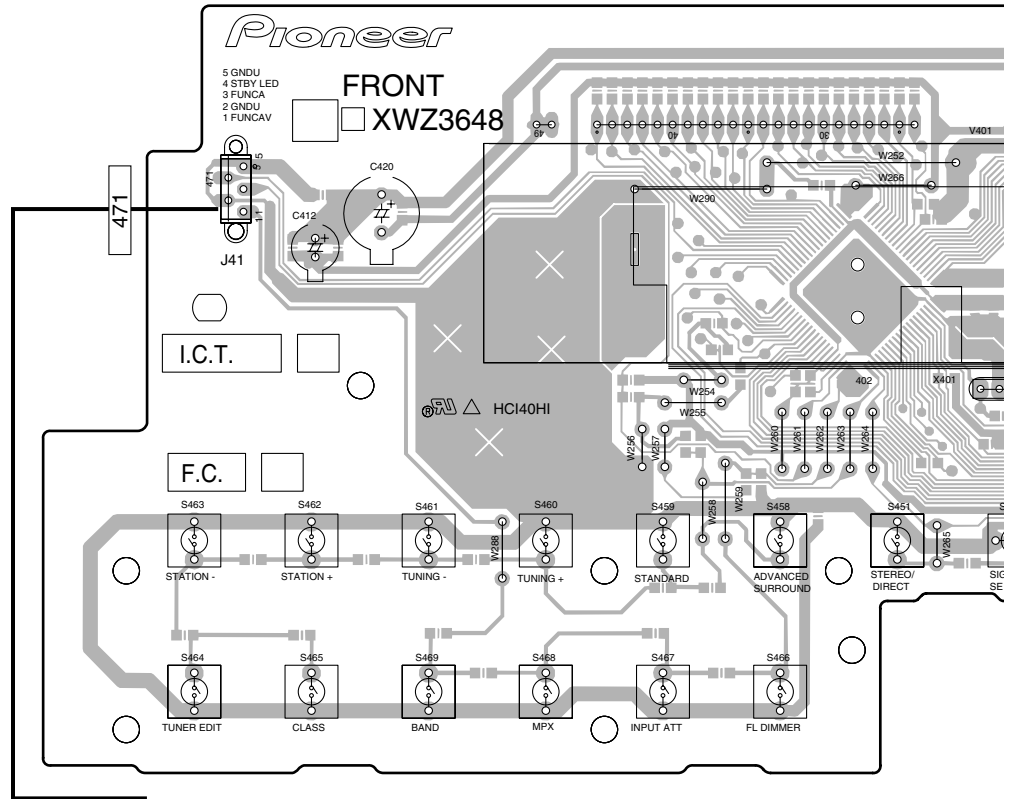
CAUTION
 REPLACE IC LINKS AS MARKED.MFD.
 BY ROHM CO. LTD.



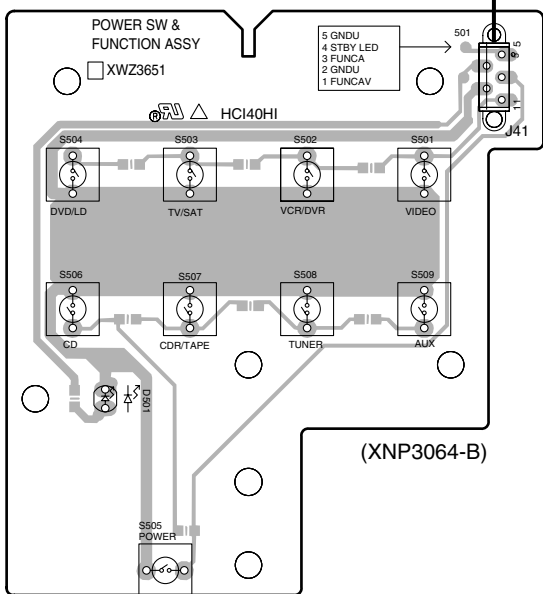
4.6 FRONT, R. ENCODER, POWER SW and H. P. ASSYS

SIDE A

M FRONT ASSY

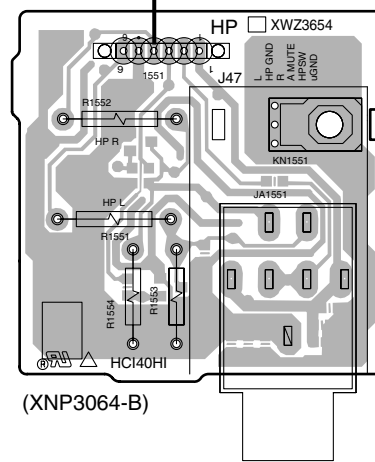


O POWER SW ASSY

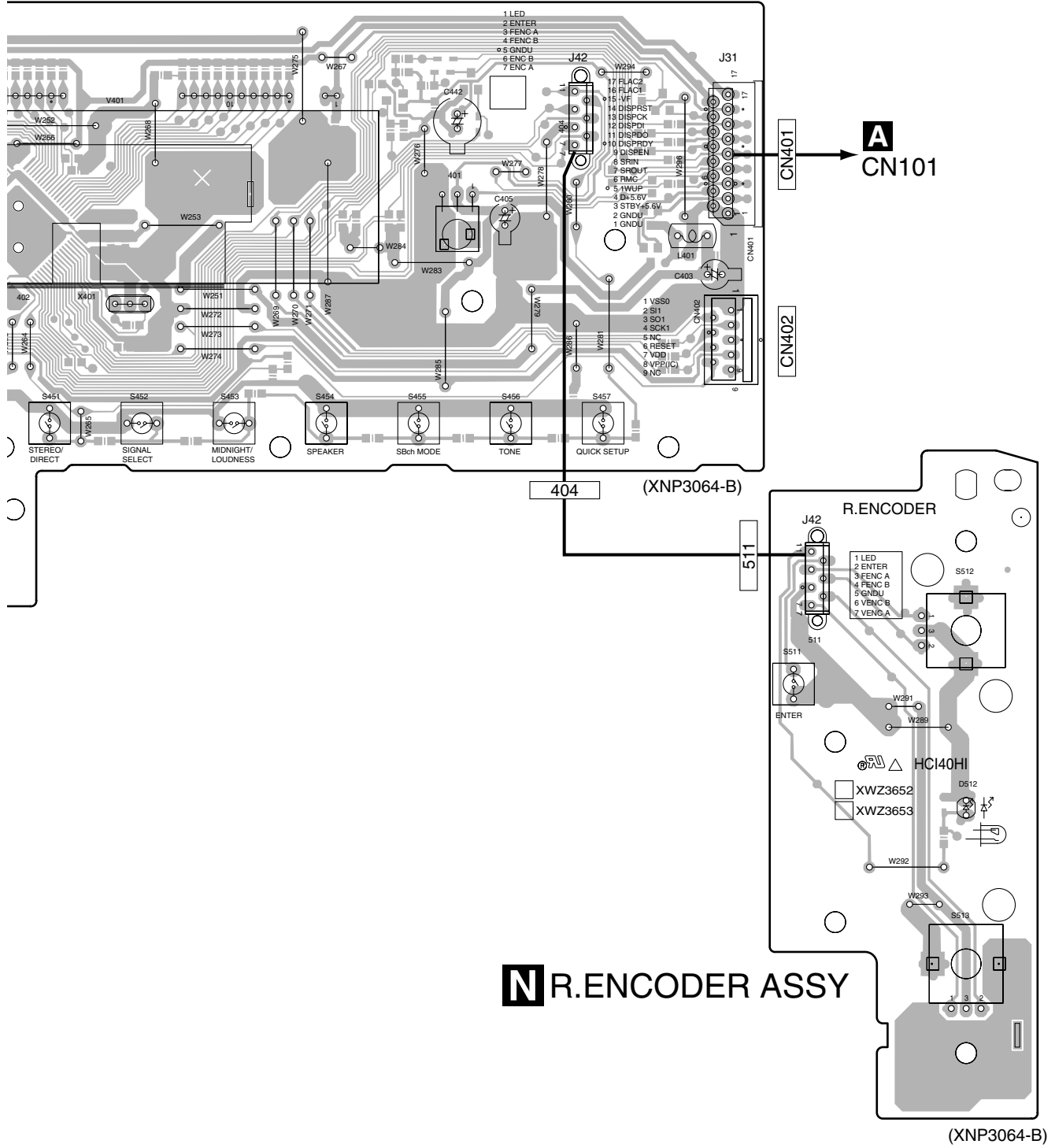


C CN702

R H.P ASSY



SIDE A



R.ENCODER ASSY

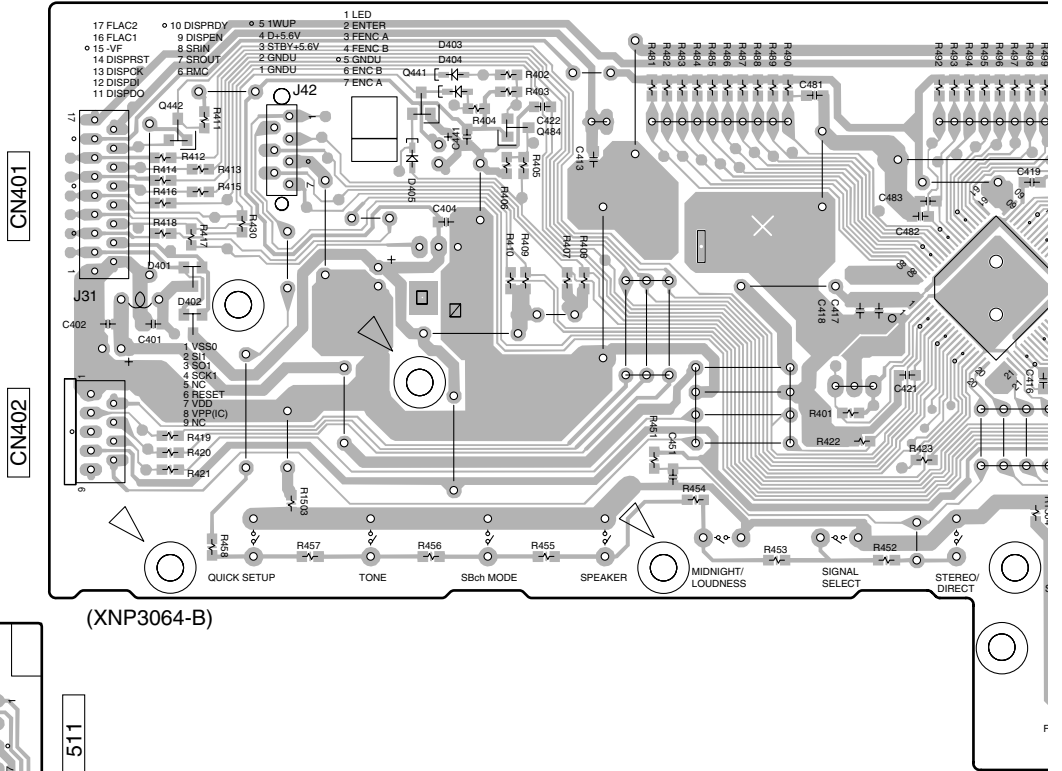
(XNP3064-B)

M N

SIDE B

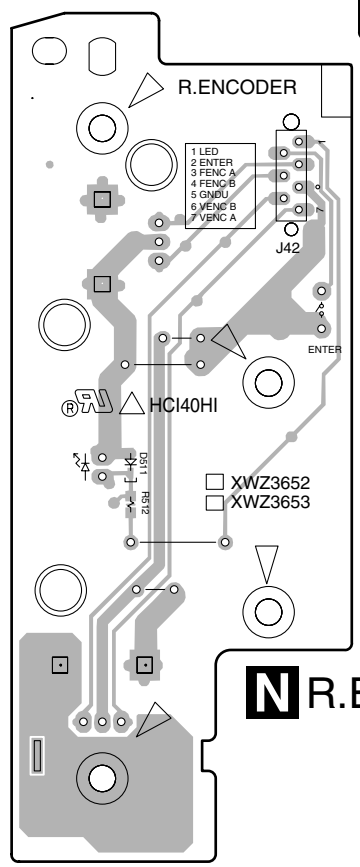
M FRONT ASSY

404



(XNP3064-B)

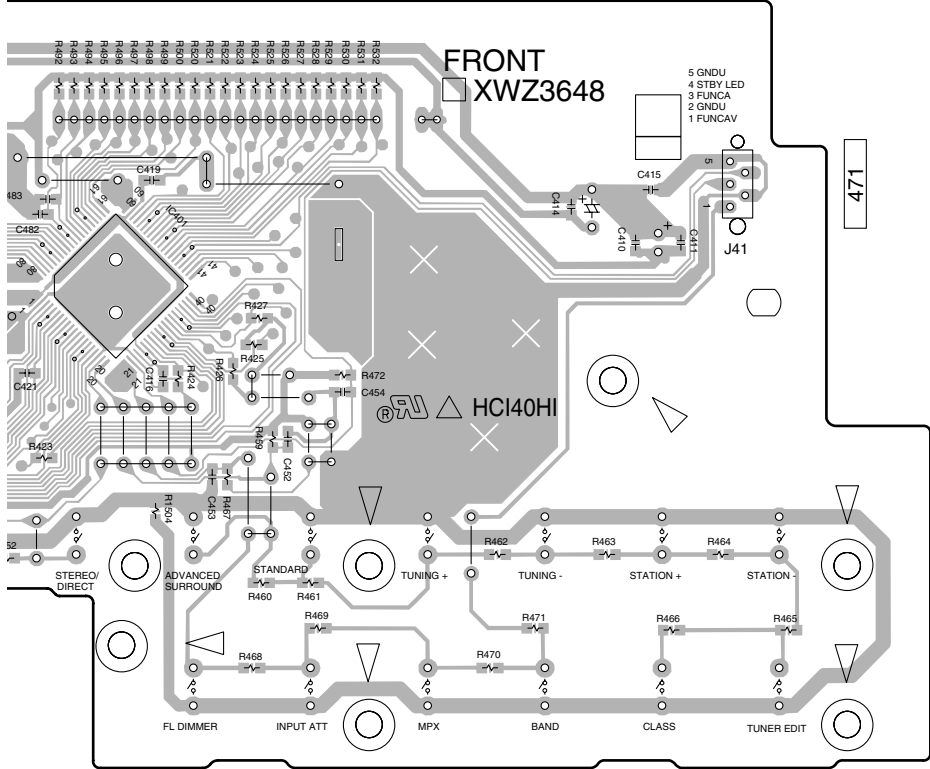
511



N R. ENCODER ASSY

(XNP3064-B)

M N

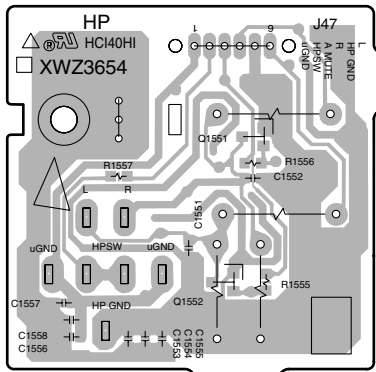


Q441
Q442
Q484
IC401

471

R H.P ASSY

1551



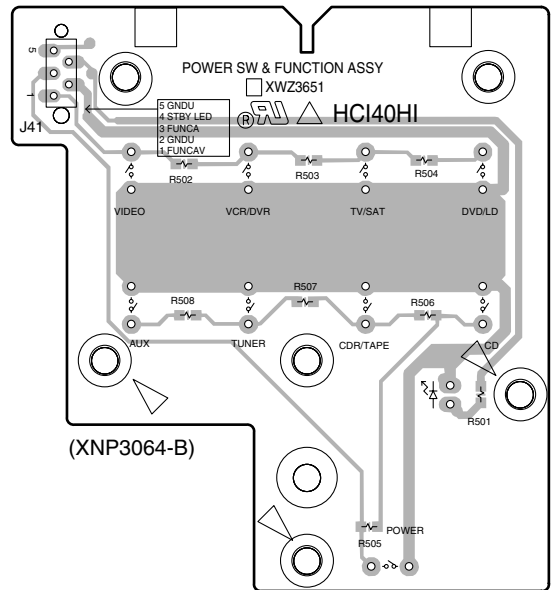
(XNP3064-B)

Q1551

Q1552

O POWER SW ASSY

501



(XNP3064-B)

4.7 BOARD TO BOARD, DIGITAL IN, VIDEO and 6CH IN ASSYS

SIDE A

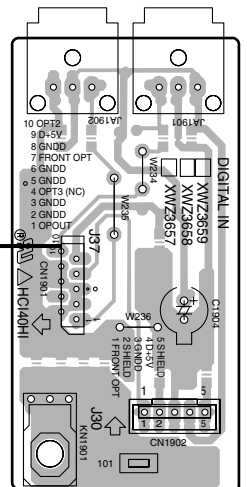
SIDE A

T DIGITAL IN ASSY

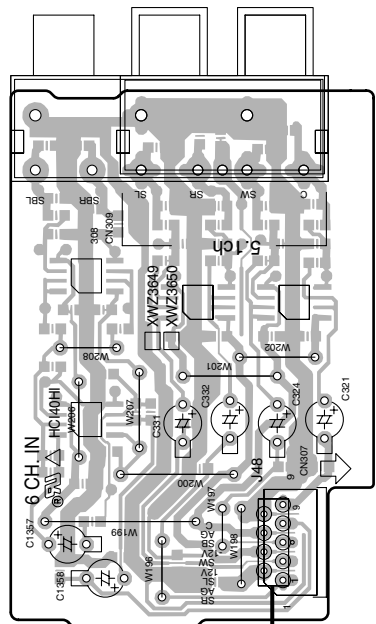
J 6CH IN ASSY

B CN8017

CN1901



(XNP3064-B)



(XNP3064-B)

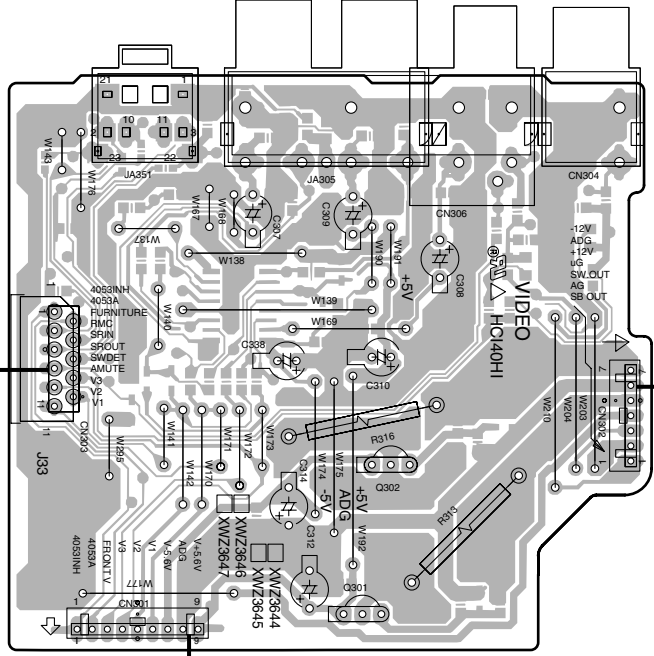
CN307

A CN105

I VIDEO ASSY

A CN104

CN303



(XNP3064-B)

