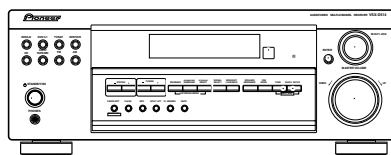


# Service Manual



VSX-D514-K

ORDER NO.  
**RRV2901**

AUDIO/VIDEO MULTI-CHANNEL RECEIVER

# VSX-D514-K

## VSX-D514-S

## VSX-D414-K

## VSX-D414-S

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

Model	Type	Power Requirement	Remarks
VSX-D514-K	KUCXJI	AC120V	
VSX-D514-S	KUCXJI	AC120V	
VSX-D414-K	KUCXJI	AC120V	
VSX-D414-S	KUCXJI	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.

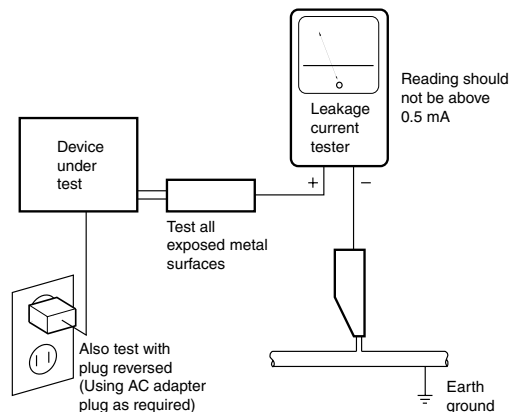
(FOR USA MODEL ONLY)

## 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 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

## Specifications (VSX-D514)

### 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  
(20–20,000 Hz, THD 0.2 %, 8Ω)

#### Continuous Power Output (Surround)

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

#### Input (Sensitivity/Impedance)

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

#### Frequency Response

CD, DVR/VCR, CD-R/TAPE/MD, DVD/LD,  
TV/SAT..... 5 Hz to 100,000 Hz  $\pm 0.5$  dB

#### Output (Level/Impedance)

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

#### Tone Control

BASS .....  $\pm 6$  dB (100 Hz)  
TREBLE.....  $\pm 6$  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, DVR/VCR, CD-R/TAPE/MD,  
DVD/LD, TV/SAT..... 96 dB

#### Signal to Noise Ratio

##### [EIA, at 1 W (1 kHz)]

CD, DVR/VCR, CD-R/TAPE/MD,  
DVD/LD, TV/SAT ..... 79 dB

### Video Section

#### Input (Sensitivity/Impedance)

DVR/VCR, DVD/LD, TV/SAT..... 1 Vp-p/75Ω

#### Output (Level/Impedance)

DVR/VCR..... 1 Vp-p/75Ω

#### Frequency Response

DVR/VCR, DVD/LD,  
TV/SAT⇒MONITOR..... 5 Hz to 7 MHz  $\pm 0.5$  dB  
Signal-to-Noise Ratio ..... 55 dB  
Cross Talk ..... 55 dB

### FM Tuner Section

Frequency Range..... 87.5 MHz to 108 MHz  
Usable Sensitivity..... Mono: 13.2 dBf, IHF  
(1.3  $\mu$ V/ 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 Separation ..... 40 dB (1 kHz)  
Frequency Response..... 30 Hz to 15 kHz  
( $\pm 1$  dB)  
Antenna Input (DIN) ..... 75Ω unbalanced

### AM Tuner Section

Frequency Range..... 530 kHz to 1,700 kHz  
Sensitivity (IHF, Loop antenna)..... 350  $\mu$ V/m  
Signal-to-Noise Ratio ..... 50 dB  
Antenna ..... Loop antenna

## Specifications (VSX-D414)

### Amplifier Section

#### Continuous Power Output (Stereo RMS)

Front ..... 120 W  
(1 kHz, THD 0.2 %, 8Ω)

#### Continuous Power Output (Surround RMS)

Front ..... 120 W per channel  
(1kHz, THD 10 %, 8Ω)  
Center.....120 W (1kHz, THD 10 %, 8Ω)  
Surround ..... 120 W per channel  
(1kHz, THD 10 %, 8Ω)

#### Input (Sensitivity/Impedance)

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

#### Frequency Response

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

#### Output (Level/Impedance)

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

#### Tone Control

BASS.....  $\pm 6$  dB (100 Hz)  
TREBLE.....  $\pm 6$  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, DVR/VCR, CD-R/TAPE/MD,  
DVD/LD, TV/SAT..... 96 dB

#### Signal-to Noise Ratio

##### [EIA, at 1 W (1 kHz)]

CD, DVR/VCR, CD-R/TAPE/MD,  
DVD/LD, TV/SAT..... 79 dB

### Miscellaneous

Power Requirements ..... AC 120 V, 60 Hz  
Power Consumption ..... 260 W  
In Standby..... 0.5 W  
AC Outlet ..... 100 W MAX. (SWITCHED)  
Dimensions  
..... 420 (W) x 158 (H) x 393 (D) mm  
(16-9/16 (W) x 6-1/4 (H) x 15-1/2 (D) in.)  
Weight (without package) ..... 9.3 kg  
(20.5 lb)

#### Furnished Parts

AM loop antenna..... 1  
FM wire antenna ..... 1  
Dry cell batteries (AA size IEC R6)..... 2  
Remote control ..... 1  
Operating instructions ..... 1  
Warranty Card ..... 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

## Video Section

### Input (Sensitivity/Impedance)

DVR/VCR, DVD/LD, TV/SAT.....1 Vp-p/75Ω

### Output (Level/Impedance)

DVR/VCR .....1 Vp-p/75Ω

### Frequency Response

DVR/VCR, DVD/LD,

TV/SAT⇒MONITOR ..... 5 Hz to 7 MHz  $\pm 0.5$  dB

Signal-to-Noise Ratio .....55 dB

Cross Talk .....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 Separation .....40 dB (1 kHz)

Frequency Response.....30 Hz to 15 kHz  
(±1 dB)

Antenna Input (DIN) .....75 unbalanced

## AM Tuner Section

Frequency Range ..... 530 kHz to 1,700 kHz

Sensitivity (IHF, Loop antenna)..... 350 μV/m

Signal-to-Noise Ratio.....50 dB

Antenna ..... Loop antenna

## Miscellaneous

Power Requirements.....AC 120 V,60 Hz

Power Consumption ..... 260 W

In Standby..... 0.5 W

AC Outlet ..... 100 W MAX. (SWITCHED)

Dimensions

..... 420 (W) x 158 (H) x 393 (D) mm

(16-9/16 (W) x 6-1/4 (H) x 15-1/2 (D) in.)

Weight (without package) .....9.3 kg

(20.5 lb)

## Furnished Parts

AM loop antenna..... 1

FM wire antenna ..... 1

Dry cell batteries (AA size IEC R6).....2

Remote control ..... 1

Operating instructions ..... 1

Warranty Card ..... 1



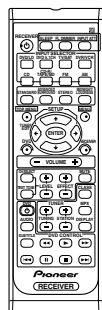
### Note

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

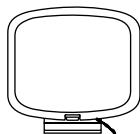
\* Measured pursuant to the Federal Trade Commission's Trade Regulation rule on Power Output Claims for Amplifiers.

\*\* Measured by Audio Spectrum Analyzer

## Accessories



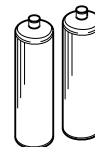
Remote control unit  
(XXD3067)



AM loop antenna  
(ATB7013)




FM wire antenna  
(ADH7030)



AA size IEC R6  
Dry cell batteries (x2)

## 2. EXPLODED VIEWS AND PARTS LIST

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

● The  mark found on some component parts indicates the importance of the safety factor of the part.