F CN803

CN302

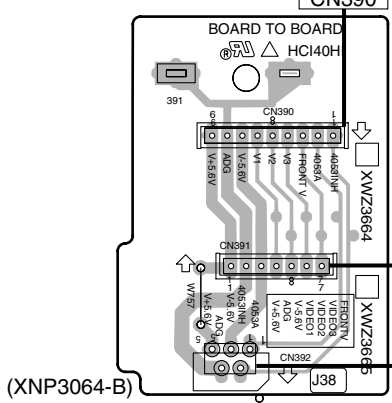
A CN104

CN303

CN301

CN390

K BOARD TO BOARD ASSY



(XNP3064-B)

L CN351

CN391

U CN551

CN392

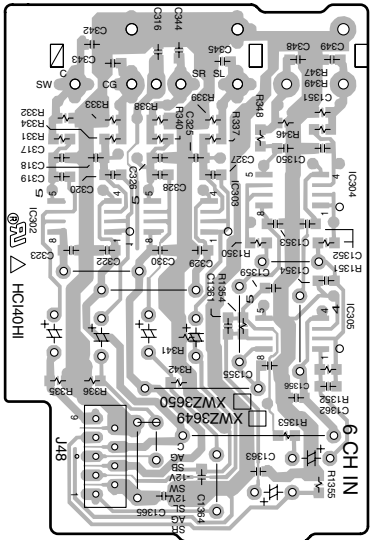
I J K T

I J K T

SIDE B

SIDE B

J 6CH IN ASSY

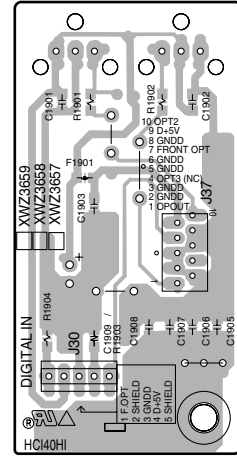


CN307

(XNP3064-B)

IC304
IC303
IC302
IC305

T DIGITAL IN ASSY

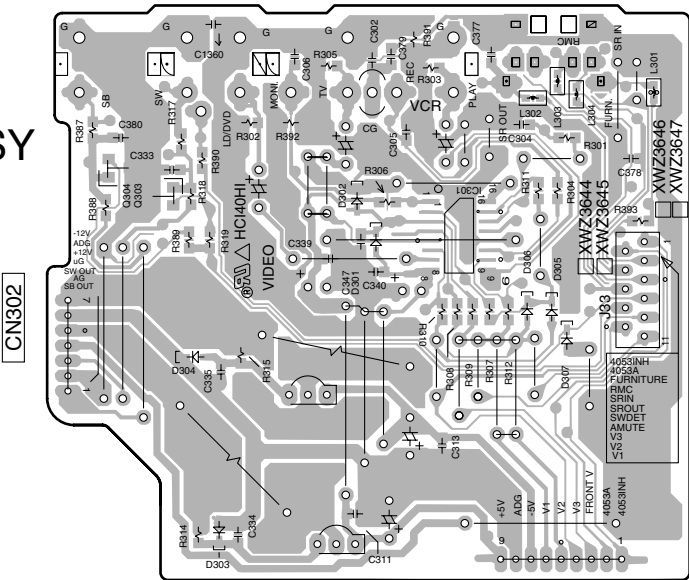


CN1902

(XNP3064-B)

CN1901

I VIDEO ASSY



CN302

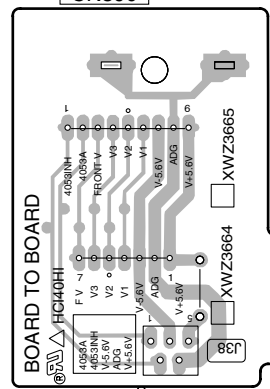
(XNP3064-B)

CN301

CN303

Q304
Q303
IC301

K BOARD TO BOARD ASSY



(XNP3064-B)

CN392 CN391

I J K T

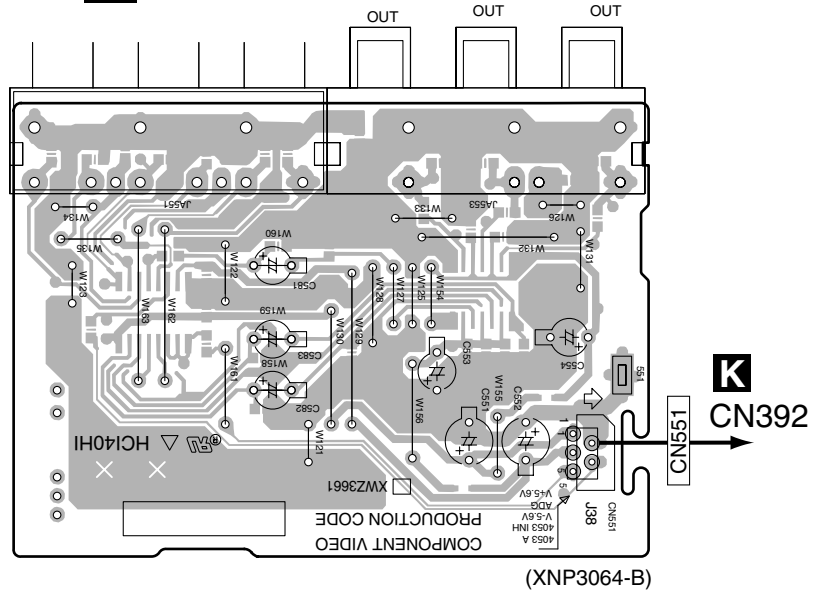
I J K T

4.8 S. VIDEO, FRONT VIDEO and COMPONENT ASSYS

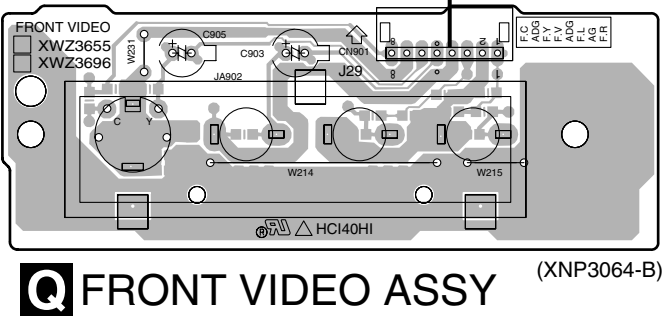
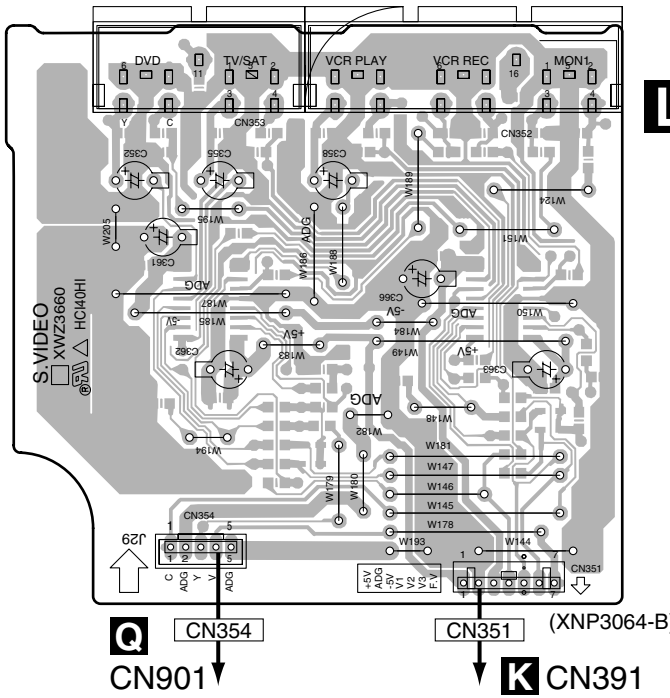
SIDE A

U COMPONENT ASSY

SIDE A



L S. VIDEO ASSY



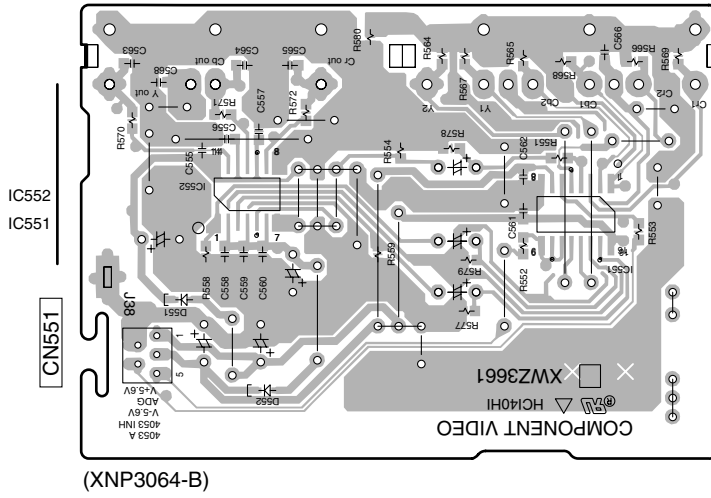
L Q U

L Q U

SIDE B

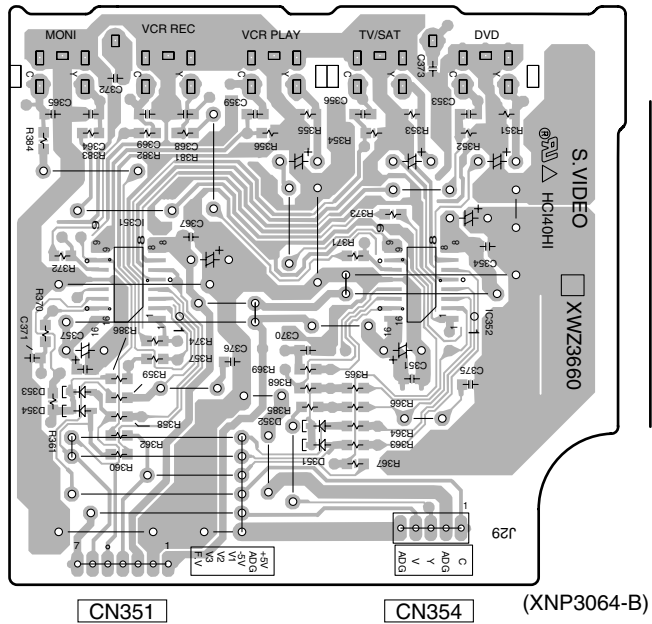
SIDE B

U COMPONENT ASSY

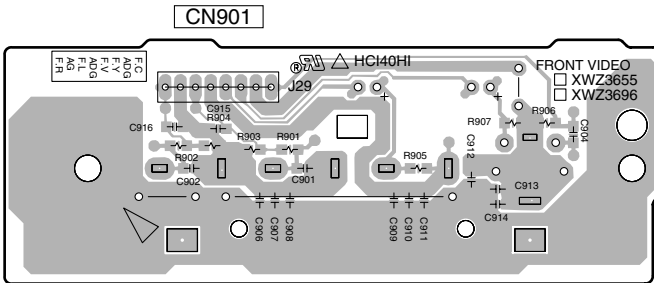


(XNP3064-B)

L S. VIDEO ASSY



(XNP3064-B)



(XNP3064-B)

Q FRONT VIDEO ASSY

L Q U

L Q U

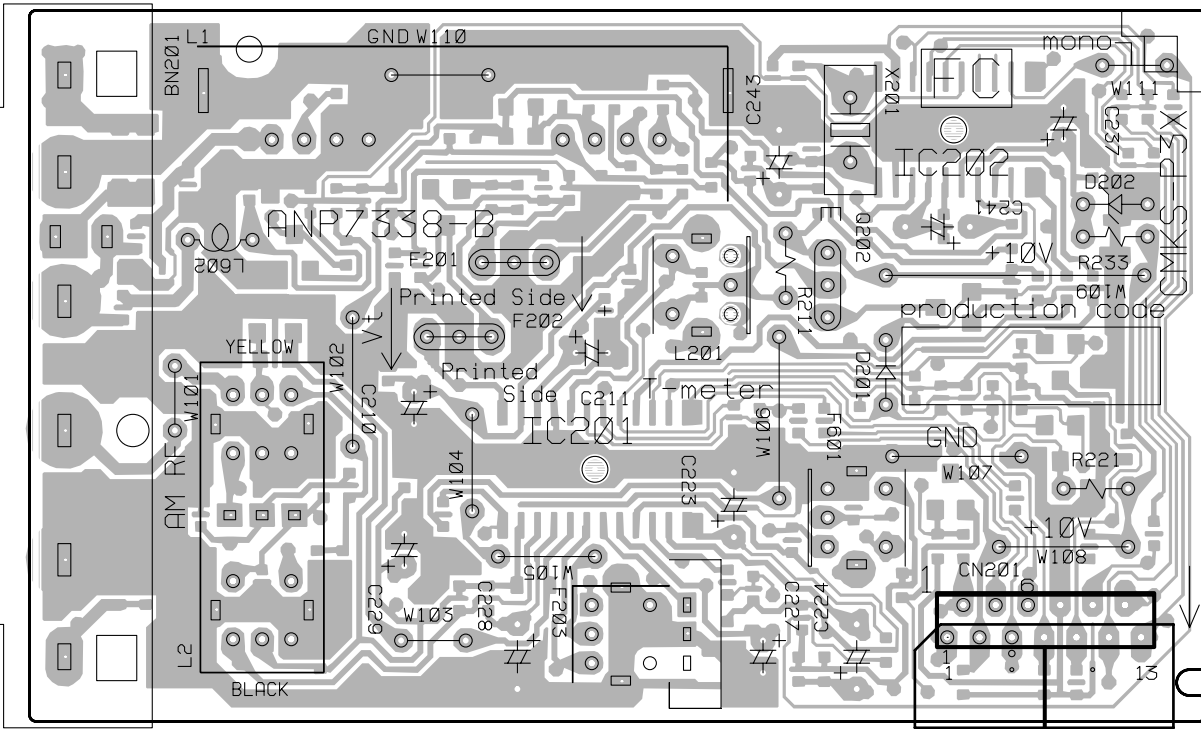
4.9 FM/AM TUNER MODULE

SIDE A

SIDE B

FM/AM TUNER MODULE

SIDE A

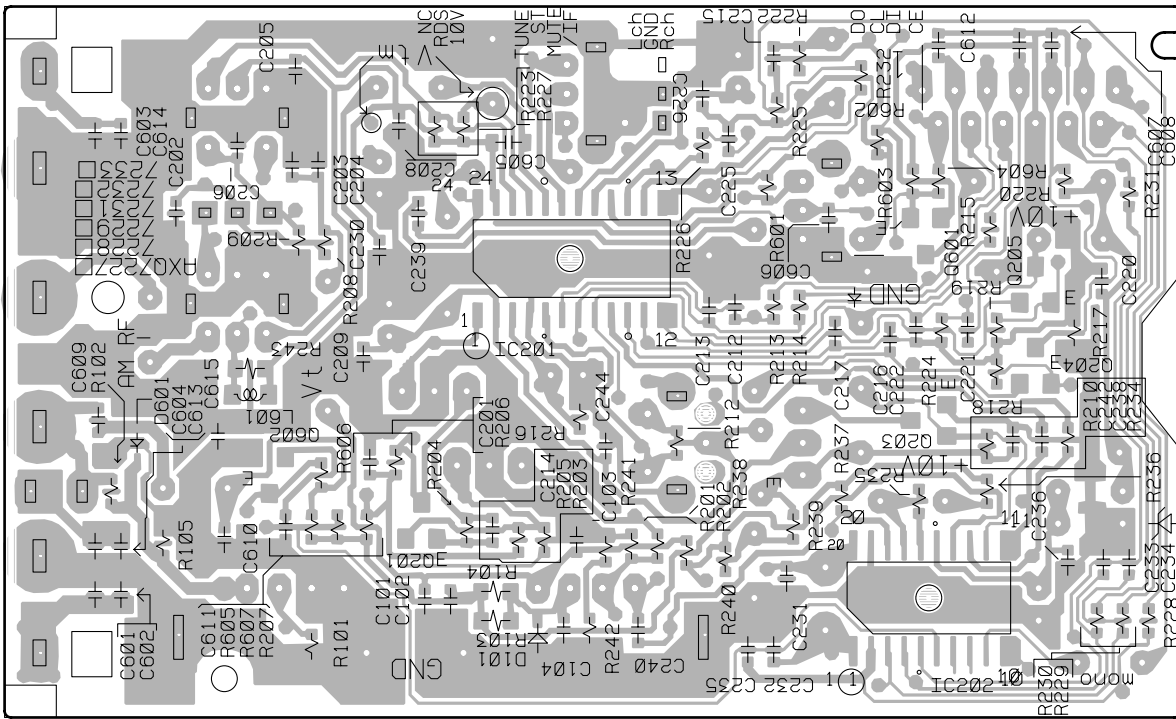


A CN103 ← CN201 (ANP7338-B)

Q202

FM/AM TUNER MODULE

SIDE B



(ANP7338-B)

Q201

IC201

Q203

IC202

Q205

Q204



5. PCB PARTS LIST

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

● The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

● When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560 Ω \rightarrow 56 x 10¹ \rightarrow 561 RD1/APU $\overline{561}J$

47k Ω \rightarrow 47 x 10³ \rightarrow 473 RD1/APU $\overline{473}J$

0.5 Ω \rightarrow R50 RN2H $\overline{R50}K$

1 Ω \rightarrow 1R0 RSIP $\overline{1R0}K$

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

5.62k Ω \rightarrow 562 x 10¹ \rightarrow 5621 RN1/APC $\overline{5621}F$

Mark No. Description Part No.

LIST OF ASSEMBLIES

	1..MAIN ASSY	XWK3091
	1..DSP ASSY	AWX1083
NSP	1..AMP & PS ASSY	XWK3082
	2..AMP & PRIMARY ASSY	XWZ3666
	2..REGULATOR ASSY	XWZ3675
	2..AMP INPUT ASSY	XWZ3677
NSP	2..TRANS1 ASSY	XWZ3680
	2..TRANS2 ASSY	XWZ3682
NSP	2..TRANS3 ASSY	XWZ3686
NSP	2..HOLDER ASSY	XWZ3692
NSP	1..COMPLEX ASSY	XWK3075
	2..VIDEO ASSY	XWZ3644
	2..FRONT ASSY	XWZ3648
	2..6CH IN ASSY	XWZ3649
	2..POWER SW ASSY	XWZ3651
	2..R. ENCODER ASSY	XWZ3652
	2..H.P. ASSY	XWZ3654
	2..FRONT VIDEO ASSY	XWZ3655
	2..DIGITAL IN ASSY	XWZ3657
	2..S. VIDEO ASSY	XWZ3660
	2..COMPONENT ASSY	XWZ3661
	2..BOARD TO BOARD ASSY	XWZ3664
	1..FM/AM TUNER MODULE	AXQ7231

Mark No. Description Part No.

COMPLEX ASSY

OTHERS

J 41	JUMPER WIRED	D15A05-075-2651
J 42	JUMPER WIRED	D15A07-075-2651
J 47	JUMPER WIRED	D20PYY0630E

AMP & PS ASSY

OTHERS

J 21	JUMPER WIRED	D20PYY0715E
J 6	LEAD WIRE UNIT	DB215NB0

Mark No. Description Part No.

A MAIN ASSY SEMICONDUCTORS

IC109	BD3812F
IC108	BD3813KS
IC101	BD3841FS
IC102	NJM2100M
IC9001	PD5837A
IC103-IC107, IC110-IC112, IC115	UPC4570G2
Q5001	2SC2412K
Q165, Q166, Q321, Q322	2SC3326
Q341, Q342, Q361, Q362, Q395	2SC3326
Q386, Q388	2SC3326
Q229, Q230	2SK208
Q167, Q231, Q9002-Q9005	DTA124EK
Q232	DTC124EK
Q168, Q9001, Q9006	DTC143EK
Q9007	DTC143TK
D103-D108, D229, D230, D301	1SS355
D311, D312, D5001, D9001-D9013	1SS355
D101, D102	RB501V-40
D331, D332	UDZS6.8B

COILS AND FILTERS

L9001, L9002 CHIP SOLID INDUCTOR	ATL7002
L9003	LFEA2R2J
L101-L104, L111, L112, L5002	QTL1013
CHIP SOLID INDUCTOR	

CAPACITORS

C9003 (0.22F/5.5V)	ACH7144
C101-C114, C151, C152	CCSRCH101J50
C163, C164, C181-C192	CCSRCH101J50
C197, C198, C243, C244, C263	CCSRCH101J50
C284, C313, C314, C317, C318	CCSRCH101J50
C323, C324, C343, C344, C363	CCSRCH101J50
C386	CCSRCH101J50
C1031, C1041, C117, C118	CCSRCH220J50
C205-C208, C245-C248, C265	CCSRCH331J50
C267, C286, C288	CCSRCH331J50
C203, C204	CCSRCH471J50
C366	CEANP4R7M50
C121-C128, C131-C142	CEAT100M50
C167, C168, C209, C210	CEAT100M50
C213, C214, C249, C250	CEAT100M50
C269, C270, C290, C301-C306	CEAT100M50
C321, C322, C341, C342	CEAT100M50
C361, C362, C380, C382, C384	CEAT100M50
C5007	CEAT101M16

Mark No.	Description	Part No.	Mark No.	Description	Part No.
	C169, C9002	CEAT221M6R3		IC8502	TC7WU04FU
A	C201, C202, C241, C242	CEAT2R2M50		Q8504	UMD2N
	C261, C262, C282, C9005	CEAT2R2M50		Q8503	UN5112
	C9007	CEAT331M6R3		Q8501	UN5212
	C325, C326, C345, C346, C365	CEAT470M25		D8501	1SS355
	C388	CEAT470M25			
	C155, C156	CEAT470M50		D8401	DAN202K
	C333, C334	CEAT471M10		D8402, D8502, D8503	DAP202K
	C9013	CEAT471M6R3	COILS AND FILTERS		
	C165, C166, C370	CEAT47R7M50		L8002, L8004, L8501, L8502	ATL7002
	C170	CKSQYB104K16		L8601, L8603 CHIP SOLID INDUCTOR	ATL7002
				L8101-L8104, L8201, L8203, L8204	QTL1013
B	C320, C392, C5001, C9015, C9016	CKSRYP102K50		L8401, L8402, L8504	QTL1013
	C115, C116, C153, C154, C171	CKSRYP103K50		L8701, L8702 CHIP SOLID INDUCTOR	QTL1013
	C179, C180, C199, C215-C218	CKSRYP103K50	CAPACITORS		
	C251, C252, C266, C271, C272	CKSRYP103K50		C8209, C8210	CCSRCH100D50
	C291, C292, C315, C316, C319	CKSRYP103K50		C8421	CCSRCH101J50
				C8107, C8112	CCSRCH470J50
	C327-C330, C347, C348	CKSRYP103K50		C8007, C8008, C8109, C8201, C8212	CCSRCH471J50
	C367, C368, C389, C390, C5002	CKSRYP103K50		C8214, C8404, C8409-C8414	CCSRCH471J50
	C9001, C9004, C9008, C9017	CKSRYP104K16			
	C219, C220, C309-C312	CKSRYP105K10		C8416, C8417, C8419, C8505, C8507	CCSRCH471J50
	C5003, C9006			C8509, C8511, C8512, C8515, C8518	CCSRCH471J50
				C8520, C8522, C8524, C8526, C8528	CCSRCH471J50
	C264	CKSRYP223K25		C8530, C8532, C8534, C8536, C8539	CCSRCH471J50
	C257, C258, C277, C278, C298	CKSRYP472K50		C8541, C8543, C8545, C8551	CCSRCH471J50
C	C307, C308, C364	CKSRYP472K50			
	C9011, C9014	CKSRYP473K16		C8602, C8603, C8610, C8703, C8706	CCSRCH471J50
	C268	CKSRYP562K50		C8548, C8549	CCSRCH8R0D50
				C8701, C8704	CEV100M16
	C391	CKSRYP104Z16		C8105, C8406, C8415, C8546, C8547	CEV101M16
				C8613, C8902, C8904	CEV101M16
RESISTORS				C8217, C8225, C8408	CEV470M6R3
	⚠ R171, R172	RS1/16S470J		C8204, C8555	CKSRYP102K50
	⚠ R173, R174	RS1/16S472J		C8009, C8104, C8114, C8405, C8418	CKSRYP103K50
	⚠ R311, R312	RS1LMF101J		C8517, C8554	CKSRYP103K50
	Other Resistors	RS1/16S###J		C8010, C8115, C8202, C8207, C8213	CKSRYP104K16
OTHERS				C8215, C8407, C8420, C8422, C8504	CKSRYP104K16
D	CN105 9P CONNECTOR	52044-0945		C8513, C8521, C8523, C8525, C8527	CKSRYP104K16
	CN104 11P CONNECTOR	52044-1145		C8529, C8531, C8533, C8535	CKSRYP104K16
	CN103 13P CONNECTOR	52044-1345		C8537, C8538, C8540, C8542, C8544	CKSRYP104K16
	CN102 10P CONNECTOR	52045-1045		C8550, C8601, C8604	CKSRYP104K16
	CN101 17P CONNECTOR	52045-1745			
				C8609, C8702, C8705, C8901, C8903	CKSRYP104K16
	CN106, CN112 7P CONNECTOR	52045-1945		C8110, C8516	CKSRYP105K6R3
	JA101-JA104 PIN JACK(4P)	AKB7048		C8514	CKSRYP333K16
	CN107 CONNECTOR POST	B3B-PH-K		C8203	CKSRYP473K50
	CN109 18P SOCKET	KP200TA18L	RESISTORS		
	CN111 20P SOCKET	KP200TA20L		R8506	RAB4C101J
				R8201	RS1/16S1802F
	101-103 PCB BINDER	VEF1040		Other Resistors	RS1/16S###J
E	X9001 CERAMIC RESONATOR (15.7 MHz)	ASS7032	OTHERS		
				CN8012 19P CONNECTOR	52045-1945
				JA8101 2P PIN JACK	AKB7131
				CN8003 13P SOCKET	AKP7070
				CN8007 19P SOCKET	AKP7073
				JA8102 OPT. LINK IN	GP1FA513RZB
				CN8017 10P CONNECTOR	VKN1414
				X8501 CRYSTAL RESONATOR (20 MHz)	VSS1171
				X8201 CRYSTAL RESONATOR (24.576 MHz)	XSS3003
B DSP ASSY SEMICONDUCTORS					
	IC8201	AK4114VQ			
	IC8401	AK4529VQ			
	IC8501	DSPD56367PV150			
	IC8601	IS61LV6416-12T			
	IC8901	NJM2391DL1-33			
F	IC8902	NJU7223DL1-18			
	IC8603	PD8116A			
	IC8101	TC74HCU04AF			
	IC8701	TC74LVX244FT			
	IC8702	TC74VHCT244AFT			

Mark No. Description Part No.

C AMP & PRIMARY ASSY

SEMICONDUCTORS

⚠ IC603 PROTECTOR(1A)	AEK7009
⚠ IC604-IC607 PROTECTOR(125mA)	AEK7022
⚠ IC701, IC702 PROTECTOR(400mA)	ICP-N10
IC51	NJM78M56FA
⚠ IC601	PAC010A
⚠ IC602	PAC011A
Q703	2SA1145
Q702	2SA1837D1
Q691, Q692	2SC1740S
Q704	2SC1845
Q605, Q606, Q633, Q655, Q656	2SC2240
Q601-Q604, Q631, Q632	2SC2878
Q651-Q654	2SC2878
Q701	2SC4793D1
Q51	KRC101M
D56, D601-D604, D631, D632	1SS133
D651-D654, D752, D756, D758	1SS133
⚠ D701, D702	D5SBA20
D605, D606, D633, D634	MTZJ16A
D711	MTZJ22D
D58	MTZJ5.1A
D712	MTZJ5.1B
⚠ D51-D55, D721-D724	S5688G

COILS AND FILTERS

⚠ L51 LINE FILTER	ATF7018
L751-L753, L761, L762 COIL	ATH1004

SWITCHES AND RELAYS

RY751-RY754	XSR3002
⚠ RY51	XSR3003

CAPACITORS

C707, C708 (0.01/AC250V)	ACG1005
⚠ C51, C52 (10000pF/AC250V)	ACG7020
C607-C610, C634, C635	CCPUCH6R8K50
C657-C660	CCPUCH6R8K50
C615, C616, C638, C665, C666	CEANP2R2M50
C775, C776	CEANP470M50
C706	CEAT100M2A
C712	CEAT101M10
C611, C612, C636, C661, C662	CEAT101M16
C711	CEAT101M35
C53	CEAT102M16
C692	CEAT221M10
C54	CEAT470M25
C605, C606, C633, C655, C656	CEAT4R7M50
C705	CEHAT100M2A
C751, C752, C755, C761, C762	CFTYA104J50
C613, C614, C637, C663, C664	CKPUYB101K50
C691	CKPUYB102K50
C603, C604, C632, C653, C654	CKPUYB331K50
C55-C57	CKPUYF103Z25
C703, C704 (3300/42V)	XCH3012
C701, C702 (4700/71V)	XCH3013

RESISTORS

⚠ R51 (2.2M/ 1/2W)	RCN1080
⚠ R52	RD1/2PM270J
⚠ R751, R752, R755, R761, R762	RD1/4PUF101J

Mark No. Description Part No.

⚠ R753, R754, R756, R763, R764	RS1LMF4R7J
⚠ R711	RS2LMF392J
⚠ R615, R616, R638, R665, R666	XCN3001
(0.22/5W)	
Other Resistors	RD1/4PU###J

OTHERS

CN53 23P CONNECTOR	52045-2345
CN702 6P JUMPER CONNECTOR	52147-0610
CN752 SPEAKER TERMINAL 8-P	AKE7074
CN751 SPEAKER TERMINAL 6-P	AKE7075
51 AC SOCKET 1-P	AKP1060
H51-H54, H701, H702 FUSE CLIP	AKR7001
⚠ T51 STANDBY TRANSFORMER	ATT7043
CN601 16P PLUG	KM200TA16
CN51 AC CODE SOCKET	RKP1751
KN51, KN601 EARTH METAL FITTING	VNF1084
701 7P CABLE HOLDER	XKP3047

D TRANS2 ASSY
SEMICONDUCTORS

⚠ IC851-IC853 PROTECTOR (1.6A)	AEK7012
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OTHERS

851 7P CABLE HOLDER	XKP3047
---------------------	---------

E TRANS3 ASSY

TRANS3 ASSY has no service part.

F REGULATOR ASSY
SEMICONDUCTORS

IC803, IC804	NJM78M05FA
IC801, IC805	NJM78M12FA
IC806	NJM78M56FA
IC802	NJM79M12FA
Q801, Q803, Q805	KRA103M
Q802, Q804, Q806	KRC102M
D809-D811	MTZJ6.2A
⚠ D801-D804	S5688G

CAPACITORS

C808, C811, C815	CEAT101M10
C805, C806, C813	CEAT101M16
C801, C802	CEAT222M25
C809	CEAT472M16
C803, C804, C807, C810, C812	CKPUYF103Z25
C814	CKPUYF103Z25

OTHERS

CN801 23P CONNECTOR	52045-2345
CN805 13P PLUG	AKP7059
CN806 19P PLUG	AKP7062
CN804 18P PLUG	KM200TA18
CN802 20P PLUG	KM200TA20
CN803 7P PLUG	KM200TA7

G AMP INPUT ASSY

OTHERS

CN254 19P CONNECTOR	52044-1945
CN253 16P SOCKET	KP200TA16L

Mark No. Description Part No.

H TRANS1 ASSY

TRANS1 ASSY has no service part.

I VIDEO ASSY SEMICONDUCTORS

IC301	NJM2595M
Q302	2SA1515
Q303, Q304	2SC3326
Q301	2SC3377
D301, D302, D305, D306	1SS355
D307	UDZS5.1B
D303, D304	UDZS6.2B

COILS AND FILTERS

L301-L304 CHIP SOLID INDUCTOR QTL1013

CAPACITORS

C347	CCSRCH470J50
C380	CCSRCH331J50
C307-C310, C312, C314, C338	CEAT470M25
C1360, C302, C379	CKSRYB103K50
C339, C340	CKSRYB104K25
C304-C306	CKSRYB221K50
C333	CKSRYB331K50
C311, C313	CKSRYB473K25

RESISTORS

⚠ R313, R316 RS3LMF390J
Other Resistors RS1/16S###J

OTHERS

CN303 11P CONNECTOR	52044-1145
JA305 PIN JACK(4P)YELLOW	AKB7100
CN302 7P SOCKET	KP200TA7L
CN301 9P SOCKET	KP200TA9L
CN306 2P PIN JACK	XKB3041
CN304 1P PIN JACK	AKB7042
JA351 2P JACK	XKN3013

J 6CH IN ASSY SEMICONDUCTORS

IC302, IC303 NJM4558MD

CAPACITORS

C319, C320	CCSRCH101J50
C327, C328, C342-C345	CCSRCH101J50
C321, C324, C331, C332	CEAT4R7M50
C1363-C1365	CKSRYB102K50
C316	CKSRYB103K50
C322, C323, C329, C330	CKSRYB103K50
C317, C318	CKSRYB221K50
C325, C326	CKSRYB221K50

RESISTORS

All Resistors RS1/16S###J

OTHERS

CN307 9P CONNECTOR	52044-0945
CN309 4P PIN JACK	AKB7087

K BOARD TO BOARD ASSY

Mark No. Description Part No.

OTHERS

CN392 5P CONNECTOR	52045-0545
CN391 7P PLUG	KM200TA7
CN390 9P PLUG	KM200TA9

L S. VIDEO ASSY SEMICONDUCTORS

IC351, IC352	NJM2595M
D351-D354	1SS355

CAPACITORS

C375, C376	CCSRCH470J50
C352, C355, C358, C361-C363	CEAT470M25
C366	CEAT470M25
C372, C373	CKSRYB103K50
C351, C353, C354, C356, C357	CKSRYB104K25
C359, C367	CKSRYB104K25
C364, C365, C368-C371	CKSRYB221K50

RESISTORS

All Resistors RS1/16S###J

OTHERS

CN353 2-4P MINI DIN SOCKET	AKP7020
CN352 3-4P MINI DIN SOCKET	AKP7043
CN354 CONNECTOR POST	B5B-PH-K
CN351 7P SOCKET	KP200TA7L

M FRONT ASSY SEMICONDUCTORS

IC401	PE5346A
Q484	2SA1037K
Q441, Q442	DTC124EK
D403-D405	1SS355
D401, D402	DAN202K

COILS AND FILTERS

L401 LFEA2R2J

SWITCHES AND RELAYS

S451-S469 ASG7013

CAPACITORS

C482, C483	CCSRCH221J50
C481	CCSRCH471J50
C442	CEAL470M10
C403	CEAT221M6R3
C405	CEAT470M10
C412	CEAT470M50
C415, C451-C454	CKSRYB102K50
C401, C402, C404, C410, C411	CKSRYB103K50
C419, C441	CKSRYB103K50
C418, C421	CKSRYB104K16
C420	XCH3011

RESISTORS

All Resistors RS1/16S###J

OTHERS

471 CABLE HOLDER (5P)	51063-0505
404 CABLE HOLDER (7P)	51063-0705
CN401 17P CONNECTOR	52044-1745
CN402 9P CONNECTOR	52492-0920
V401 FL TUBE	XAV3018

Mark No.	Description	Part No.
X401	CERAMIC RESONATOR (5 MHz)	VSS1142
401	REMOTE RECEIVERUNIT	GP1UM28XK

N R. ENCODER ASSY SWITCHES AND RELAYS

S511	ASG7013
S513	ROTARY ENCODER XSX3005
S512	ROTARY ENCODER XSX3006

RESISTORS

All Resistors	RS1/16S###J
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OTHERS

511	CABLE HOLDER (7P)	51063-0705
-----	-------------------	------------

O POWER SW ASSY SEMICONDUCTORS

D501	SLR-343VC
------	-----------

SWITCHES AND RELAYS

S501-S509	ASG7013
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RESISTORS

All Resistors	RS1/16S###J
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OTHERS

501	CABLE HOLDER (5P)	51063-0505
-----	-------------------	------------

Q FRONT VIDEO ASSY CAPACITORS

C901, C902, C915, C916	CCSRCH101J50
C903, C905	CEAL470M25
C908, C911, C914	CKSRYB103K50
C904, C906, C909, C912	CKSRYB104K25
C907, C910, C913	CKSRYB471K50

RESISTORS

All Resistors	RS1/16S###J
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OTHERS

JA902	PIN JACK (4P)	AKX7014
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R H.P. ASSY SEMICONDUCTORS

Q1551, Q1552	2SC3326
--------------	---------

CAPACITORS

C1554, C1557	CCSRCH471J50
C1553, C1556	CKSRYB103K50
C1555, C1558	CKSRYB104K16
C1551, C1552	CKSRYB223K50

RESISTORS

⚠ R1553, R1554	RS1LMF151J
⚠ R1551, R1552	RS2LMF331J
Other Resistors	RS1/16S###J

OTHERS

1551	6P CABLE HOLDER	51048-0600
JA1551	HEADPHONE JACK	RKB1014
KN1551	EARTH METAL FITTING	VNF1084

Mark No. Description Part No.