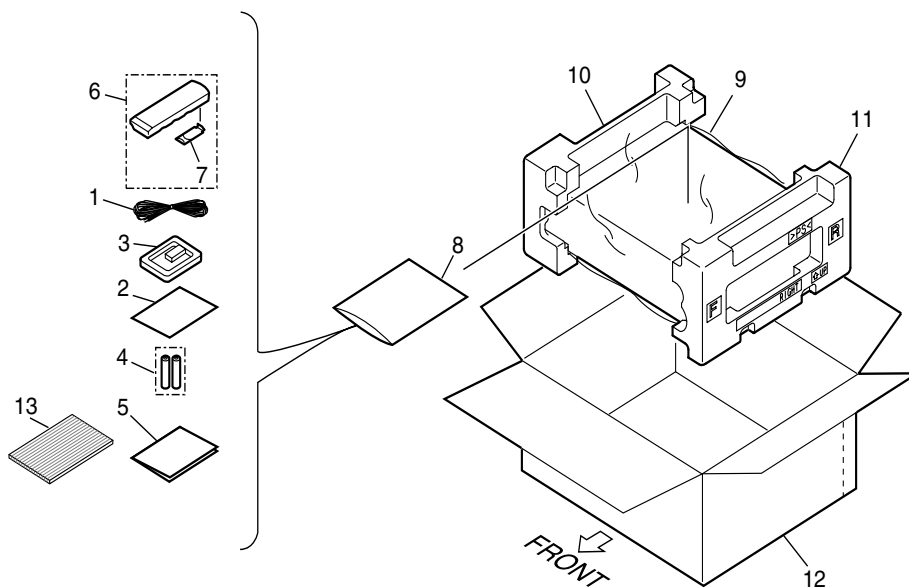
Therefore, when replacing, be sure to use parts of identical designation.

● Screws adjacent to ▼ mark on product are used for disassembly.

● For the applying amount of lubricants or glue, follow the instructions in this manual.

(In the case of no amount instructions, apply as you think it appropriate.)

### 2.1 PACKING





## PACKING 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	FM wire antenna	ADH7030	7	Battery Cover	XZN3139
NSP 2	Warranty Card	ARY7045	NSP 8	Literature Bag	AHG1180
3	AM loop antenna	ATB7013	9	Packing Sheet	AHG7069
NSP 4	Dry cell batteries (AA/R6)	VEM1031	10	Left Pad V1	XHA3141
5	Operating instructions (English)	XRE3077	11	Right Pad V1	XHA3142
			12	Packing Case	See Contrast table(2)
6	Remote Control Unit	XXD3067	NSP 13	Accessory Board	XHB3008

## (2) CONTRAST TABLE

VSX-D514-K/KUCXJI, VSX-D514-S/KUCXJI, VSX-D414-K/KUCXJI and VSX-D414-S/KUCXJI are constructed the same except for the following :

Mark	No.	Symbol and Description	VSX-D514-K/ KUCXJI	VSX-D514-S/ KUCXJI	VSX-D414-K/ KUCXJI	VSX-D414-S/ KUCXJI
	12	Packing Case	XHD3387	XHD3389	XHD3408	XHD3409

## 2.2 EXTERIOR SECTION

A

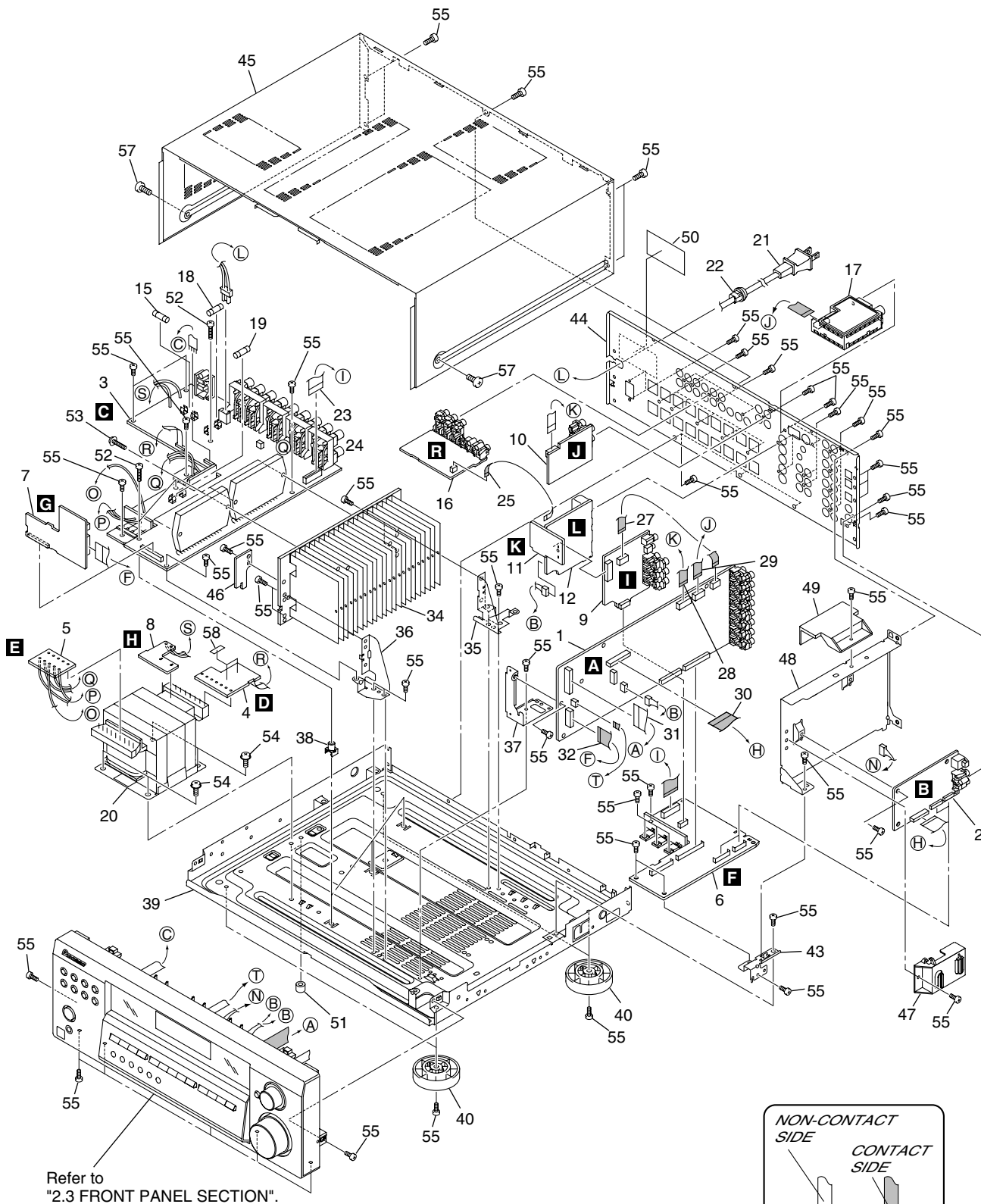
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## EXTERIOR SECTION parts List

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	MAIN Assy	See Contrast table(2)	31	J31 17P F.F.C/30V	XDD3118
2	DSP Assy	AWX8418	32	J35 19P F.F.C/30V	XDD3101
3	AMP & PRIMARY Assy	See Contrast table(2)	33	••••••••	
4	TRANS2 Assy	XWZ3808	NSP 34	Heatsink 0.4	ANH7109
5	TRANS3 Assy	XWZ3812	35	Heat Sink Angle R	ANG7252
6	REGULATOR Assy	XWZ3796	36	Heat Sink Angle F	ANG7251
7	AMP INPUT Assy	XWZ3800	37	PCB Angle R5	XNG3073
8	TRANS1 Assy	XWZ3805	38	PCB Mold	AMR2533
9	VIDEO Assy	See Contrast table(2)	NSP 39	Under Base R6	XNA3012
10	5.1CH Assy	See Contrast table(2)	40	Insulator	PNW2766
11	B TO B Assy	See Contrast table(2)	41	••••••••	
12	S. VIDEO Assy	See Contrast table(2)	42	••••••••	
13	••••••••		43	REG Support R6	XNG3093
14	••••••••		44	Rear Panel	See Contrast table(2)
⚠ 15	FU2 Fuse (8A)	REK1086	45	Bonnet	See Contrast table(2)
16	COMPONENT Assy	See Contrast table(2)	NSP 46	HOLDER Assy	XWZ3819
17	FM/AM TUNER UNIT	AXX7172	47	FFC Holder R6	XMR3072
⚠ 18	FU1 Fuse (10A)	REK1087	48	Shield A R6	XNG3068
⚠ 19	FU701 Fuse (10A)	REK1087	49	FFC Cover R6	XMR3060
⚠ 20	T1 Power Transformer	XTS3084	NSP 50	N Label	See Contrast table(2)
⚠ 21	AC Power Cord	ADG7024	NSP 51	Spacer	AEB7092
22	Cord Stopper	CM-22C	52	Screw	BBZ30P200FTC
23	J36 23P F.F.C/30V	XDD3102	53	Screw 3x23	XBA3012
24	••••••••		54	Screw	FBT40P080FNI
25	J38 5P F.F.C/30V	See Contrast table(2)	55	Screw	BBZ30P080FTC
26	••••••••		56	••••••••	
27	J33 11P F.F.C/30V	XDD3150	57	Screw	See Contrast table(2)
28	J48 9P F.F.C/30V	XDD3151	NSP 58	ICP Label	XAX3319
29	J34 13P F.F.C/30V	XDD3149			
30	J43 19P F.F.C/30V	XDD3126			