T DIGITAL IN ASSY COILS AND FILTERS

F1901	CHIP BEAD	DTF1067
-------	-----------	---------

CAPACITORS

C1907, C1909	CCSRCH101J50
C1904	CEAL101M10
C1908	CKSRYB102K50
C1903, C1906	CKSRYB103K50
C1902, C1905	CKSRYB104K25

RESISTORS

All Resistors	RS1/16S###J
---------------	-------------

OTHERS

JA1902	OPT. LINK OUT 12MB/S	GP1FA513TZ
CN1901	10P CONNECTOR	VKN1186
KN1901	WRAPPING TERMINAL	VNF1084

U COMPONENT ASSY SEMICONDUCTORS

IC552	NJM2581M
IC551	TC74HC4053AF
D551, D552	1SS355

CAPACITORS

C551-C554	CEAT101M10
C555-C562, C566, C568	CKSRYB103K50

RESISTORS

All Resistors	RS1/16S###J
---------------	-------------

OTHERS

CN551	5P CONNECTOR	52045-0545
JA553	3P RCA PINJACK	AKB7124
JA551	6P RCA PINJACK	AKB7128

W FM/AM TUNER MODULE SEMICONDUCTORS

IC201	BA1451F
IC202	LC72131MD
Q201, Q204, Q205	2SC2412K
Q202	DTA124ES
Q203	DTC124EK

D201	1SS133
D202	MTZJ5.1C

COILS AND FILTERS

L201	FM DETECTOR COIL	ATE7003
F202	CERAMIC FILTER	ATF-107
F201	CERAMIC FILTER	ATF-119
F203	AM CERAMIC FILTER	ATF7026

CAPACITORS

C206	CCSRCH100D50
C212, C213, C226, C233-C235	CCSRCH101J50
C240	CCSRCH101J50
C231, C232	CCSRCH150J50
C223	CEAT100M50

C229	CEAT101M10
C224	CEAT1R0M50
C227	CEAT220M25
C241	CEAT2R2M50
C243	CEAT330M16

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
A	C228	CEAT3R3M50
	C237	CEAT470M10
	C211	CEJA1R0M50
	C210	CEJQ470M16
	C204, C238, C602	CKSRYB102K50
■	C101, C102, C208, C220, C239	CKSRYB103K50
	C242, C601	CKSRYB103K50
	C216, C217, C225	CKSRYB153K50
	C201, C205, C209, C214, C230	CKSRYB223K50
	C236, C603	CKSRYB223K50
B	C221	CKSRYB224K10
	C202, C222	CKSRYB473K16
	C215	CKSRYB681K50

RESISTORS

R211	RD1/4PU221J
R221	RD1/4PU222J
R233	RD1/4PU391J
R243	RS1/10S0R0J
R103	RS1/10S331J
R104	RS1/10S391J
Other Resistors	RS1/16S###J

OTHERS

CN201 13P CONNECTOR	52044-1345
BN201 TERMINAL 4-P	AKA7003
(SHIELD CASE T)	ANK7072
(SHIELD CASE B)	ANK7073
X201 CRYSTAL RESONATOR	ASS1093
(7.2MHz)	
FM FRONTEND	AXF7003
AM RF TUNING BLOCK	AXX7071

6. ADJUSTMENT

6.1 TUNER SECTION



■ AM Tuner Section

- There is no adjustment in the AM tuner.

■ FM Tuner Section

- Set the mode selector to FM BAND.
- Connect the wiring as shown in Fig. 1.

Step No.	Adjustment Title	ANT. Input level and signal condition			Adjustment	
		Frequency (MHz)	Modulation	Input Level (dBμV)	Adjust point	Contents
1	T-METER Adjustment	98	OFF	80	L201	Adjust L201 so that the DC voltage between Pin 21 and Pin 23 of IC201 (Test point Vtm) gets within $0 \pm 50mV$.

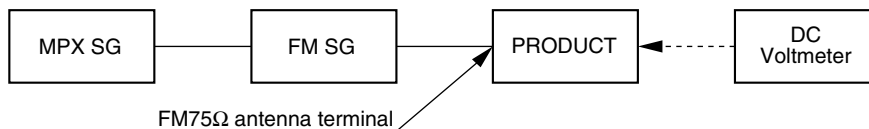
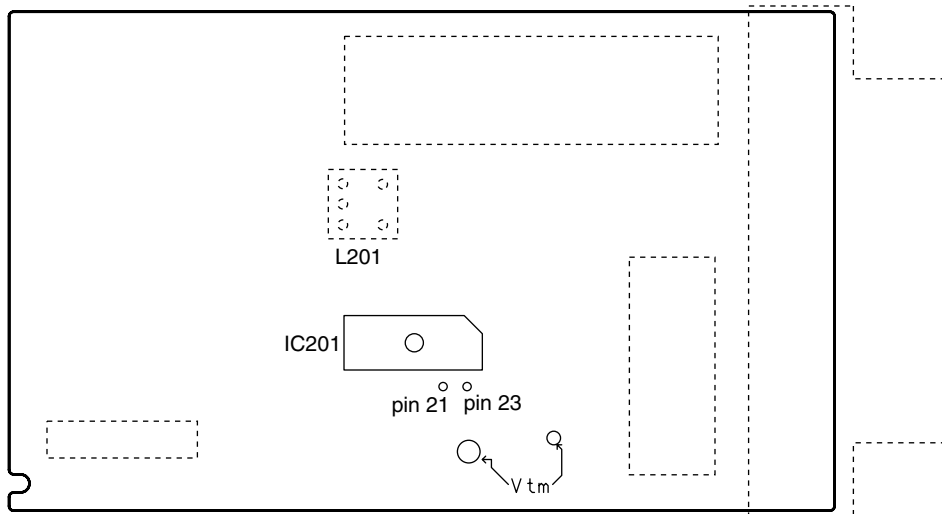


Fig.1 Adjustment Wiring Diagram

W FM/AM TUNER MODULE



SIDE B

Fig.2 Adjustment Point

7. GENERAL INFORMATION

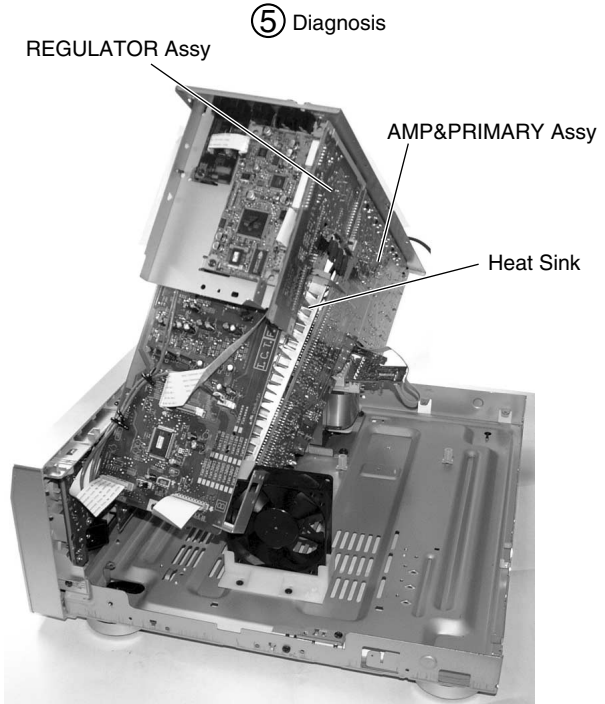
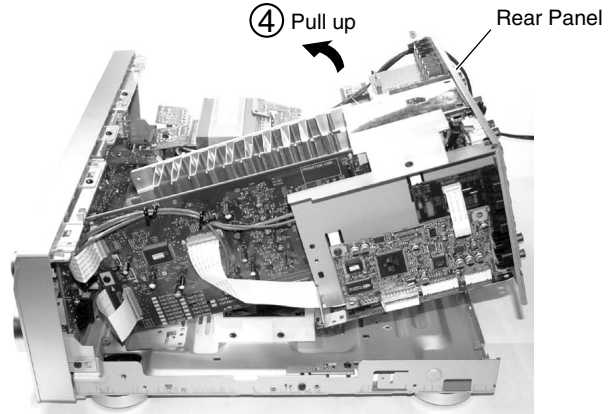
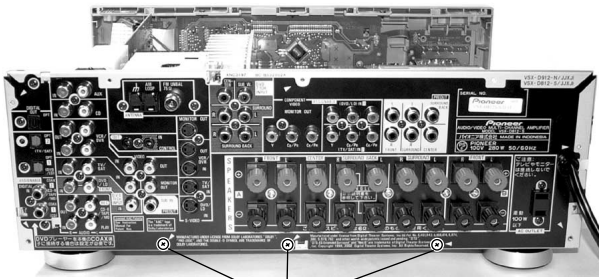
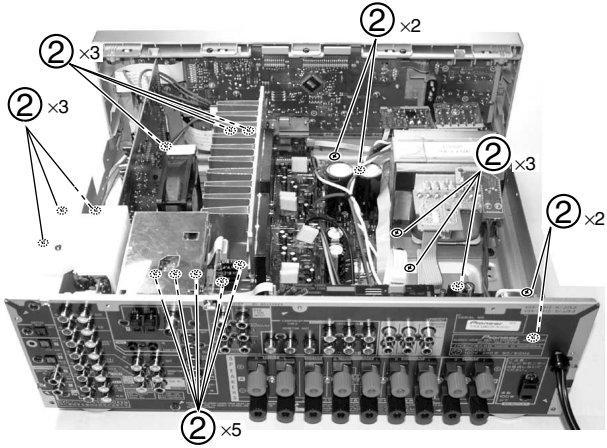
7.1 DIAGNOSIS

7.1.1 DISASSEMBLY AND DIAGNOSIS

■ Diagnosis

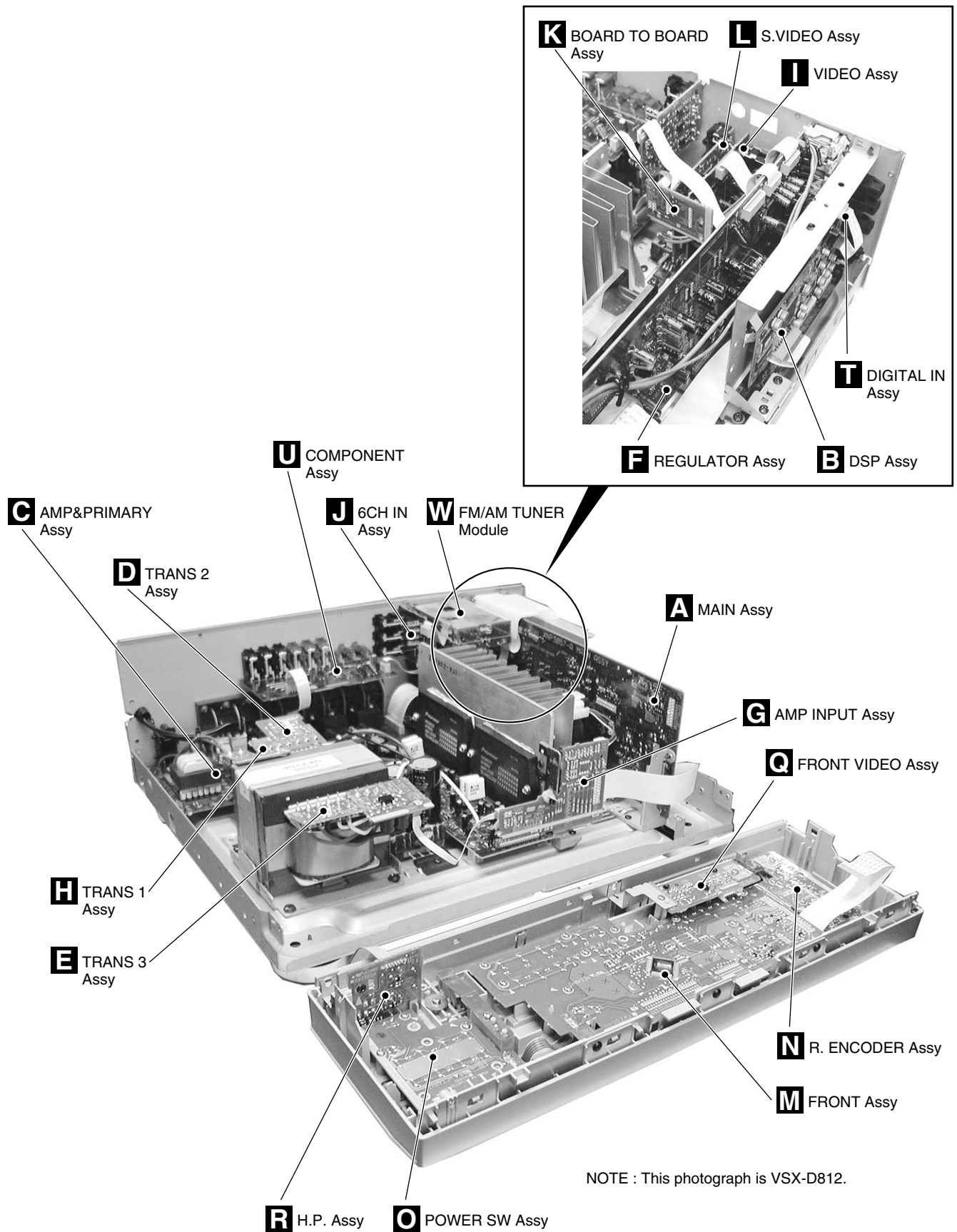
Note : This photograph shows other models.
However, the work method is the same.

① Remove the top cover (nine screws).



Note : The unit does not operate when the screws of Speaker Terminal are taken off from Rear Panel.

7.1.2 PCB LOCATION



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.

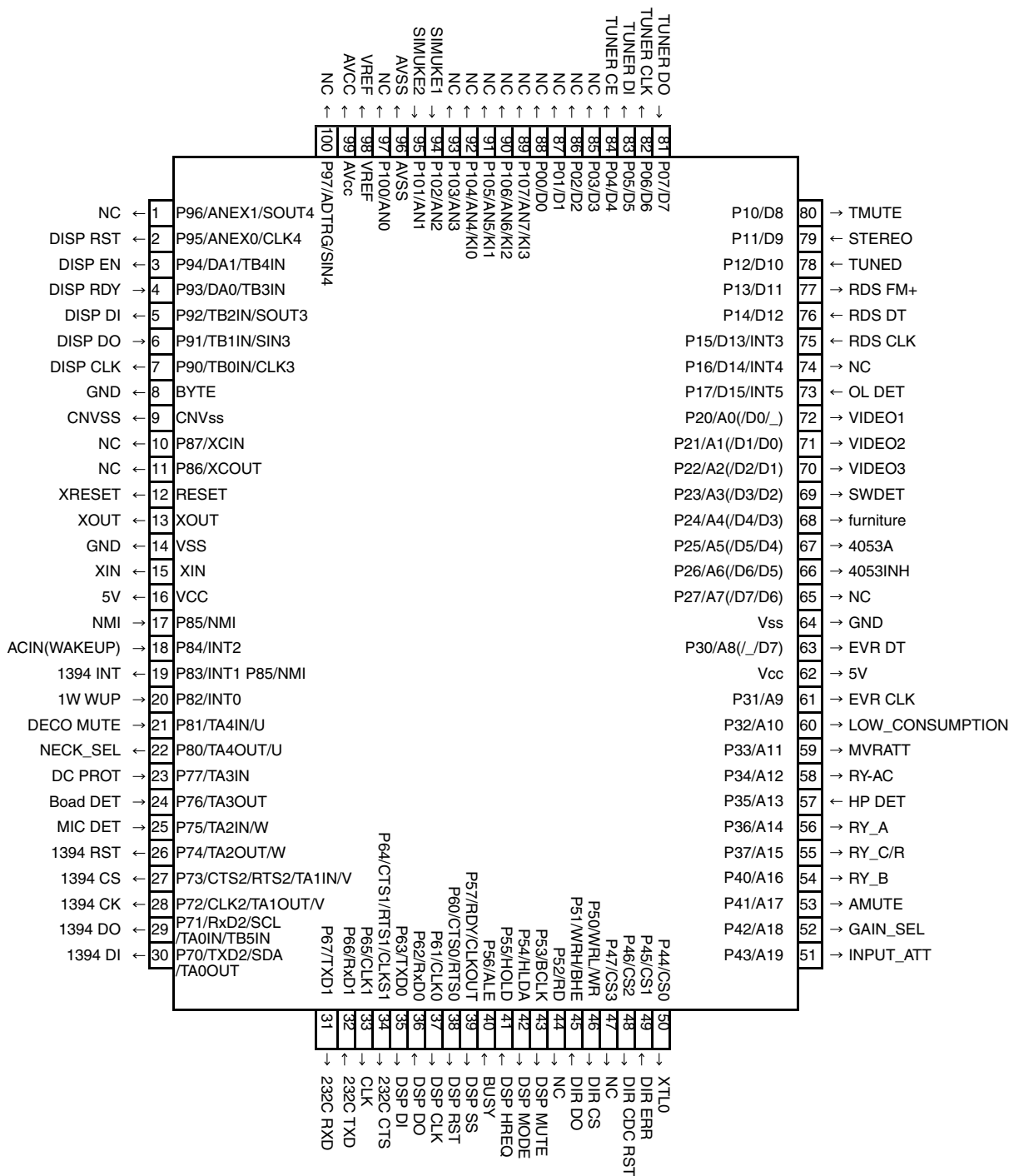
List of IC

PD5837A, PE5346A, BD3813KS, BD3841FS, NJM2581, NJM2595, AK4529

PD5837A (MAIN ASSY : IC9001)

System Control MCU

Pin Arrangement (Top View)



• Pin Function

No.	Port	Pin Name	I/O	Pin Function
1	P96/ANEX1/SOUT4	NC	I/O	
2	P95/ANEX0/CLK4	DISP RST	I/O	Reset signal to display u-com
3	P94/DA1/TB4IN	DISP EN	I/O	Enable signal to display u-com
4	P93/DA0/TB3IN	DISP RDY	I/O	Ready signal from display u-com
5	P92/TB2IN/SOUT3	DISP DI	I/O	Data out to display u-com
6	P91/TB1IN/SIN3	DISP DO	I/O	Data input from display u-com
7	P90/TB0IN/CLK3	DISP CLK	I/O	Clock signal to display u-com
8	BYTE	GND		
9	CNVss	CNVSS		
10	P87/XCIN	NC	I/O	
11	P86/XCOUT	NC	I/O	
12	RESET	XRESET		
13	XOUT	XOUT		
14	VSS	GND		
15	XIN	XIN		
16	VCC	5V		
17	P85/NMI	NM	I	No use
18	P84/INT2	ACIN(WAKEUP)	I/O	AC pulse input
19	P83/INT1 P85/NMI	1394 INT	I/O	No use (Standby for 1394)
20	P82/INT0	1W WUP	I/O	Wake up signal from display u-com
21	P81/TA4IN/U	DECO MUTE	I/O	1st DSP detect port
22	P80/TA4OUT/U	NECK_SEL	I/O	5.1ch, surround mode and A+B Stereo : H / Stereo : L
23	P77/TA3IN	DC PROT	I/O	AMP DC detect
24	P76/TA3OUT	Boad DET	I/O	AMP INPUT ASSY detect, H : detected
25	P75/TA2IN/W	MIC DET	I/O	MIC detect (VSX-D912 only), L : detect
26	P74/TA2OUT/W	1394 RST	I/O	No use (Standby for 1394)
27	P73/CTS2/RTS2/TA1IN/V	1394 CS	I/O	No use (Standby for 1394)
28	P72/CLK2/TA1OUT/V	1394 CK	I/O	No use (Standby for 1394)
29	P71/RxD2/SCL/TA0IN/TB5IN	1394 DO	I/O	No use (Standby for 1394)
30	P70/TXD2/SDA/TA0OUT	1394 DI	I/O	No use (Standby for 1394)
31	P67/TXD1	232C RXD	I/O	For rewriting 232C (Data output)
32	P66/RxD1	232C TXD	I/O	For rewriting 232C (Data input)
33	P65/CLK1	CLK	I/O	It is necessary when writing for JIG
34	P64/CTS1/RTS1/CLKS1	232C CTS	I/O	For rewriting 232C (Admit communication)
35	P63/TXD0	DSP DI	I/O	Data output signal for communication with DSP and DIR
36	P62/RxD0	DSP DO	I/O	Data input signal for communication with DSP
37	P61/CLK0	DSP CLK	I/O	Clock signal for communication with DSP and DIR
38	P60/CTS0/RTS0	DSP RST	I/O	Reset signal for DSP
39	P57/RDY/CLKOUT	DSP SS	I/O	Srobe select signal to DSP
40	P56/ALE	BUSY	I/O	Use it in MCACC
41	P55/HOLD	DSP HREQ	I/O	DSP error detect signal
42	P54/HLDA	DSP MODE	I/O	Mode select of DSP (ROM/RAM)
43	P53/BCLK	DSP MUTE	I/O	DSP ASSY mute
44	P52/RD	NC	I/O	
45	P51/WRH/BHE	DIR DO	I/O	Data input signal for communication with DIR/DAC
46	P50/WRL/WR	DIR CS	I/O	Chip select signal for communication with DIR/DAC
47	P47/CS3	NC	I/O	
48	P46/CS2	DIR CDC RST	I/O	Reset signal for DIR CODEC
49	P45/CS1	DIR ERR	I/O	lock/unlock signal
50	P44/CS0	XTL0	I/O	DIR X'tal change