## (2) CONTRAST TABLE

VSX-D514-K/KUCXJI, VSX-D514-S/KUCXJI, VSX-D414-K/KUCXJI and VSX-D414-S/KUCXJI are constructed the same except for the following :

Mark	No.	Symbol and Description	VSX-D514-K/ KUCXJI	VSX-D514-S/ KUCXJI	VSX-D414-K/ KUCXJI	VSX-D414-S/ KUCXJI
	1	MAIN ASSY	XWK3116	XWK3116	XWK3148	XWK3148
	3	AMP & PRIMARY ASSY	XWZ3782	XWZ3782	XWZ3894	XWZ3894
	9	VIDEO ASSY	XWZ3823	XWZ3823	XWZ3749	XWZ3749
	10	5.1CH ASSY	XWZ3760	XWZ3760	XWZ3759	XWZ3759
	11	B TO B ASSY	XWZ3781	XWZ3781	Not used	Not used
	12	S.VIDEO ASSY	XWZ3774	XWZ3774	Not used	Not used
	16	COMPONENT ASSY	XWZ3777	XWZ3777	Not used	Not used
	25	J38 5P F.F.C/30V	XDD3104	XDD3104	Not used	Not used
	44	Rear Panel 514K	XNC3246	XNC3246	Not used	Not used
	44	Rear Panel 414K	Not used	Not used	XNC3259	XNC3259
	45	Bonnet K V1	XZN3148	Not used	XZN3148	Not used
	45	Bonnet S V1	Not used	XZN3149	Not used	XZN3149
NSP	50	N Label 514S	Not used	XAL3194	Not used	Not used
NSP	50	N Label 414S	Not used	Not used	Not used	XAL3203
	57	Screw	FBT40P080FZK	FBT40P080FNI	FBT40P080FZK	FBT40P080FNI

## 2.3 FRONT PANEL SECTION

A

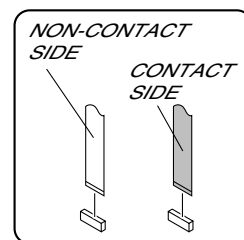
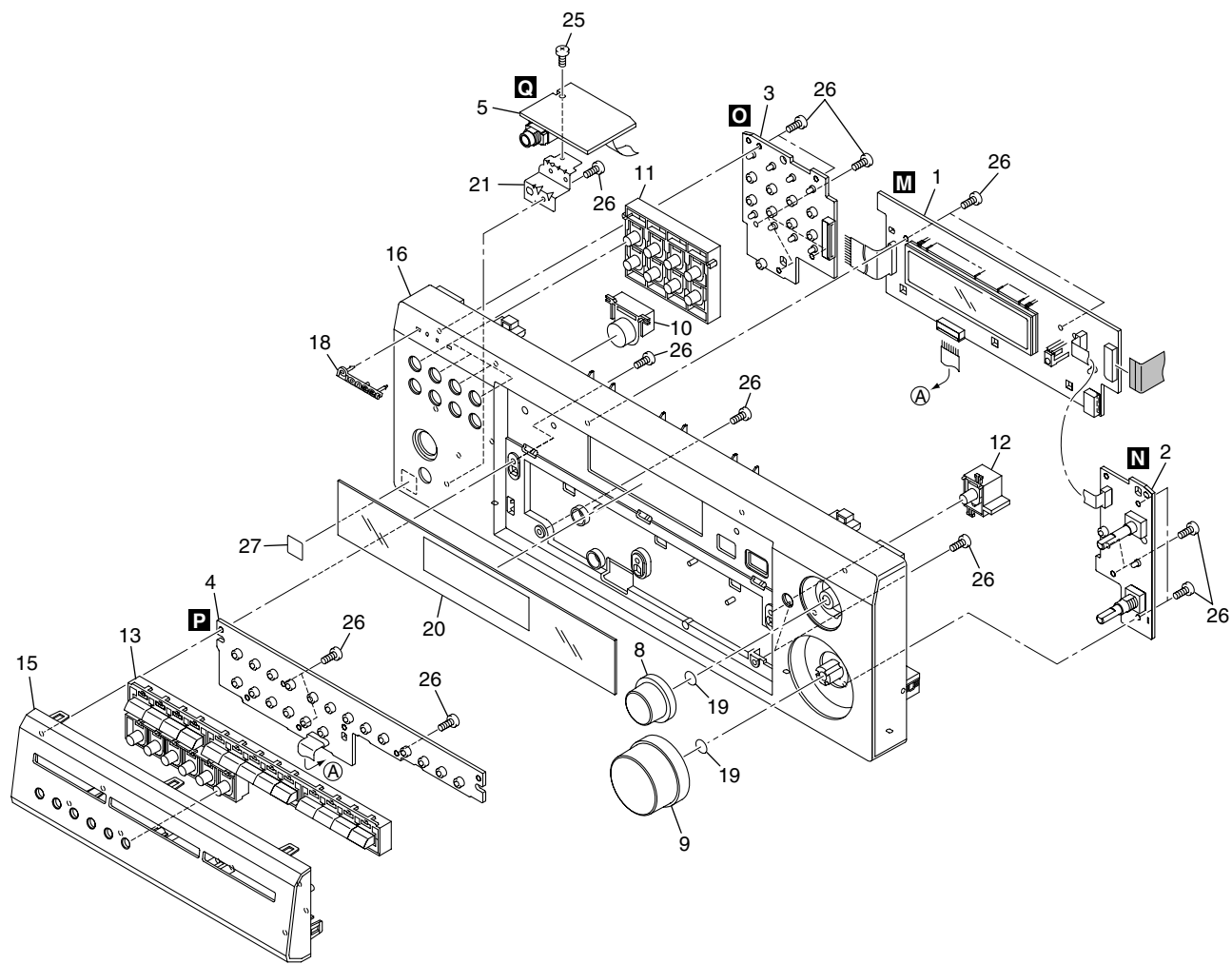
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## FRONT PANEL SECTION parts List

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	FRONT DISPLAY ASSY	See Contrast table(2)	16	FRT Panel	See Contrast table(2)
2	R. ENCODER Assy	See Contrast table(2)	17	••••••••	
3	P. SW & FUNC. KEY Assy	See Contrast table(2)	18	Pioneer Badge	See Contrast table(2)
4	FRONT KEY Assy	See Contrast table(2)	NSP 19	C Ring DIM 8.1	XBH3016
5	H.P. Assy	See Contrast table(2)	20	D Panel V1	XAK3427
6	••••••••		21	Earth Plate R5 HP	XNG3066
7	••••••••		22	••••••••	
8	JOG Knob	See Contrast table(2)	23	••••••••	
9	VOL Knob	See Contrast table(2)	24	••••••~	
10	Standby BTN V1	See Contrast table(2)	25	Screw	BBZ30P080FTC
11	FUNC BTN V1	See Contrast table(2)	26	Screw	BPZ30P100FTC
12	ENTER BTN V1	See Contrast table(2)	NSP 27	Energy Star Label	AAX8022
13	Sub BTN V1	See Contrast table(2)			
14	••••••~				
15	Sub Panel	See Contrast table(2)			

## (2) CONTRAST TABLE

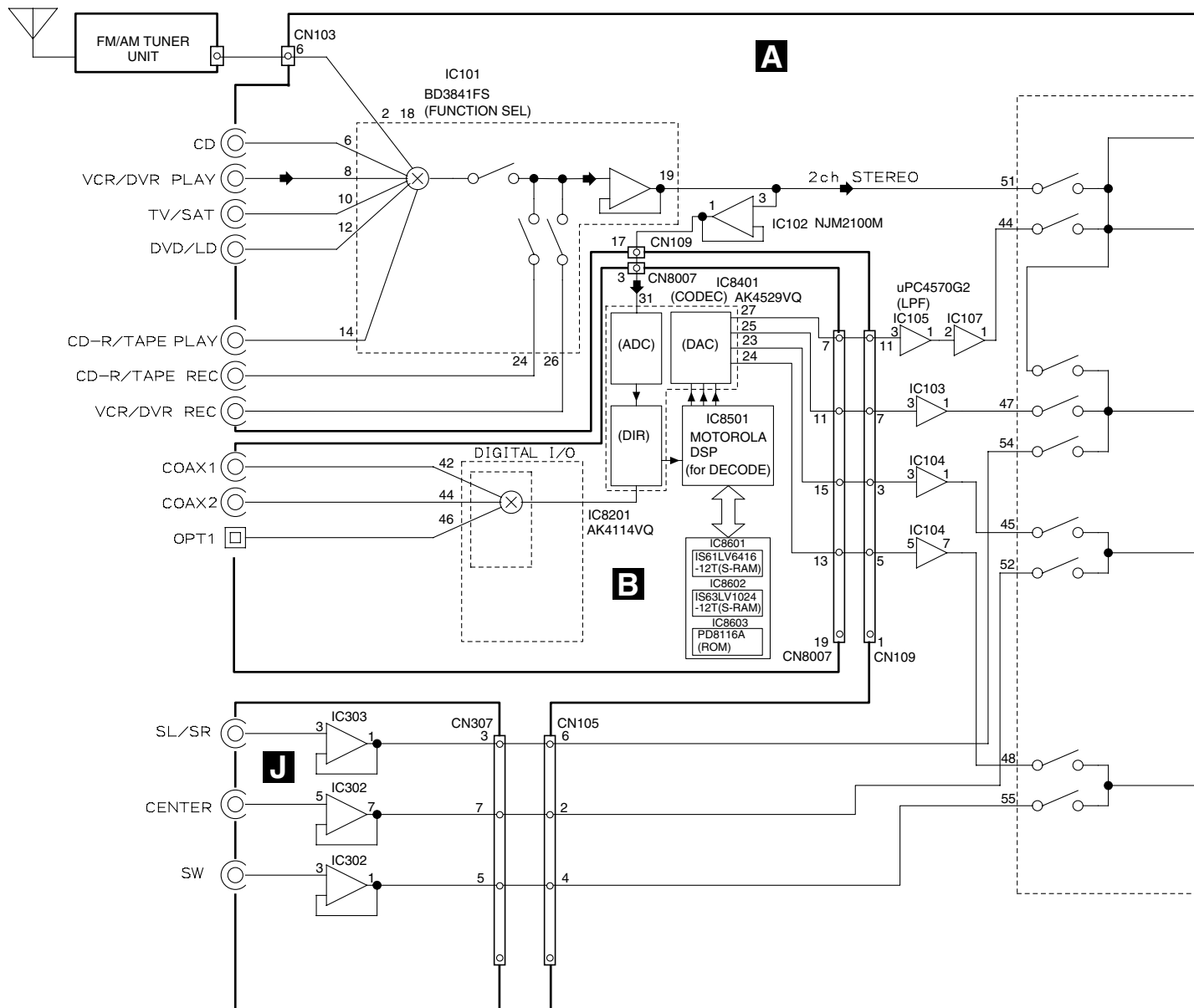
VSX-D514-K/KUCXJI, VSX-D514-S/KUCXJI, VSX-D414-K/KUCXJI and VSX-D414-S/KUCXJI are constructed the same except for the following :

Mark	No.	Symbol and Description	VSX-D514-K/ KUCXJI	VSX-D514-S/ KUCXJI	VSX-D414-K/ KUCXJI	VSX-D414-S/ KUCXJI
	1	FRONT DISPLAY ASSY	XWZ3755	XWZ3755	XWZ3754	XWZ3754
	2	R. ENCODER ASSY	XWZ3766	XWZ3766	XWZ3765	XWZ3765
	3	P. SW & FUNCTION ASSY	XWZ3763	XWZ3763	XWZ3762	XWZ3762
	4	FRONT KEY ASSY	XWZ3758	XWZ3758	XWZ3757	XWZ3757
	5	H.P. ASSY	XWZ3768	XWZ3768	XWZ3767	XWZ3767
	8	JOG Knob V1K	XAB3038	Not used	XAB3038	Not used
	8	JOG Knob V1S	Not used	XAB3042	Not used	XAB3042
	9	VOL Knob V1K	XAB3039	Not used	XAB3039	Not used
	9	VOL Knob V1S	Not used	XAB3043	Not used	XAB3043
	10	Standby BTN V1K	XAD3173	Not used	XAD3173	Not used
	10	Standby BTN V1S	Not used	XAD3178	Not used	XAD3178
	11	FUNC BTN V1K	XAD3174	Not used	XAD3174	Not used
	11	FUNC BTN V1S	Not used	XAD3180	Not used	XAD3180
	12	ENTER BTN V1K	XAD3175	Not used	XAD3175	Not used
	12	ENTER BTN V1S	Not used	XAD3181	Not used	XAD3181
	13	Sub BTN V1K	XAD3176	Not used	XAD3176	Not used
	13	Sub BTN V1S	Not used	XAD3177	Not used	XAD3177
	15	Sub Panel 514K	XAK3425	Not used	XAK3425	Not used
	15	Sub Panel 514S	Not used	XAK3432	Not used	XAK3432
	16	FRT Panel 514K	XMB3138	Not used	Not used	Not used
	16	FRT Panel 514S	Not used	XMB3143	Not used	Not used
	16	FRT Panel 414K	Not used	Not used	XMB3152	Not used
	16	FRT Panel 414S	Not used	Not used	Not used	XMB3153
	18	Pioneer Badge	XAM3006	VAM1129	XAM3006	VAM1129

# 3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

## 3.1 BLOCK DIAGRAM

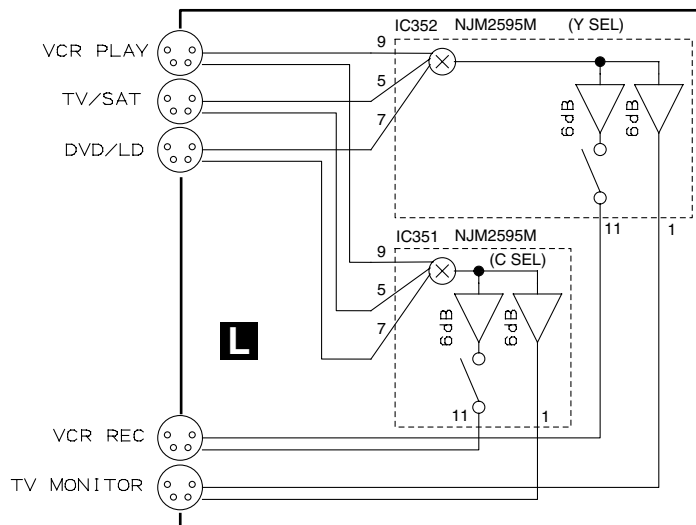
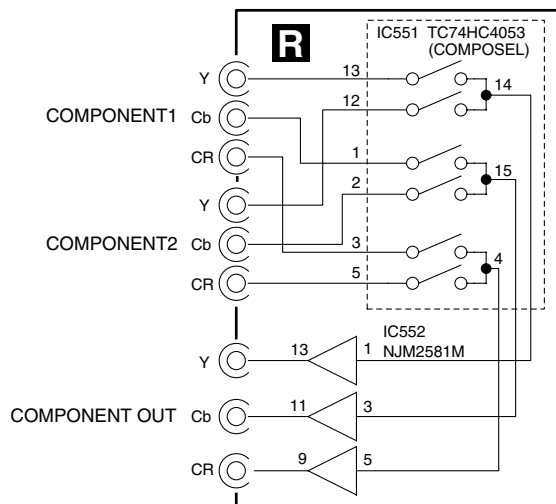
A