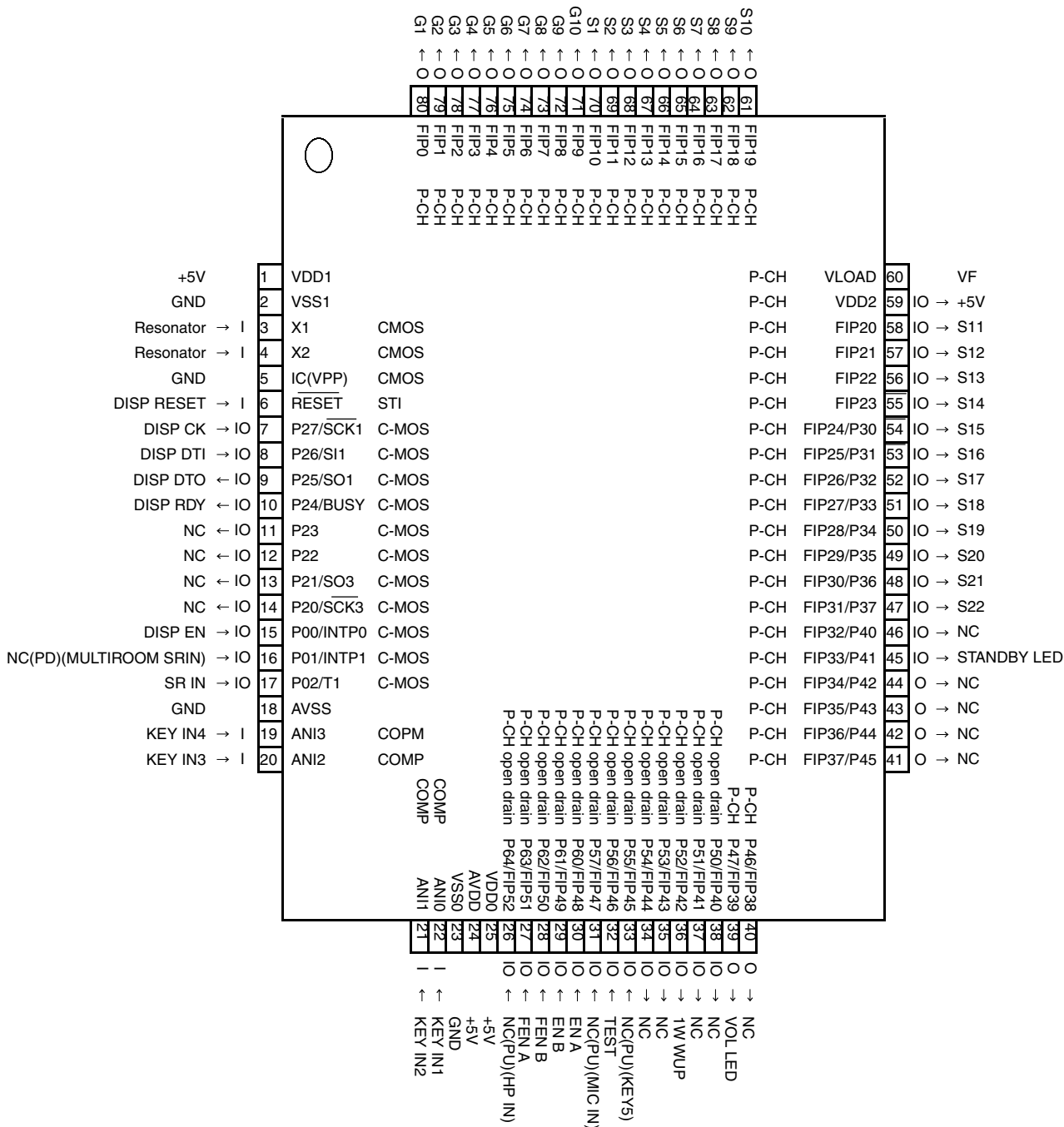
• Pin Function

No.	Port	Pin Name	I/O	Pin Function
A 51	P43/A19	INPUT_ATT	I/O	Analog input ATT(H : ATT ON)
52	P42/A18	GAIN_SEL	I/O	Gain select (5.1ch and Stereo of analog input : H)
53	P41/A17	AMUTE	I/O	System mute
54	P40/A16	RY_B	I/O	Speaker B relay ON/OFF
55	P37/A15	RY_C/R	I/O	Rear/Center Speaker relay ON/OFF
56	P36/A14	RY_A	I/O	Speaker A relay ON/OFF
57	P35/A13	HP DET	I/O	HP detect, H : detected
58	P34/A12	RY-AC	I/O	AC relay ON/OFF
59	P33/A11	MVRATT	I/O	ATT control of master volume (less than -15dB : L)
60	P32/A10	LOW_CONSUMPTION	I/O	If stop mode, port L, else H
B 61	P31/A9	EVR CLK	I/O	Clock signal for Function and E-volume
62	Vcc	5V		
63	P30/A8(/_D7)	EVR DT	I/O	Data signal for Function and E-volume
64	Vss	GND		
65	P27/A7(/D7/D6)	NC	I/O	
66	P26/A6(/D6/D5)	4053INH	I/O	Component terminal control
67	P25/A5(/D5/D4)	4053A	I/O	Component terminal control
68	P24/A4(/D4/D3)	furniture	I/O	Furniture control signal
69	P23/A3(/D3/D2)	SWDET	I/O	SWSP detect
70	P22/A2(/D2/D1)	VIDEO3	I/O	SWSP detect
C 71	P21/A1(/D1/D0)	VIDEO2	I/O	SWSP detect
72	P20/A0(/D0/_)	VIDEO1	I/O	NJM2296 control (VIDEO input select)
73	P17/D15/INT5	OL DET	I/O	Detect overload of AMP
74	P16/D14/INT4	NC	I/O	
75	P15/D13/INT3	RDS CLK	I/O	Clock input signal for RDS module
76	P14/D12 RDS	DT	I/O	Data input signal for RDS module
77	P13/D11 RDS	FM+	I/O	Power ON/OFF of RDS decoder
78	P12/D10	TUNED	I/O	L : TUNED
79	P11/D9	STEREO	I/O	L :STEREO
D 80	P10/D8	TMUTE	I/O	Tuner mute
81	P07/D7	TUNER DO	I/O	Data input signal for tuner control
82	P06/D6	TUNER CLK	I/O	Clock signal for tuner control
83	P05/D5	TUNER DI	I/O	Data output signal for tuner control
84	P04/D4	TUNER CE	I/O	Chip select signal for tuner control
85	P03/D3	NC	I/O	
86	P02/D2	NC	I/O	
87	P01/D1	NC	I/O	
88	P00/D0	NC	I/O	
89	P107/AN7/KI3	NC	I/O	
90	P106/AN6/KI2	NC	I/O	
E 91	P105/AN5/KI1	NC	I/O	
92	P104/AN4/KI0	NC	I/O	
93	P103/AN3	NC	I/O	
94	P102/AN2	SIMUKE1	I/O	Input 1 to switch region
95	P101/AN1	SIMUKE2	I/O	Input 2 to switch region
96	AVSS	AVSS		Connect to VSS
97	P100/AN0	NC	I/O	
98	VREF	VREF		Connect to VCC
99	AVcc	AVCC		Connect to VCC
F 100	P97/ADTRG/SIN4	NC	I/O	

PE5346A (FRONT ASSY : IC401)

• System Control MCU

Pin Arrangement (Top View)



• Pin Function

No.	Port	Pin Name	I/O	Pin Function
1	VDD1	+5V	-	positive power supply
2	VSS1	GND	-	ground potential
3	X1	Resonator	I	crystal connection for system clock oscillation
4	X2	Resonator	I	crystal connection for system clock oscillation
5	IC(VPP)	GND	-	
6	RESET	DISP RESET	I	receive reset signal from main u-com
7	P27/SCK1	DISP CK	I/O	clock signal from main u-com
8	P26/SI1	DISP DTI	I/O	datain from main u-com
9	P25/SO1	DISP DTO	I/O	data out to main u-com
10	P24/BUSY	DISP RDY	I/O	ready signal from main u-com
11	P23	NC	I/O	
12	P22	NC	I/O	
13	P21/SO3	NC	I/O	
14	P20/SCK3	NC	I/O	
15	P00/INTP0	DISP EN	I/O	enable signal from main u-com
16	P01/INTP1	NC	I/O	
17	P02/T1	SR IN	I/O	remote control signal input from main room
18	AVSS	GND	-	ground potential for A/D converter
19	ANI3	KEY IN4	I	
20	ANI2	KEY IN3	I	
21	ANI1	KEY IN2	I	
22	ANI0	KEY IN1	I	
23	VSS0	GND	-	ground potential for ports
24	AVDD	'+5V	-	analog power voltage input to A/D converter
25	VDD0	'+5V	-	positive power supply to ports
26	P64/FIP52	NC	I/O	
27	P63/FIP51	FEN A	I/O	MULTI JOG(Right)
28	P62/FIP50	FEN B	I/O	MULTI JOG(Left)
29	P61/FIP49	EN B	I/O	VOLUME JOG1(-)
30	P60/FIP48	EN A	I/O	VOLUME JOG1(+)
31	P57/FIP47	NC	I/O	
32	P56/FIP46	TEST	I/O	test mode input for checker
33	P55/FIP45	NC	I/O	
34	P54/FIP44	NC	I/O	
35	P53/FIP43	NC	I/O	
36	P52/FIP42	1W WUP	I/O	output wakeup signal to main u-com
37	P51/FIP41	NC	I/O	
38	P50/FIP40	NC	I/O	
39	P47/FIP39	VOL LED	I/O	LED Output
40	P46/FIP38	NC	I/O	

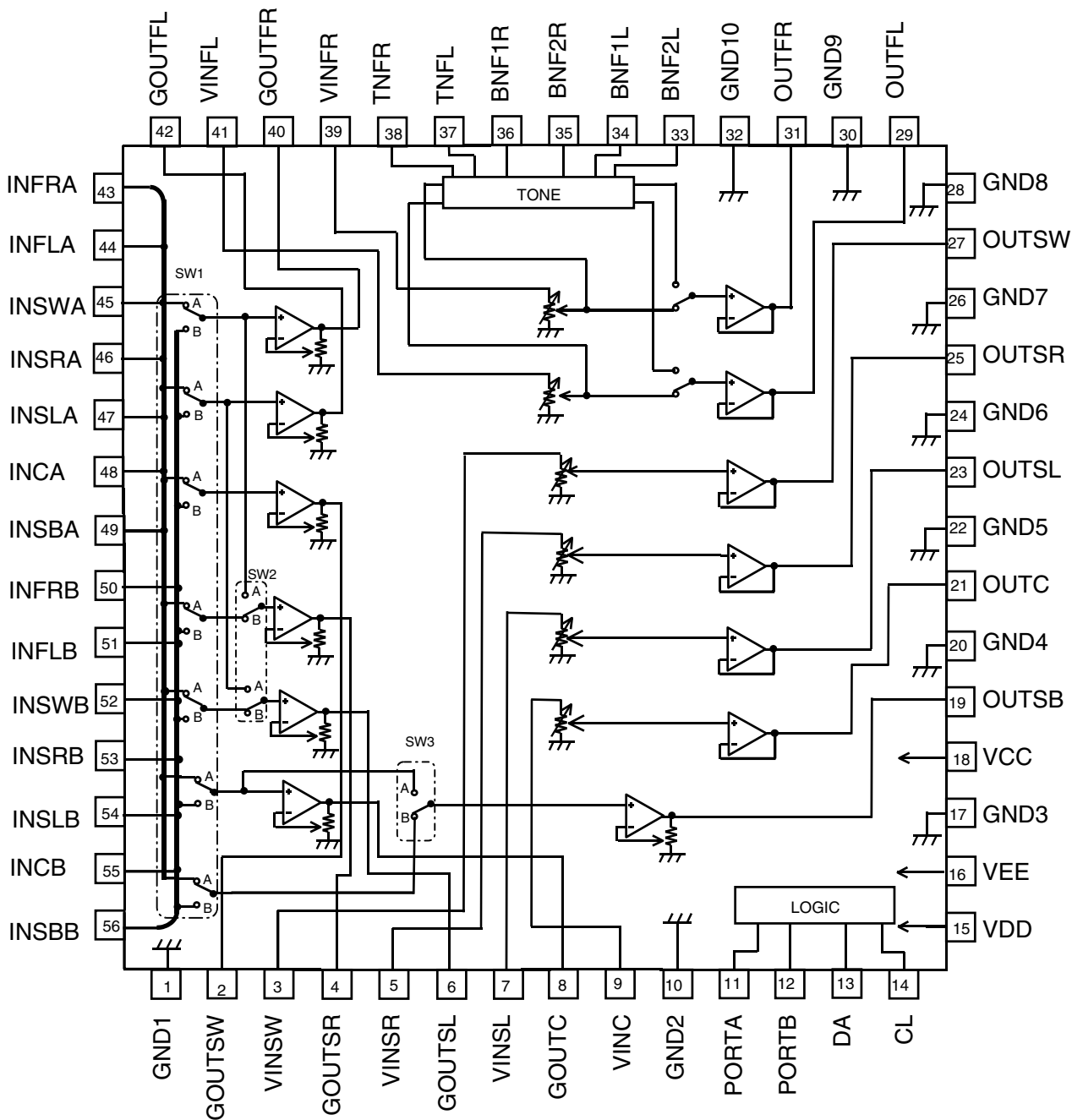
• Pin Function

No.	Port	Pin Name	I/O	Pin Function
41	FIP37/P45	NC	I/O	
42	FIP36/P44	NC	/O	
42	FIP35/P43	NC	I/O	
44	FIP34/P42	NC	I/O	
45	FIP33/P41	STANDBY LED	I/O	LED Output
46	FIP32/P40	NC	I/O	
47	FIP31/P37	S22	I/O	Display
48	FIP30/P36	S21	I/O	Display
49	FIP29/P35	S20	I/O	Display
50	FIP28/P34	S19	I/O	Display
51	FIP27/P33	S18	I/O	Display
52	FIP26/P32	S17	I/O	Display
53	FIP25/P31	S16	I/O	Display
54	FIP24/P30	S15	I/O	Display
55	FIP23	S14	O	Display
56	FIP22	S13	O	Display
57	FIP21	S12	O	Display
58	FIP20	S11	O	Display
59	VDD2	'+5V	-	positive power supply to FIP controller.
60	VLOAD	VF	-	pull down resistor connection of FIP controller
61	FIP19	S10	O	Display
62	FIP18	S9	O	Display
63	FIP17	S8	O	Display
64	FIP16	S7	O	Display
65	FIP15	S6	O	Display
66	FIP14	S5	O	Display
67	FIP13	S4	O	Display
68	FIP12	S3	O	Display
69	FIP11	S2	O	Display
70	FIP10	S1	O	Display
71	FIP9	G10	O	Display
72	FIP8	G9	O	Display
73	FIP7	G8	O	Display
74	FIP6	G7	O	Display
75	FIP5	G6	O	Display
76	FIP4	G5	O	Display
77	FIP3	G4	O	Display
78	FIP2	G3	O	Display
79	FIP1	G2	O	Display
80	FIP0	G1	O	Display

BD3813KS (MAIN ASSY : IC108)

• 6.1ch Audio Sound Processor

Block Diagram



• Description of terminal

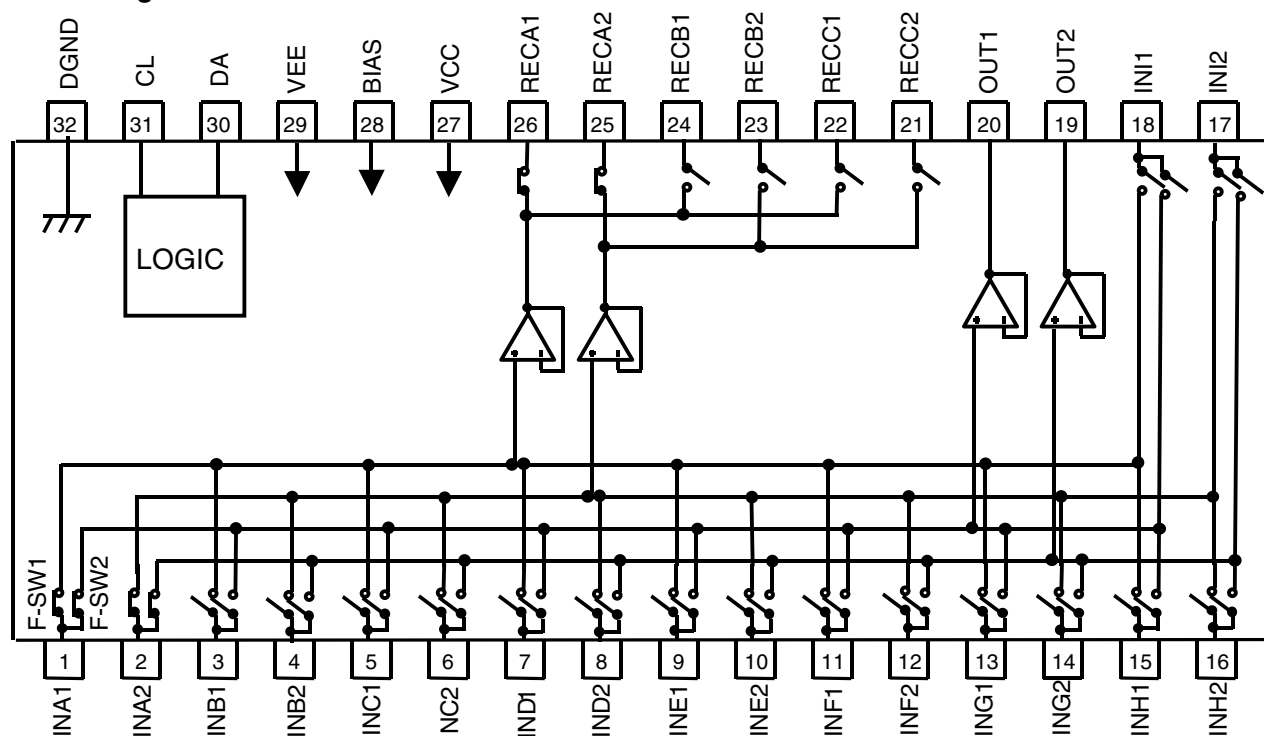
Terminal Number	Terminal Name	Description	Terminal Number	Terminal Name	Description
1	GND1	Ground terminal	14	CL	Serial clock input terminal
2	GOUTSW	Sub woofer input gain output terminal	15	VDD	Power supply terminal for port
3	VINSW	Subwoofer volume input terminal	16	VEE	(-)Power supply terminal
4	GOUTSR	Surround Rch input gain output terminal	17	GND3	Ground terminal
5	VINSR	Surround Rch volume input terminal	18	VCC	(+)Power supply terminal
6	GOUTSL	Surround Lch input gain output terminal	19	OUTSB	Surround backoutput terminal
7	VINSL	Surround Lch volume input terminal	20	GND4	Ground terminal
8	GOUTC	Center speaker input gain output terminal	21	OUTC	Center speaker output terminal
9	VINC	Center speaker volume input terminal	22	GND5	Ground terminal
10	GND2	Ground terminal	23	OUTSL	Surround Lch output terminal
11	PORTA	Output terminal for port	24	GND6	Ground terminal
12	IPOBTB	Output terminal for port	25	OUTSR	Surround Rch output terminal
13	DA	Serial data and latch input terminal	26	GND7	Ground terminal

Terminal Number	Terminal Name	Description	Terminal Number	Terminal Name	Description
27	OUTSW	Sub woofer output terminal	42	GOUTFL	Lch input gain output terminal
28	GND8	Ground terminal	43	INFRA	Rch DVD input terminal
29	OUTFL	Lch output terminal	44	INFLA	Lch DVD input terminal
30	GND9	Ground terminal	45	INSWA	SWch DVD input terminal
31	OUTFR	Rch output terminal	46	INSRA	SRch DVD input terminal
32	GND10	Ground terminal	47	INSLA	SLch DVD input terminal
33	BNF2L	Lch bass filter terminal 2	48	INCA	Cch DVD input terminal
34	BNF1L	Lch bass filter terminal 1	49	INSBA	SBch DVD input terminal
35	BNF2R	Rch bass filter terminal 2	50	INFRB	Rch DSP input terminal
36	BNF1R	Lch bass filter terminal 1	51	INFLB	Lch DSP input terminal
37	TNFL	Lch treble filter terminal	52	INSWB	SWch DSP input terminal
38	TNFR	Rch treble filter terminal	53	INSRB	SRch DSP input terminal
39	VINFR	Rch volume Input terminal	54	INSLB	SLch DSP input terminal
40	GOUTFR	Rch input gain output terminal	55	INCB	Cch DSP input terminal
41	VINFL	Lch volume Input terminal	56	INSBB	SBch DSP input terminal

■ BD3841FS (MAIN ASSY : IC101)

• 9ch Function Switch

■ Block Diagram



* F-SW1 : INPUT FUNCTION1
F-SW2 : INPUT FUNCTION2

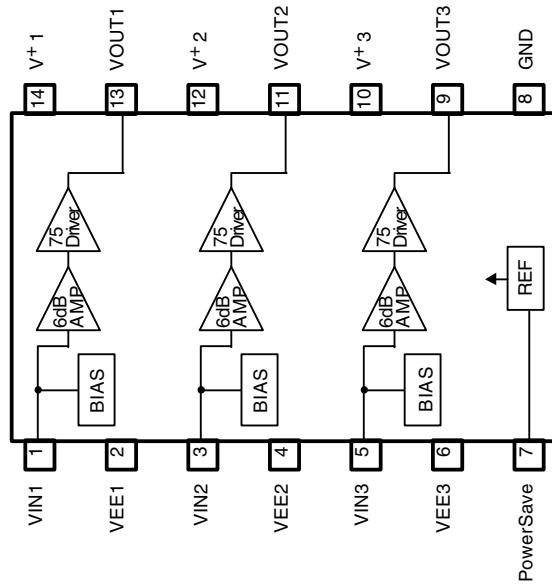
• Description of terminal

Terminal Number	Terminal Name	Description	Terminal Number	Terminal Name	Description
1	INA1	A 1ch input terminal	17	INI2	I 2ch input terminal
2	INA2	A 2ch input terminal	18	INI1	I 1ch input terminal
3	INB1	B 1ch input terminal	19	OUT2	2ch output terminal
4	INB2	B 2ch input terminal	20	OUT1	1ch output terminal
5	INC1	C 1ch input terminal	21	RECC2	C 2ch REC output terminal
6	INC2	C 2ch input terminal	22	RECC1	C 1ch REC output terminal
7	IND1	D 1ch input terminal	23	RECB2	B 2ch REC output terminal
8	IND2	D 2ch input terminal	24	RECB1	B 1ch REC output terminal
9	INE1	E1ch input terminal	25	RECA2	A 2ch REC output terminal
10	INE2	E 2ch input terminal	26	RECA1	A 1ch REC output terminal
11	INF1	F 1ch input terminal	27	VCC	(+)Power supply terminal
12	INF2	F 2ch input terminal	28	BIAS	Bias input terminal
13	ING1	G1ch input terminal	29	VEE	(-)Power supply terminal
14	ING2	G2ch input terminal	30	DA	Serial date anlatch input terminal
15	INH1	H 1ch input terminal	31	CL	Serial clock input terminal
16	INH2	H 2ch input terminal	32	DGND	Digital ground terminal

■ NJM2581 (COMPONENT ASSY : IC552)

• DUAL SUPPLY WIDE BAND 3ch VIDEO AMPLIFIER

■ Block Diagram



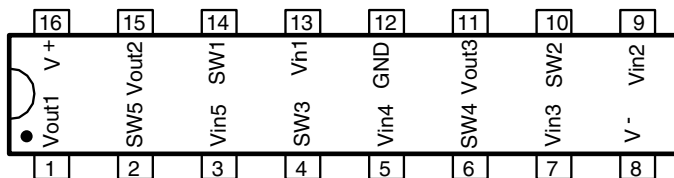
■ Equivalent Circuit

PIN No.	PIN NAME	FUNCTION	INSIDE EQUIVALENT CIRCUIT
1 3 5	VIN1 VIN2 VIN3	Input	
13 11 9	VOUT1 VOUT2 VOUT3	Output	
7	Power Save	Power Save	
14 12 10	V+1 V+2 V+3	V+	_____
2 4 6	VEE1 VEE2 VEE3	V-	_____
8	GND	GND	_____

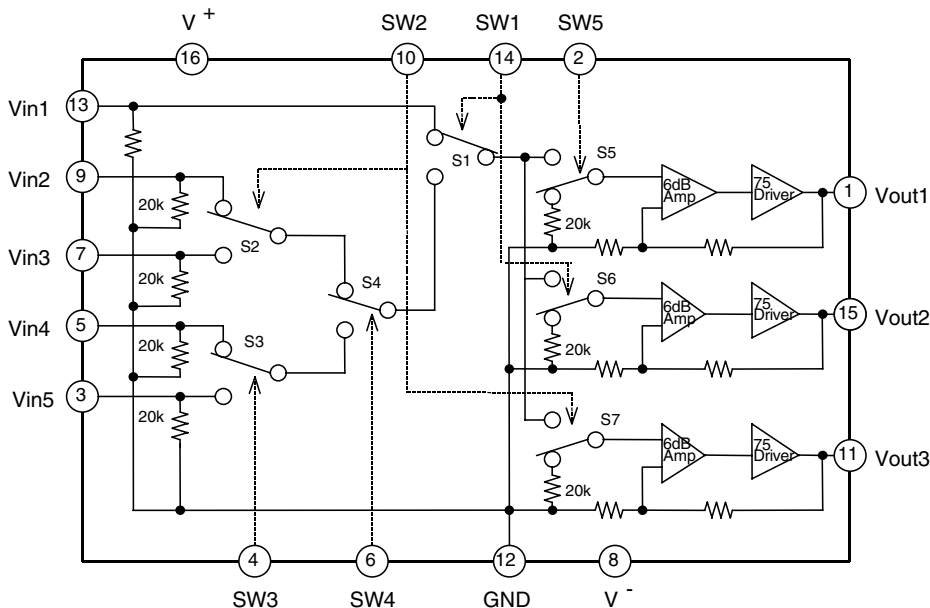
■ NJM2595 (VIDEO ASSY : IC301) (S. VIDEO ASSY : IC351, IC352)

• 5 input 3 output video SW for AV

■ Pin Arrangement (Top View)



■ Block Diagram



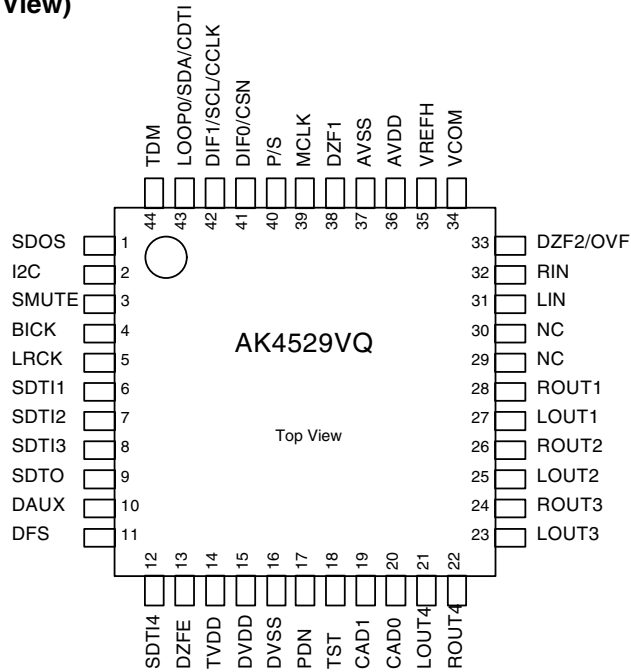
■ SW list for input and output (L=VCL,H=VCH,X=LorH)

SW1	SW2	SW3	SW4	SW5	Vout1	Vout2	Vout3
L	H	X	X	H	Vin1	MUTE	Vin1
	L			Vin1	MUTE	MUTE	
	H			MUTE	MUTE	Vin1	
H	L	X	L	H	Vin2	Vin2	MUTE
				L	MUTE	Vin2	MUTE
H	H	X	L	H	Vin3	Vin3	Vin3
				L	MUTE	Vin3	Vin3
H	H	L	H	H	Vin4	Vin4	Vin4
	H			L	MUTE	Vin4	Vin4
	L			H	Vin4	Vin4	MUTE
	L			L	MUTE	Vin4	MUTE
H	H	H	H	H	Vin5	Vin5	Vin5
	H			L	MUTE	Vin5	Vin5
	L			H	Vin5	Vin5	MUTE
	L			L	MUTE	Vin5	MUTE
L	L	X	X	L	MUTE	MUTE	MUTE

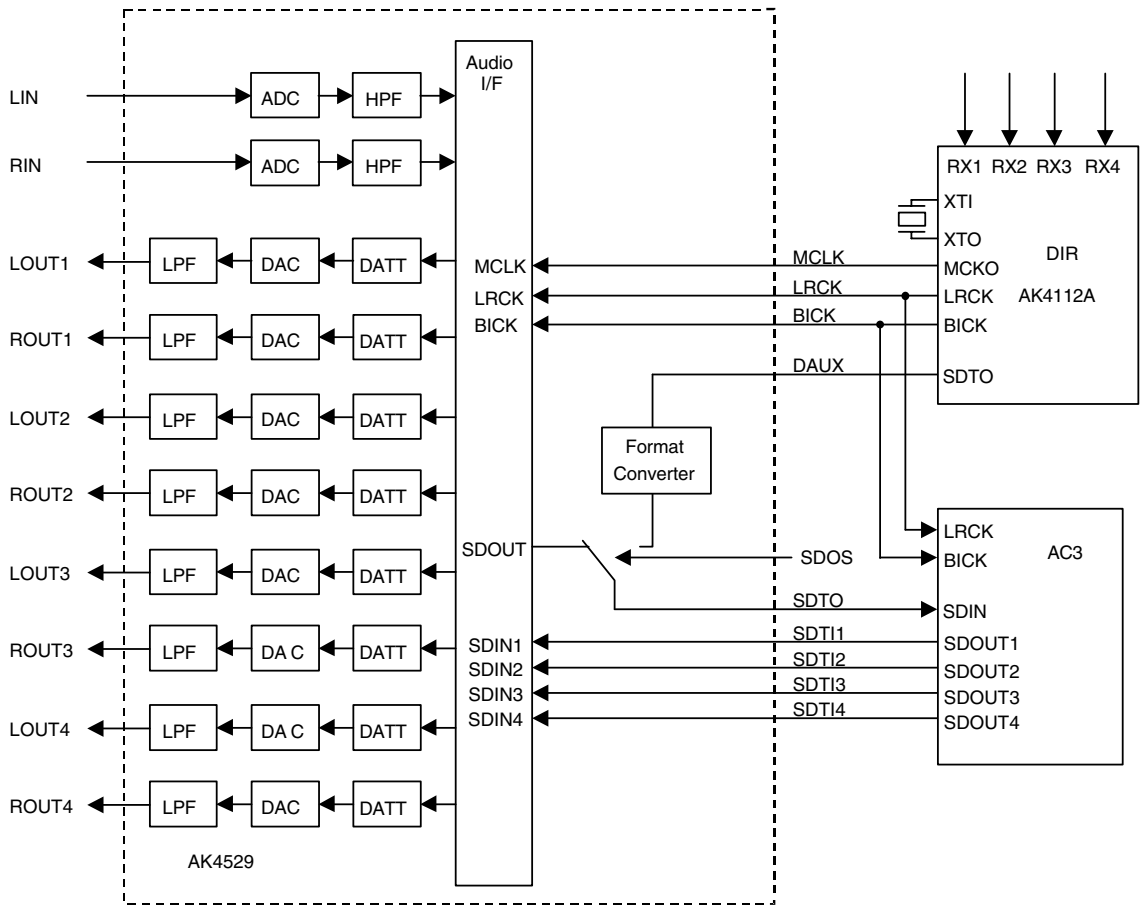
AK4529VQ (DSP ASSY : IC8401)

- High Performance Multi-channel Audio CODEC

Pin Arrangement (Top View)



Block Diagram



Block Diagram (DIR and AC-3 DSP are external parts)

• Pin Function

No.	Pin Name	I/O	Function
1	SDOS	I	SDTO Source Select Pin (Note 1) "L" : Internal ADC output, "H" : DAUX input SDOS pin should be set to "L" when TDM= "1".
2	I2C	I	Control Mode Select Pin "L" : 3-wire Serial, "H" : I ² C Bus
3	SMUTE	I	Soft Mute Pin (Note 1) When this pin goes to "H", soft mute cycle is initialized. When returning to "L", the output mute releases.
4	BICK	I	Audio Serial Data Clock Pin
5	LRCK	I	Input Channel Clock Pin
6	SDTI1	I	DAC1 Audio Serial Data Input Pin
7	SDTI2	I	DAC2 Audio Serial Data Input Pin
8	SDTI3	I	DAC3 Audio Serial Data Input Pin
9	SDTO	O	Audio Serial Data Output Pin
10	DAUX	I	AUX Audio Serial Data Input Pin
11	DFS	I	Double Speed Sampling Mode Pin (Note 1) "L" : Normal Speed, "H" : Double Speed
12	SDTI4	I	DAC4 Audio Serial Data Input Pin
13	DZFE	I	Zero Input Detect Enable Pin "L" : mode 7 (disable) at parallel mode, zero detect mode is selectable by DZFM3-0 bits at serial mode "H" : mode 0 (DZF1 is AND of all eight channels)
14	TVDD	-	Output Buffer Power Supply Pin, 2.7V~5.5V
15	DVDD	-	Digital Power Supply Pin, 4.5V~5.5V
16	DVSS	-	Digital Ground Pin, 0V
17	PDN	I	Power-Down & Reset Pin When "L", the AK4529 is powered-down and the control registers are reset to default state. If the state of P/S or CAD0-1 changes, then the AK4529 must be reset by PDN.
18	TST	I	Test Pin This pin should be connected to DVSS.
19	CAD1	I	Chip Address 1 Pin
20	CAD0	I	Chip Address 0 Pin
21	LOUT4	O	DAC4 Lch Analog Output Pin
22	ROUT4	O	DAC4 Rch Analog Output Pin

• Pin Function

No.	Pin Name	I/O	Function
23	LOUT3	O	DAC3 Lch Analog Output Pin
24	ROUT3	O	DAC3 Rch Analog Output Pin
25	LOUT2	O	DAC2 Lch Analog Output Pin
26	ROUT2	O	DAC2 Rch Analog Output Pin
27	LOUT1	O	DAC1 Lch Analog Output Pin
28	ROUT1	O	DAC1 Rch Analog Output Pin
29	NC	-	No Connect No internal bonding.
30	NC	-	No Connect No internal bonding.
31	LIN	I	Lch Analog Input Pin
32	RIN	I	Rch Analog Input Pin
33	DZF2	O	Zero Input Detect 2 Pin (Note 2) When the input data of the group 1 follow total 8192 LRCK cycles with "0" input data, this pin goes to "H".
	OVF	O	Analog Input Overflow Detect Pin (Note 3) This pin goes to "H" if the analog input of Lch or Rch is overflows.
34	VCOM	O	Common Voltage Output Pin, AVDD/2 Large external capacitor around 2.2μF is used to reduce power-supply noise.
35	VREFH	I	Positive Voltage Reference Input Pin, AVDD
36	AVDD	-	Analog Power Supply Pin, 4.5V~5.5V
37	AVSS	-	Analog Ground Pin, 0V
38	DZF1	O	Zero Input Detect 1 Pin (Note 2) When the input data of the group 1 follow total 8192 LRCK cycles with "0" input data, this pin goes to "H".
	MCLK	I	Master Clock Input Pin
40	P/S	I	Parallel/Serial Select Pin "L" : Serial control mode, "H" :Parallel control mode
41	DIF0	I	Audio Data Interface Format 0 Pin in parallel control mode
	CSN	I	Chip Select Pin in 3-wire serial control mode This pin should be connected to DVDD at I ² C bus control mode
42	DIF1	I	Audio Data Interface Format 1 Pin in parallel control mode
	SCL/CCLK	I	Control Data Clock Pin in serial control mode I2C= "L" : CCLK (3-wire Serial), I2C = "H" : SCL (I ² C Bus)
43	LOOP0	I	Loopback Mode 0 Pin in parallel control mode Enables digital loop-back from ADC to 4 DACs.
	SDA/CDTI	I/O	Control Data Input Pin in serial control mode I2C= "L" : CDTI (3-wire Serial), I2C = "H" : SDA (I ² C Bus)
44	TDM	I	TDM I/F Format Mode Pin (Note 1) "L" : Normal format, "H" :TDM format

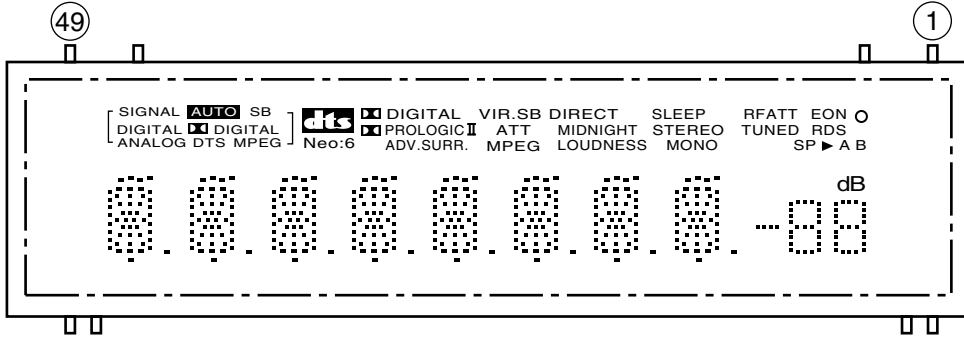
- Notes: 1. SDOS, SMUTE, DFS, and TDM pins are ORed with register data if P/S = "L".
 2. The group 1 and 2 can be selected by DZFM3-0 bits if P/S = "L" and DZFE = "L".
 3. This pin becomes OVF pin if OVFE bit is set to "1" at serial control mode.
 4. All input pins should not be left floating.