D

E

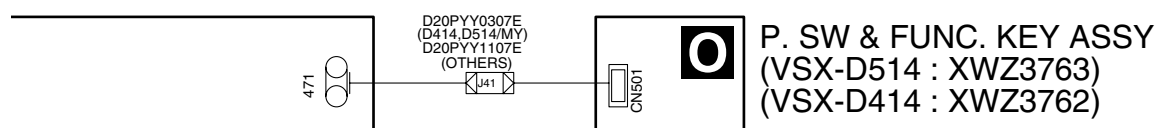
F









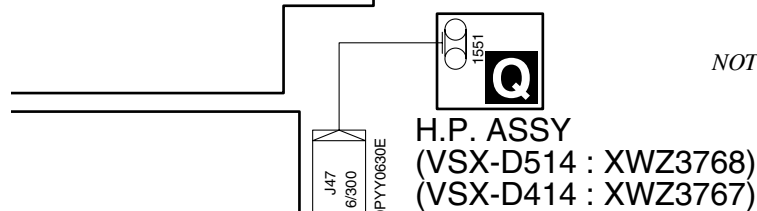


**NOTES:** • When ordering service parts, be sure to refer to “EXPLODED VIEWS and PARTS LIST” or “PCB PARTS LIST”.

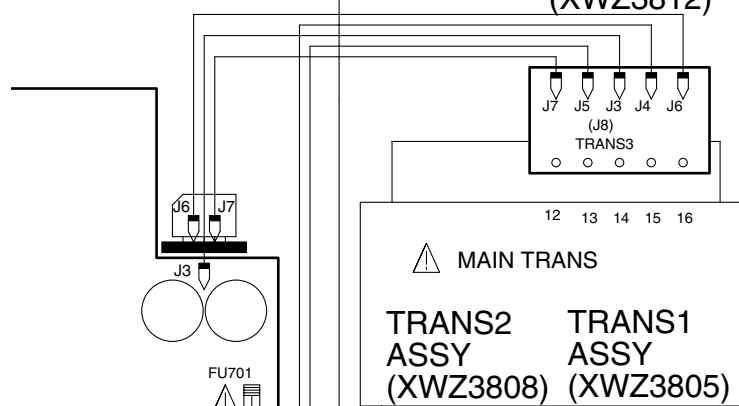
• The  $\triangle$  mark found on some component parts indicates the importance of the safety factor of the part.

Therefore, when replacing, be sure to use parts of identical designation.

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

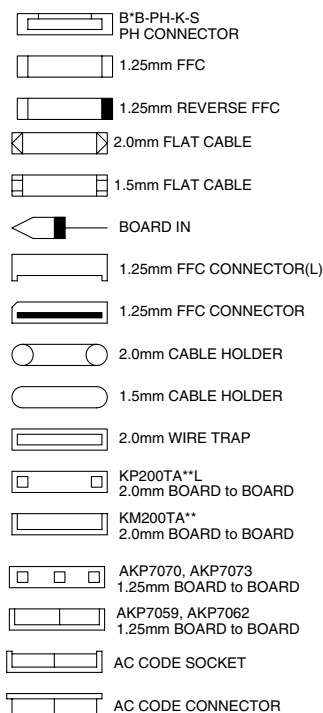
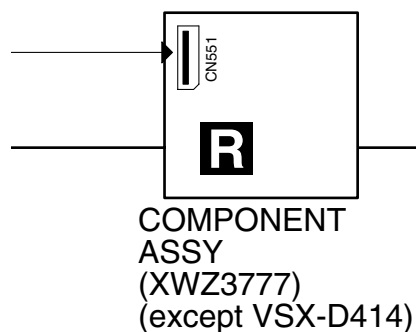


**TRANS3 ASSY**  
(XWZ3812)



**C**  
(**C1/2**,  
**C2/2**)

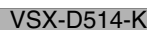
**AMP & PRIMARY ASSY**  
(VSX-D514 : XWZ3782)  
(VSX-D414 : XWZ3894)