7.2.2 DISPLAY

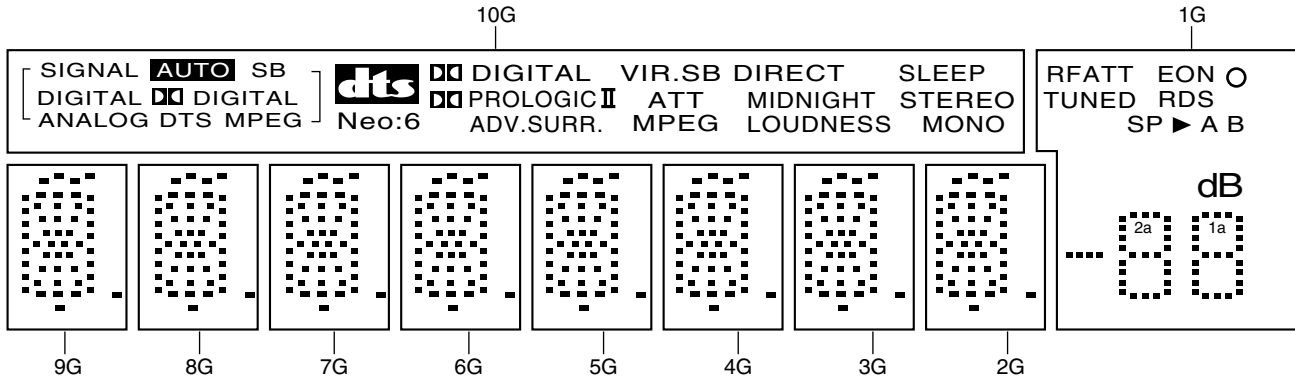
■ XAV3018 (FRONT ASSY : V401)

• FL DISPLAY

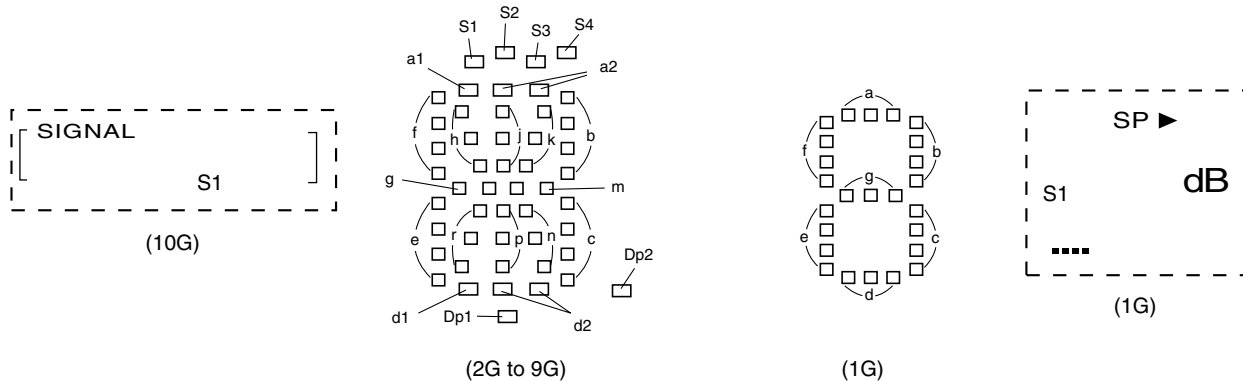
• Pin Assignment



• Grid Assignment



• Segment Designation







• Pin Connection

Pin No.	49	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25
Connection	F2	F2	NP	NP	P22	P21	P20	P19	P18	P17	P16	P15	P14	P13	P12	P11	P10	P9	P8	P7	P6	P5	P4	P3	P2
Pin No.	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	
Connection	P1	NX	NX	NX	NX	NX	NX	NX	NX	NX	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G	NP	NP	F1	F1	

- NOTE
- 1) F1, F2..... Filament
 - 2) NP..... No pin
 - 3) NX..... No extend pin
 - 4) DL..... Datum Line
 - 5) 1G to 10G..... Grid
 - 6) Field of vision is a minimum of 21.8° from the lower side.

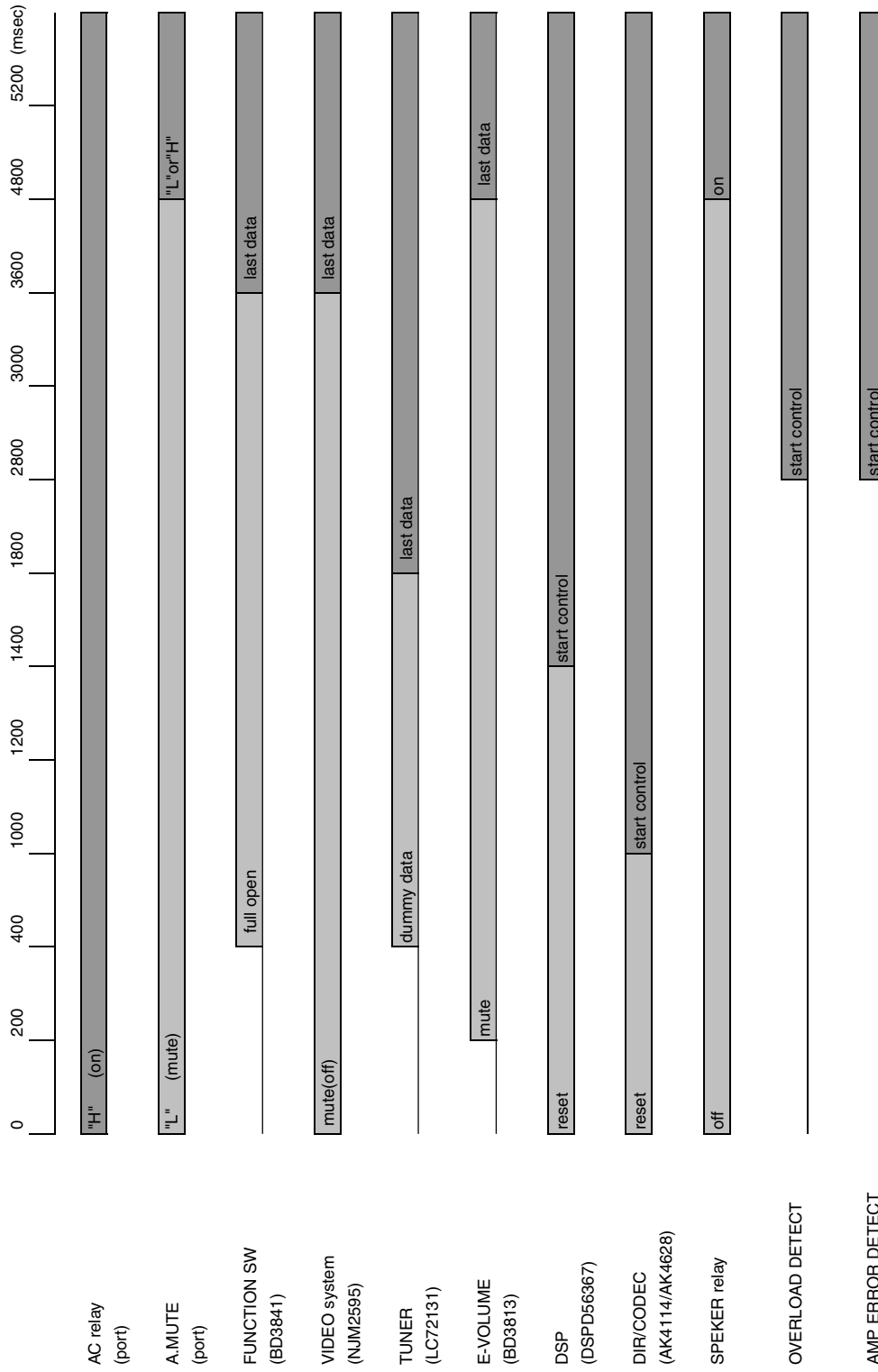
• Anode Connection

	10G	9G-2G	1G
P1	S1	a1	RFATT
P2	AUTO	a2	EON
P3	SB	h	○
P4	DIGITAL	j	TUNED
P5	ANALOG	k	RDS
P6	 DIGITAL (L)	b	S1
P7	DTS	f	A
P8	MPEG	m	B
P9		g	1a
P10	MPEG	c	1b
P11	 DIGITAL (R)	e	1f
P12	 PROLOGIC II	r	1g
P13	Neo:6	p	1c
P14	VIR.SB	n	1e
P15	ADV.SURR.	d1	1d
P16	ATT	d2	2a
P17	DIRECT		2b
P18	MIDNIGHT		2f
P19	LOUDNESS	S1	2g
P20	SLEEP	S4	2c
P21	STEREO	S2	2e
P22	MONO	S3	2d

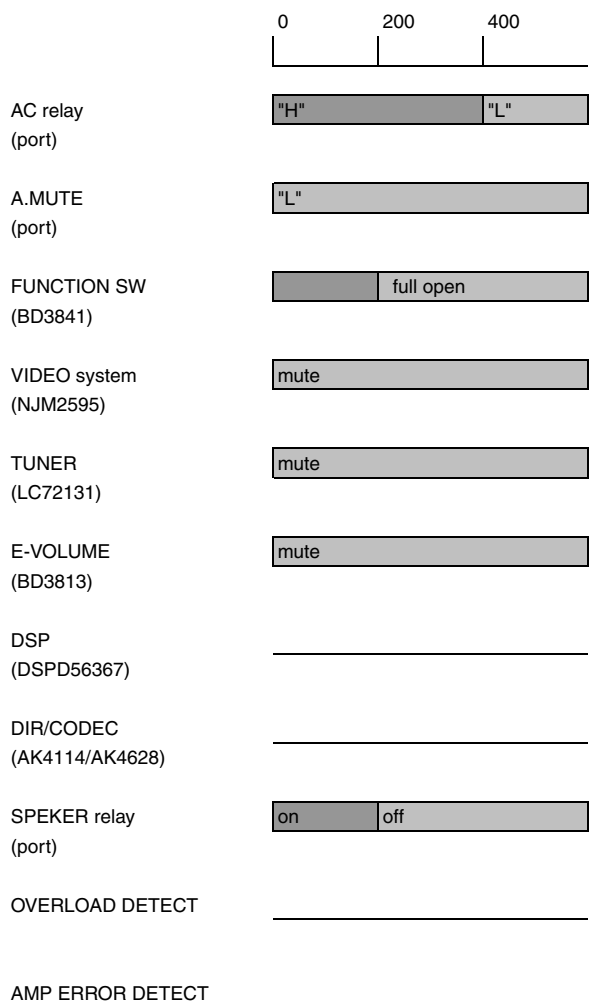
7.3 EXPLANATION

7.3.1 POWER ON AND OFF INITIAL TIMING CHART

POWER ON INITIAL TIMING CHART



■ POWER OFF INITIAL TIMING CHART



A

B

C

D

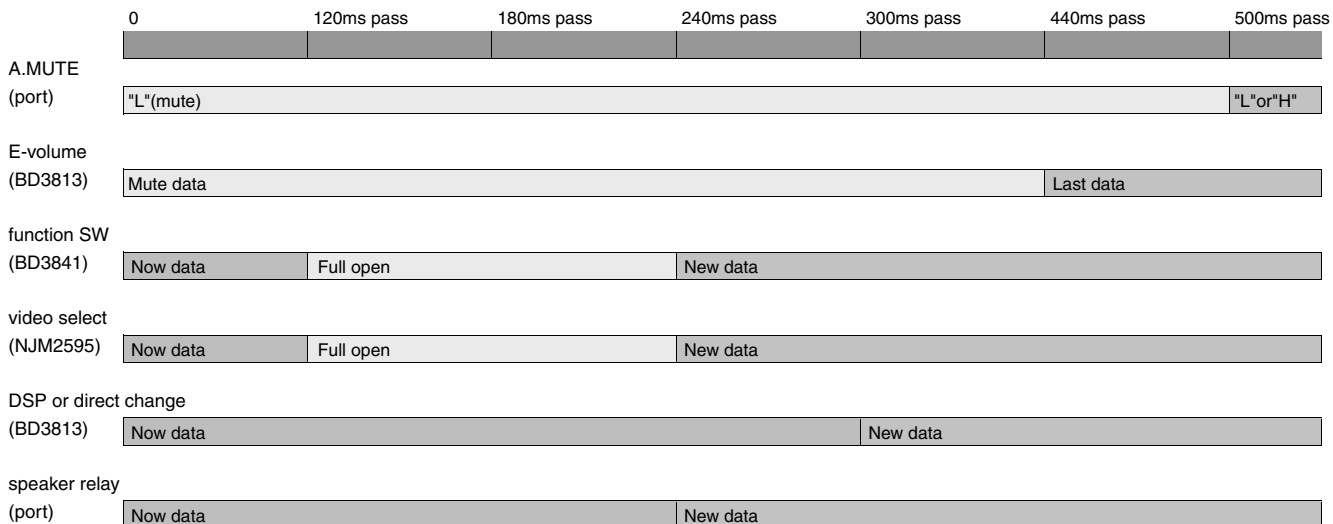
E

F

7.3.2 IC DATA TRANSMISSION TIMING CHART

A ■ IC data transmission timing chart

1. When function change

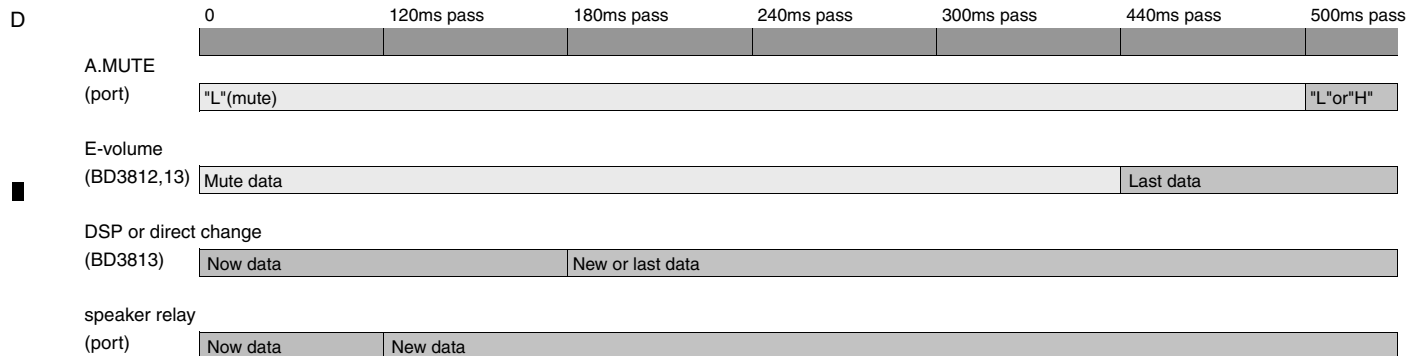


C

condition of mute cancel (system mute & E-volume mute)

- 1) when tuner mute during Tuner function
- 2) when communicate to DSP
- 3) when initial processing
- 4) when detect trouble of AMP DC
- 5) when detect overload of AMP
- 6) when Power off
- 7) when muting by key input

2. When except function change



E

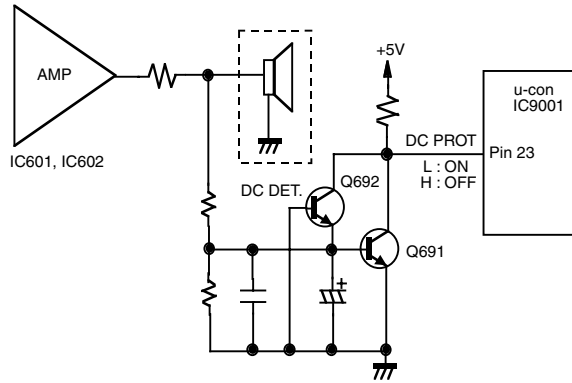
condition of mute cancel (system mute & E-volume mute)

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- 5) when detect overload of AMP
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- 7) when muting by key input

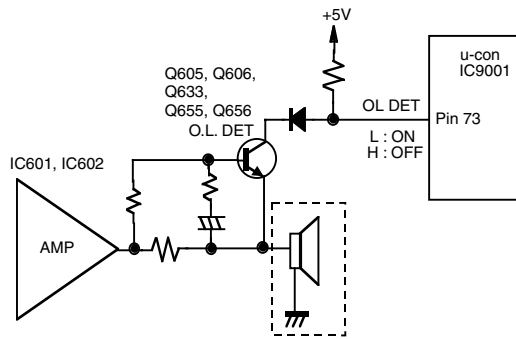
F

7.3.3 DETECTION CIRCUIT

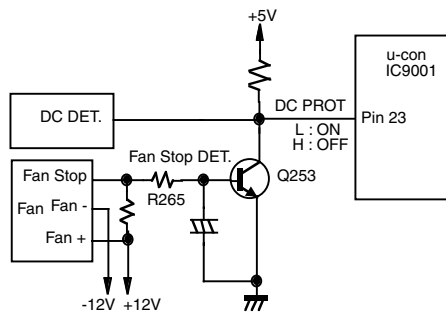
1. DC Detection Circuit Diagram:



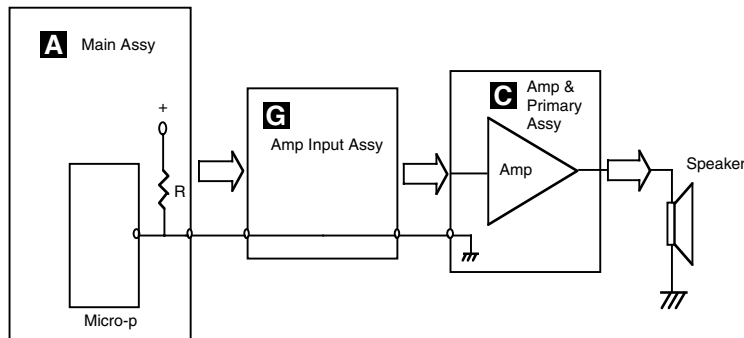
2. Overload Detection Circuit Diagram:



3. Fan Stop Protection Circuit Diagram:



4. PCB Board Protection Circuit Diagram



7.3.4 AMPLIFIER SYSTEM PROTECTION OPERATION SPECIFICATION

1. DC-abnormality detection

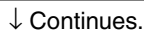
In the case of simultaneous detection with the overload protection circuit, DC-abnormality detection is performed preferentially to overload detection.