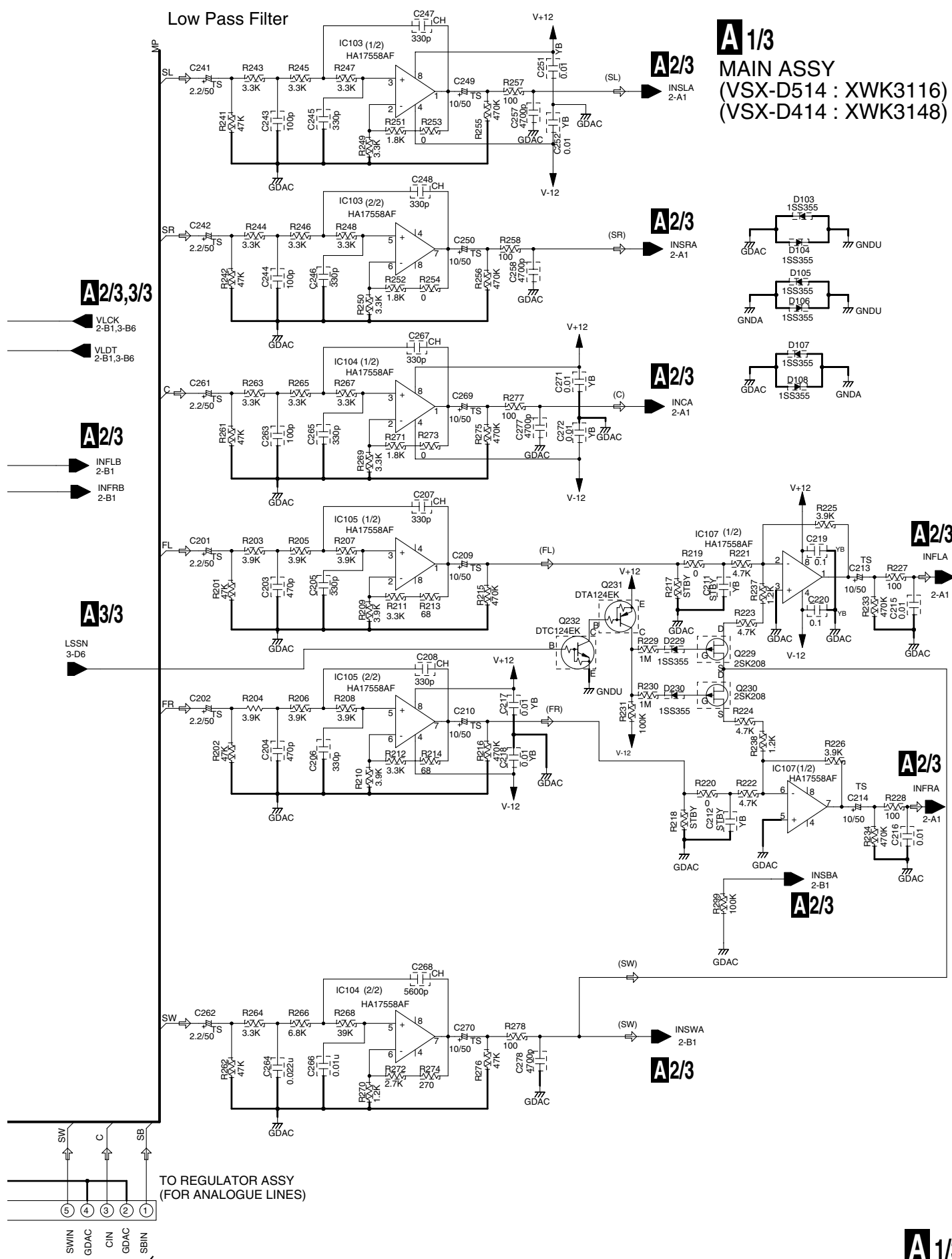


$\triangle$  AC CORD  
ADG7024

VSX-D514-K

**A**  $\frac{1}{3}$





### 3.4 MAIN ASSY (2/3)

A

B

C

D

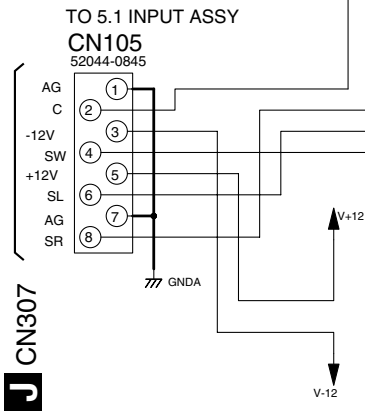
E

F

**A** 2/3 MAIN ASSY  
(VSX-D514 : XWK3116)  
(VSX-D414 : XWK3148)

**A1/3**

**A1/3,3/3**



**J** CN307

**A** 2/3

20

VSX-D514-K

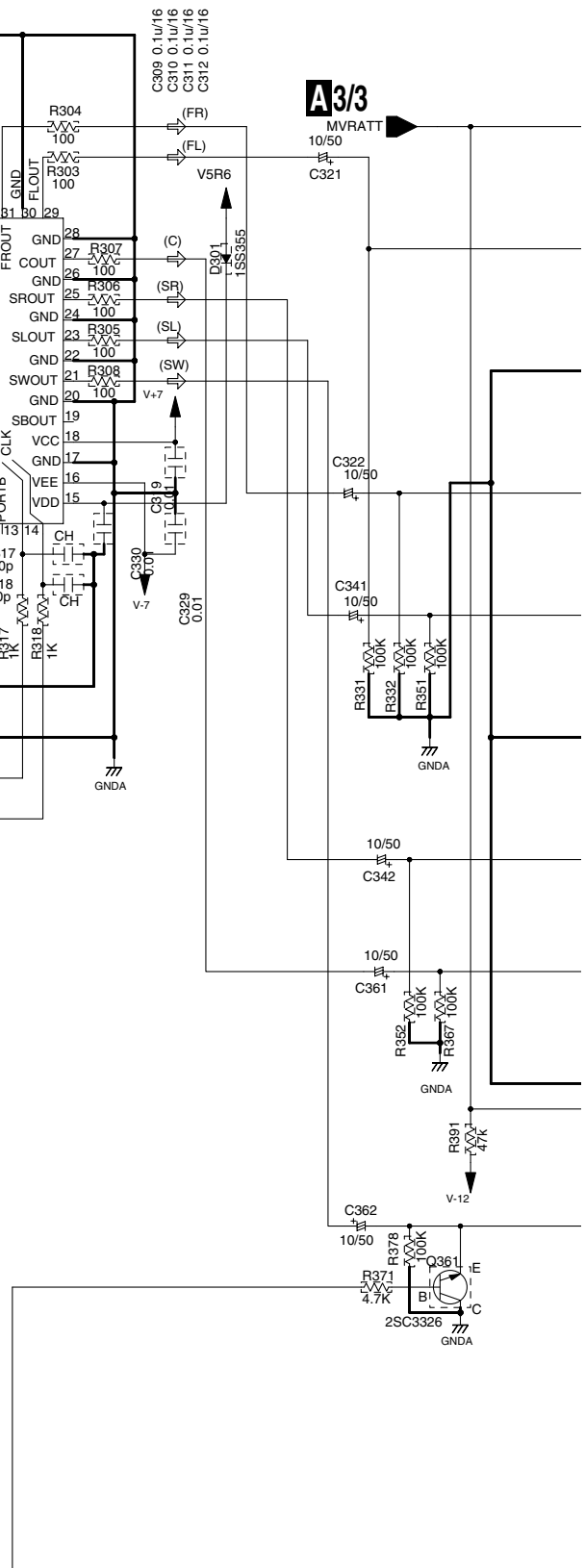
**NOTE**

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.  
JA:CEJA

⇒ : AUDIO SIGNAL FLOW

**A3/3**

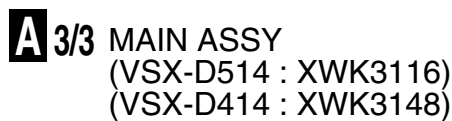




	FRONT, REAR		Center		SW	
*1	R327 R328 R347 R348 (Ohm)	GAIN(dB)	R363 (Ohm)	GAIN(dB)	R372 (Ohm)	GAIN(dB)
	15K	14.1/24.1	8.2K	19.3	15K	14.2/27.3