When a DC abnormality is detected, A.MUTE* is turned on, speaker relay is turned off, then "AMP_ERR" flashes on the display.

*A.MUTE : Audio mute command



The abnormality continues for 3 seconds.



The power is shut off.



The program restarts.



The power key is disabled and Standby LED blinks.

But be switched on with the following methods.

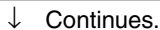
- ① TESTMODE ON (A55F+A55F)
- ② When power off, push FRONT ENTER key + ADVANCED SURROUND key continuously 2sec.
(②: When a DC abnormality is detected and the power is shut off.)

2. Overload detection

When an overload is detected, A.MUTE* is turned on, speaker relay is turned off, then "OVERLOAD" flashes on the display.



The abnormality continues for 3 seconds.



The power is shut off.



The power is shut off even if the unit recovers.

3. Board detection

In the case of simultaneous detection with the overload protection circuit, Board detection is performed preferentially to DC-abnormality detection and Overload detection.

When an board error is detected, A.MUTE* is turned on, speaker relay is turned off, then "BOARD ERR" flashes on the display.



The abnormality continues for 3 seconds.



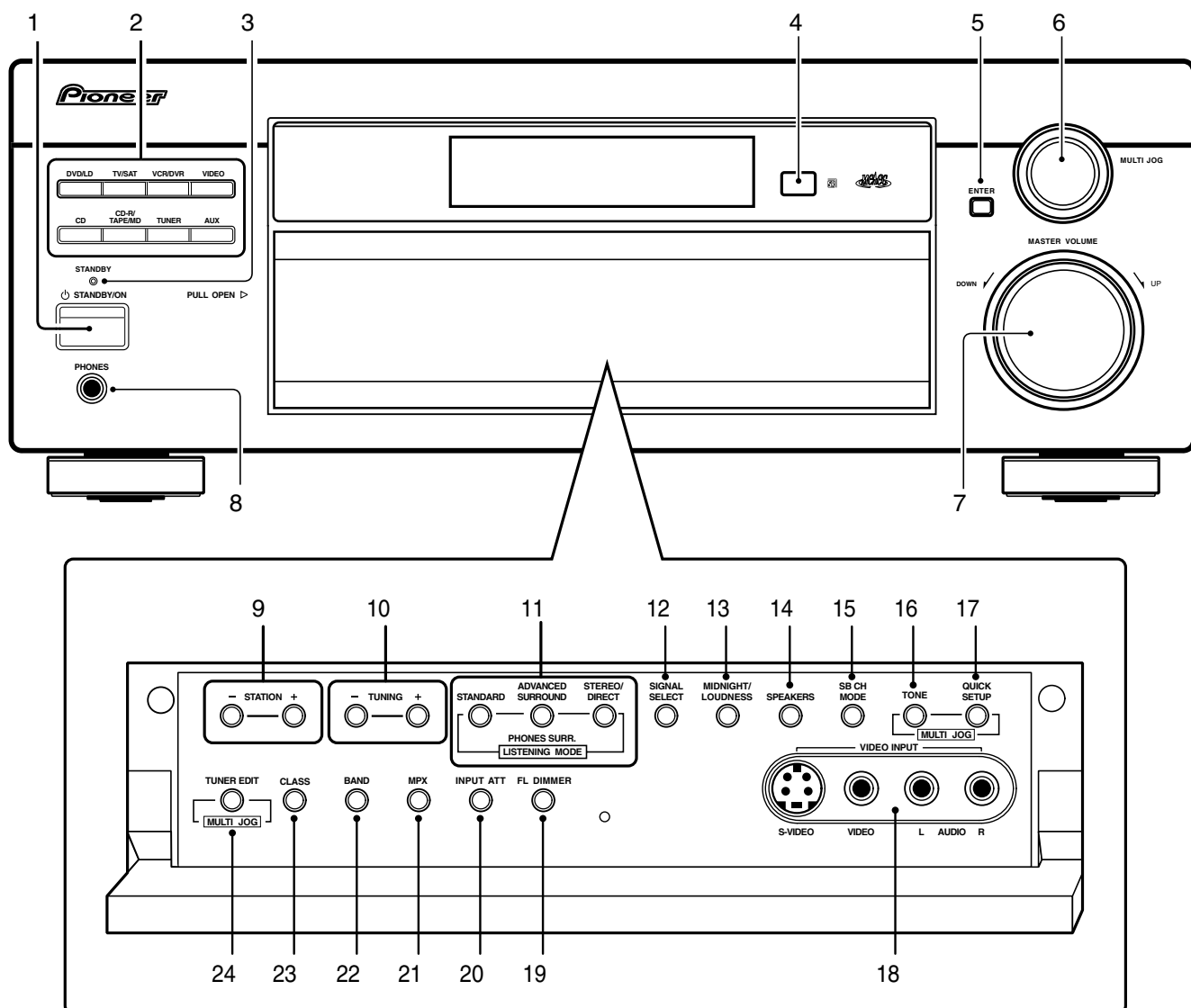
The power is shut off.



The power is shut off even if the unit recovers.

8. PANEL FACILITIES

Front panel



1 STANDBY/ON

Switches the receiver between on and standby.

2 Input select buttons

Press to select an input source.

3 STANDBY indicator

Lights when the receiver is in standby mode.

4 Remote sensor

Receives the signals from the remote control.

5 ENTER

6 MULTI JOG dial

The MULTI JOG dial performs a number of tasks. Use it to select options after pressing TONE, QUICK SETUP or TUNER EDIT.

7 MASTER VOLUME

8 PHONES jack

Use to connect headphones. When the headphones are connected, there is no sound output from the speakers.

9 STATION +/- buttons

Selects station presets when using the tuner.

10 TUNING +/- buttons

Selects the frequency when using the tuner.

11 LISTENING MODE buttons

STANDARD

Press for Standard decoding and to switch between the various Pro Logic II and Neo:6 options.

ADVANCED SURROUND

Use to switch between the various surround modes.

STEREO/DIRECT

Switches between direct and stereo playback. Direct playback bypasses the tone controls and channel levels for the most accurate reproduction of a source.

12 SIGNAL SELECT

Use to select an input signal.

13 MIDNIGHT/LOUDNESS

Use Midnight when listening to movie soundtracks at low volume. Use Loudness to boost the bass and treble at low volume.

14 SPEAKERS

Use to cycle through the speaker system:
A → B → A+B

15 SB CH MODE

Selects the surround back channel mode and the Virtual Surround Back (VSB) mode.

16 TONE

Press this button to access the bass and treble controls, which you can then adjust with the MULTI JOG dial.

17 QUICK SETUP

See Using the Quick Setup.

18 VIDEO INPUT

See Connecting to the front panel video terminal.

19 FL DIMMER

Use this button to make the fluorescent display (FL) dimmer or brighter.

20 INPUT ATT

Use to attenuate (lower) the level of an analog input signal to prevent distortion.

21 MPX

Press to receive a radio broadcast in mono.

22 BAND

Switches between AM and FM radio bands.

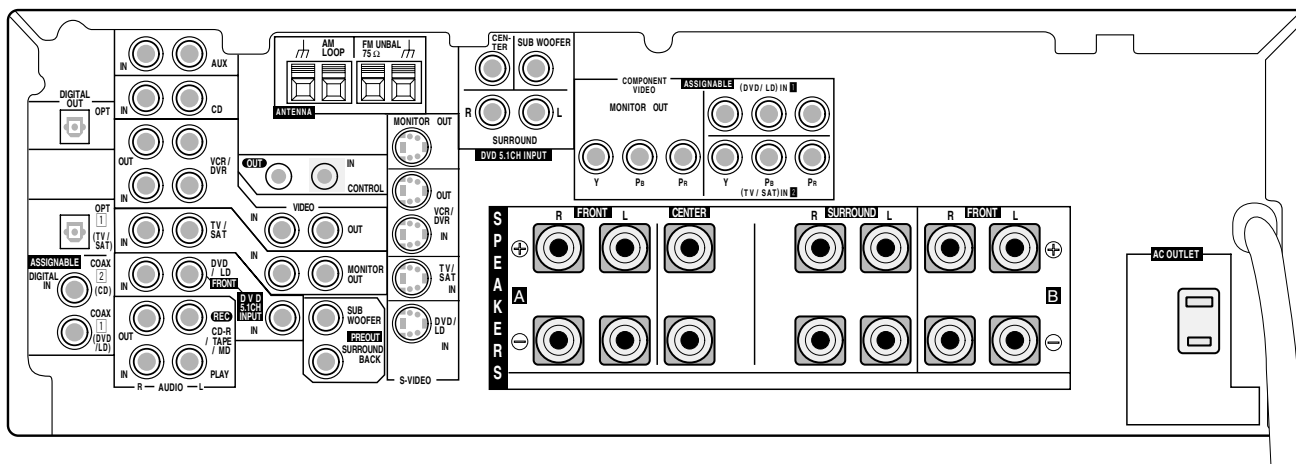
23 CLASS

Switches between the three banks (classes) of station presets.

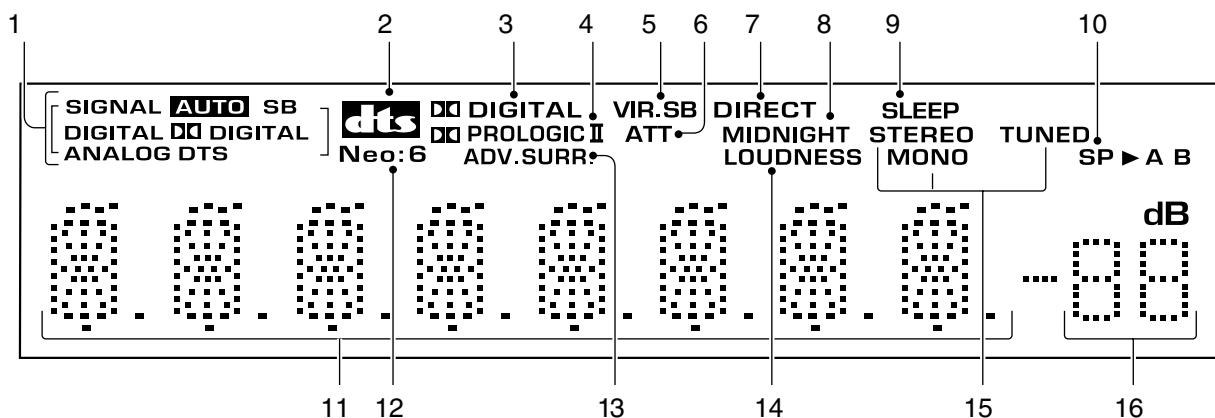
24 TUNER EDIT

Press to memorize and name a station for recall.

Rear panel



Display



1 SIGNAL SELECT indicators

Lights to indicate the type of input signal assigned for the current component:

AUTO

Lights when AUTO signal select is on.

SB

Depending on the source, this lights when a signal with surround back channel encoding is detected.

DIGITAL

Lights when a digital audio signal is detected.

▣ DIGITAL

Lights when a Dolby Digital encoded signal is detected.

ANALOG

Lights when an analog signal is detected.

DTS

Lights when a source with DTS encoded audio signals is detected.

2 DTS

When the STANDARD mode of the receiver is on, this lights to indicate decoding of a DTS signal.

3 ▣ DIGITAL

When the STANDARD mode of the receiver is on, this lights to indicate decoding of a Dolby Digital signal.

4 ▣ PRO LOGIC II

When the (STANDARD) Pro Logic II mode of the receiver is on, this lights to indicate Pro Logic II decoding.

5 VIR.SB

Lights during Virtual surround back processing.

6 ATT

Lights when INPUT ATT is used to attenuate (reduce) the level of the analog input signal.

7 DIRECT

Lights when source direct playback is in use. Direct playback bypasses the tone controls and channel levels for the most accurate reproduction of a source.

8 MIDNIGHT

Lights during Midnight listening.

9 SLEEP

Lights when the receiver is in sleep mode.

10 Speaker indicator

Shows the speaker system currently in use.

11 Character display

12 Neo:6

When the (STANDARD) NEO:6 mode of the receiver is on, this lights to indicate NEO:6 processing.

13 ADV.SURR. (Advanced Surround)

Lights when one of the Advanced Surround modes has been selected.

14 LOUDNESS

Lights when LOUDNESS has been selected.

15 TUNER indicators

STEREO

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

MONO

Lights when the mono mode is set using the MPX button.

TUNED

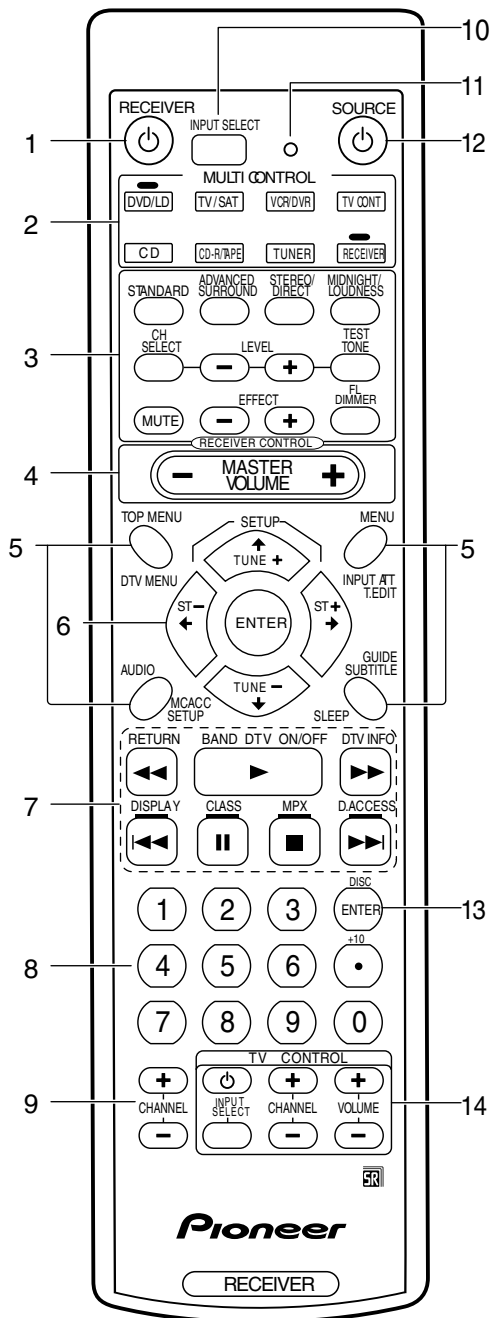
Lights when a broadcast is being received.

16 Master volume level

Shows the overall volume level. ---dB indicates the minimum level, and -0 dB indicates the maximum level.

Depending on your level settings for each channel, the maximum volume can range between -10 dB and -0 dB.

Remote control



1 RECEIVER

This switches between standby and on for this receiver.

2 MULTI CONTROL buttons

Press to select control of other components (see Controlling the rest of your system on).

RECEIVER

Switches the remote to control the receiver (used to select the features such as SLEEP, MCACC SETUP, etc). Also use this button to set up surround sound.

3 RECEIVER CONTROL buttons

STANDARD

Press for Standard decoding and to switch between the various Pro Logic II and Neo:6 options.

ADVANCED SURROUND

Use to switch between the various surround modes.

STEREO/DIRECT

Switches between direct and stereo playback. Direct playback bypasses the tone controls and channel levels for the most accurate reproduction of a source.

MIDNIGHT/LOUDNESS

Switches to Midnight or Loudness listening.

CH SELECT

Selects a speaker when setting up the surround sound of the receiver.

LEVEL +/-

Adjusts the levels of the surround sound of the receiver.

TEST TONE

Sounds the test tone when setting up the surround sound of the receiver.

MUTE

Mutes the sound (or restores the sound if it has been muted).

EFFECT +/-

Adds or subtracts the amount of effect with different advanced surround modes.

FL DIMMER

Dims or brightens the display.

4 MASTER VOLUME +/-

Use to set the listening volume.

5 Receiver and component control buttons (Press the corresponding **MULTI CONTROL** button first to access).

These controls function according to the component you've selected.

TOP MENU

Displays the disc 'top' menu of a DVD.

DTV MENU

Displays menus on a digital TV.

AUDIO

Changes the audio language or channel with DVD discs.

MCACC SETUP

Use to setup your speaker system using the multi-channel acoustic calibration system.

MENU

Displays the disc menu of DVD-Video discs. It also displays TV and DTV menus.

INPUT ATT

Attenuates (lowers) the level of an analog input signal to prevent distortion.

T.EDIT

Use to memorize and name a station for recall using the **STATION +/-** buttons.

GUIDE

Displays the guides on a digital TV.

SUBTITLE

Displays/changes the subtitles included in multilingual DVD-Video discs.

SLEEP

Use to put the receiver in sleep mode and select the amount of time before the receiver turns off.

6 (TUNE +/-, ST +/-) /ENTER

Use the arrow buttons when setting up your surround sound system. Also used to control DVD menus/options and for deck 1 of a double cassette deck player. Use the TUNE +/- buttons to find radio frequencies and use ST +/- to find preset stations.

7 Component/Tuner control buttons

The main buttons (, , etc.) are used to control a component after you have selected it using the **MULTI CONTROL** buttons. The tuner/DTV controls above these buttons can be accessed after you have selected the corresponding **MULTI CONTROL** button (**TUNER** or **TV/SAT** (when connected to DTV)).

RETURN

Returns to the last screen selected when using a digital TV tuner.

BAND DTV ON/OFF

Switches between the tuner AM and FM bands. Also switches a digital TV on/off.

DTV INFO

Use to bring up information screens on a digital TV.

DISPLAY

Use to switch the display between the station preset name and the frequency for the tuner.

CLASS

Switches between the three banks (classes) of radio station presets.

MPX

Switches between stereo and mono reception of FM broadcasts. If the signal is weak then switching to mono will improve the sound quality.

D.ACCESS

After pressing, you can access a radio station directly using the number buttons.

8 Number buttons

Use the number buttons to directly select a radio frequency or the tracks on a CD, DVD, etc.

9 CHANNEL +/-

Use to select channels when using a VCR, DVR, etc. Also use to skip tracks backward or forward on CDs, DVDs, etc.

10 INPUT SELECT

Use to select the input source.

11 LED

This lights when a command is sent from the remote control.

12 SOURCE

Press to turn on/off other components connected to the receiver.

13 DISC (ENTER)

The button's use depends on the component selected. It can be used to enter commands for TV or DTV, and can also be used to select a disc in a multi-CD player.

14 TV CONTROL buttons

These buttons are dedicated to control the TV assigned to the TV CONT button. Thus if you only have one TV to hook up to this system assign it to the TV CONT **MULTI CONTROL** button. If you have two TVs, assign the main TV to the TV CONT button.

Use to turn on/off the power of the TV.

(TV CONTROL) INPUT SELECT

Use select the TV function.

CHANNEL +/-

Use to select channels.

VOLUME +/-