## A





**A 3/3**

VSX-D514-K

# 3.6 DSP ASSY (1/2)

A

B

C

D

E

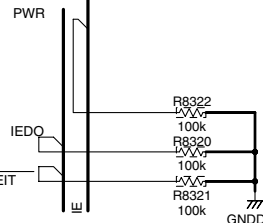
F

T CN1901

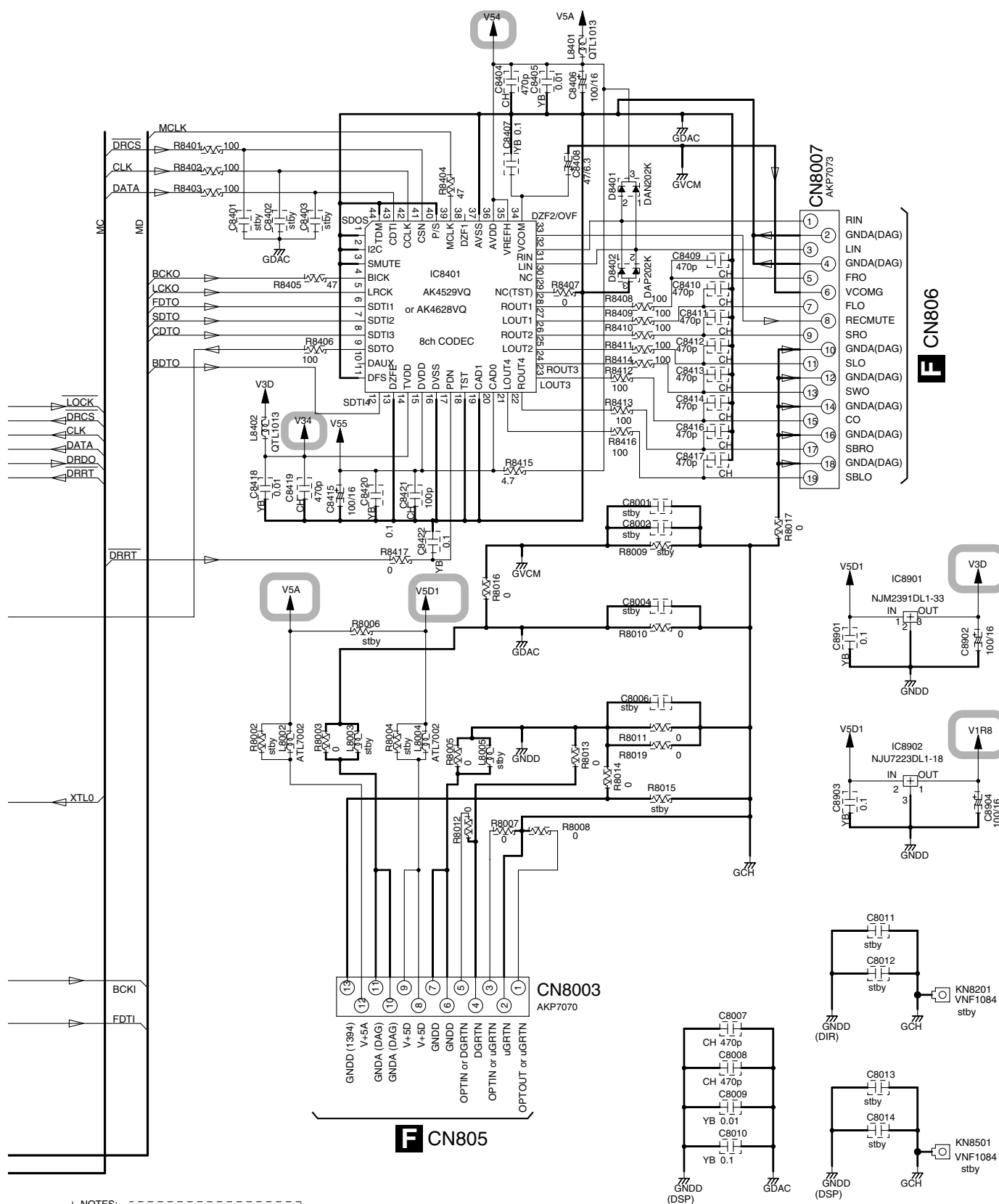
CN8017  
VKN1414

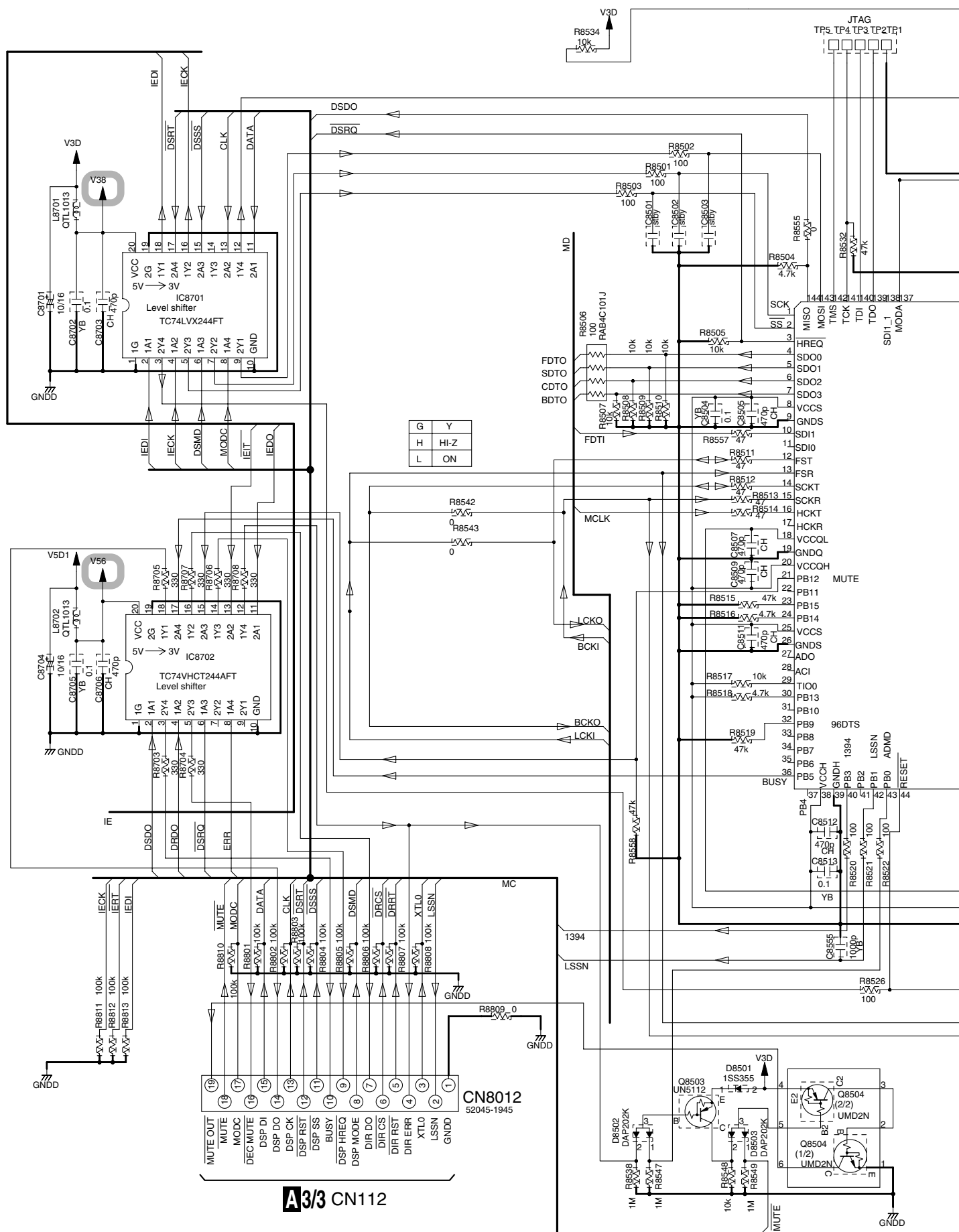
B 1/2 DSP ASSY  
(AWX8418)

B 1/2





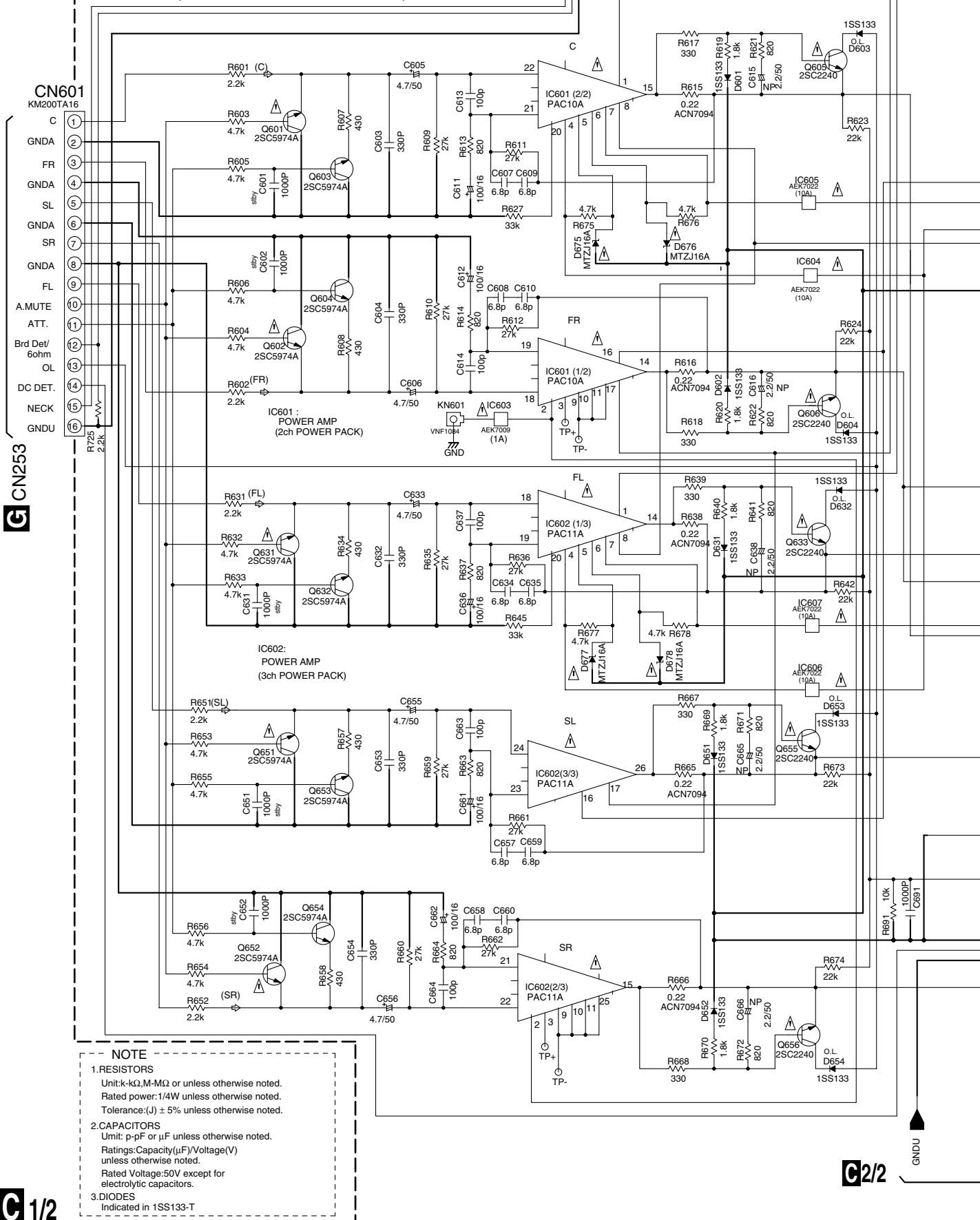


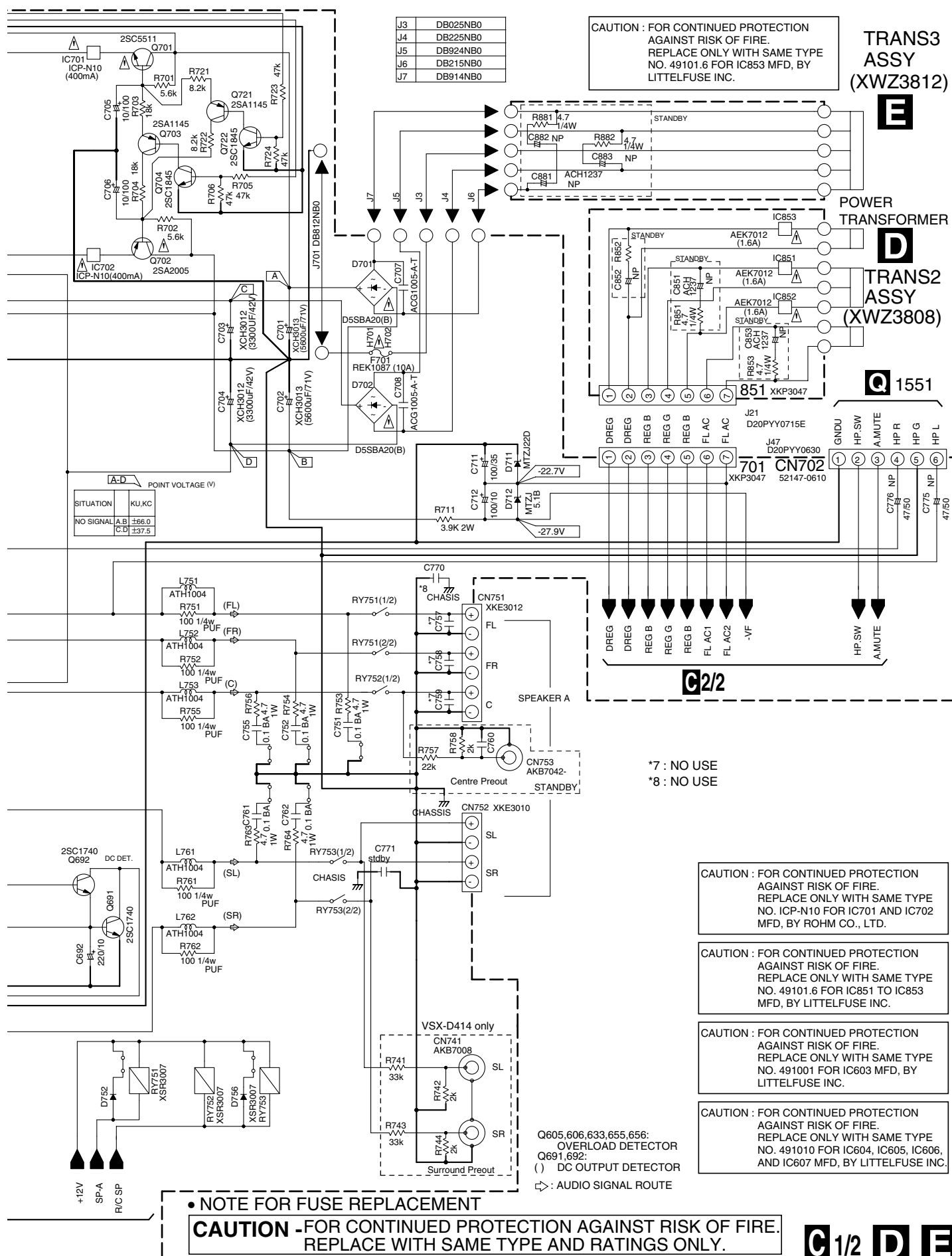




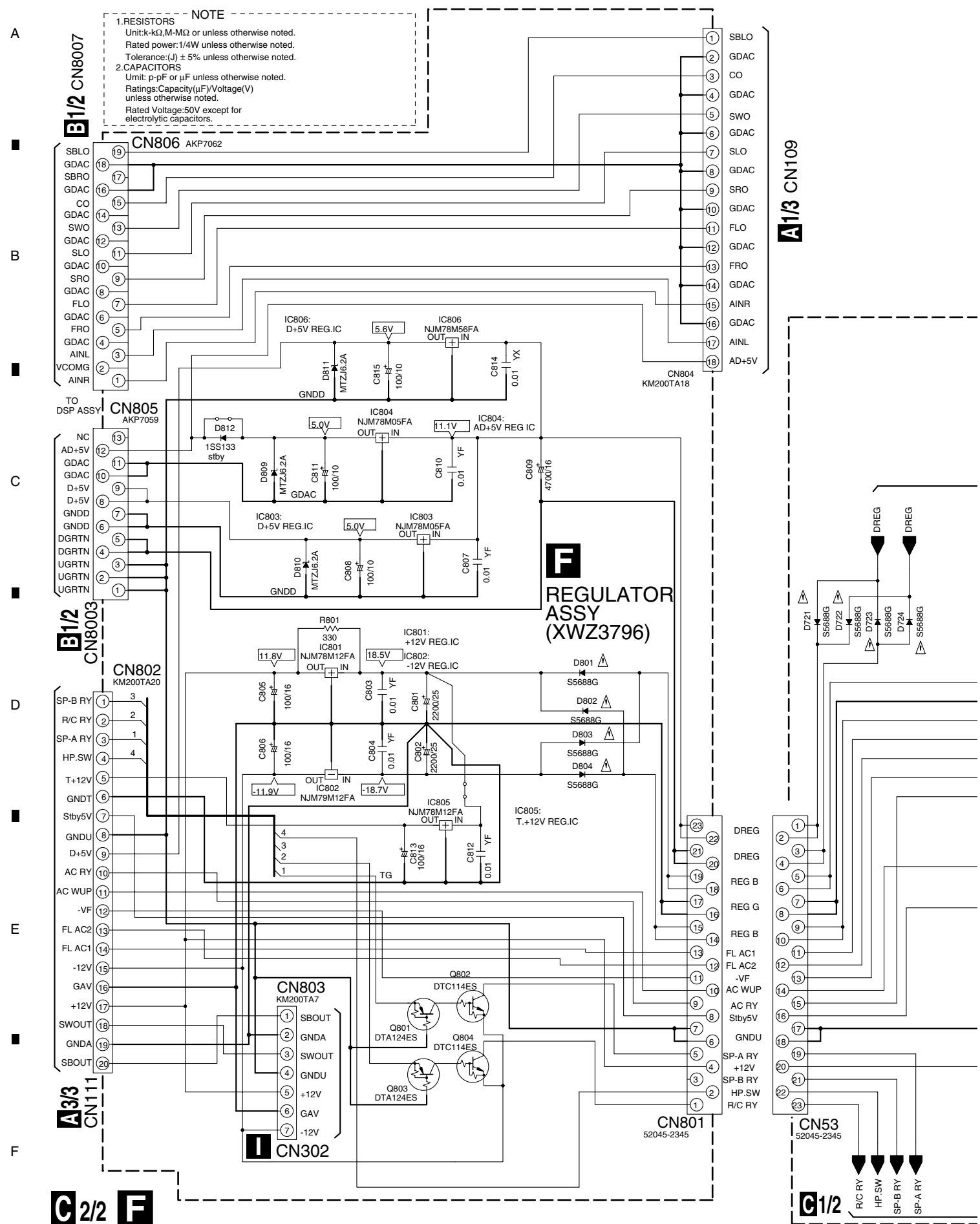
### 3.8 AMP & PRIMARY (1/2), TRANS2 and TRANS3 ASSYS

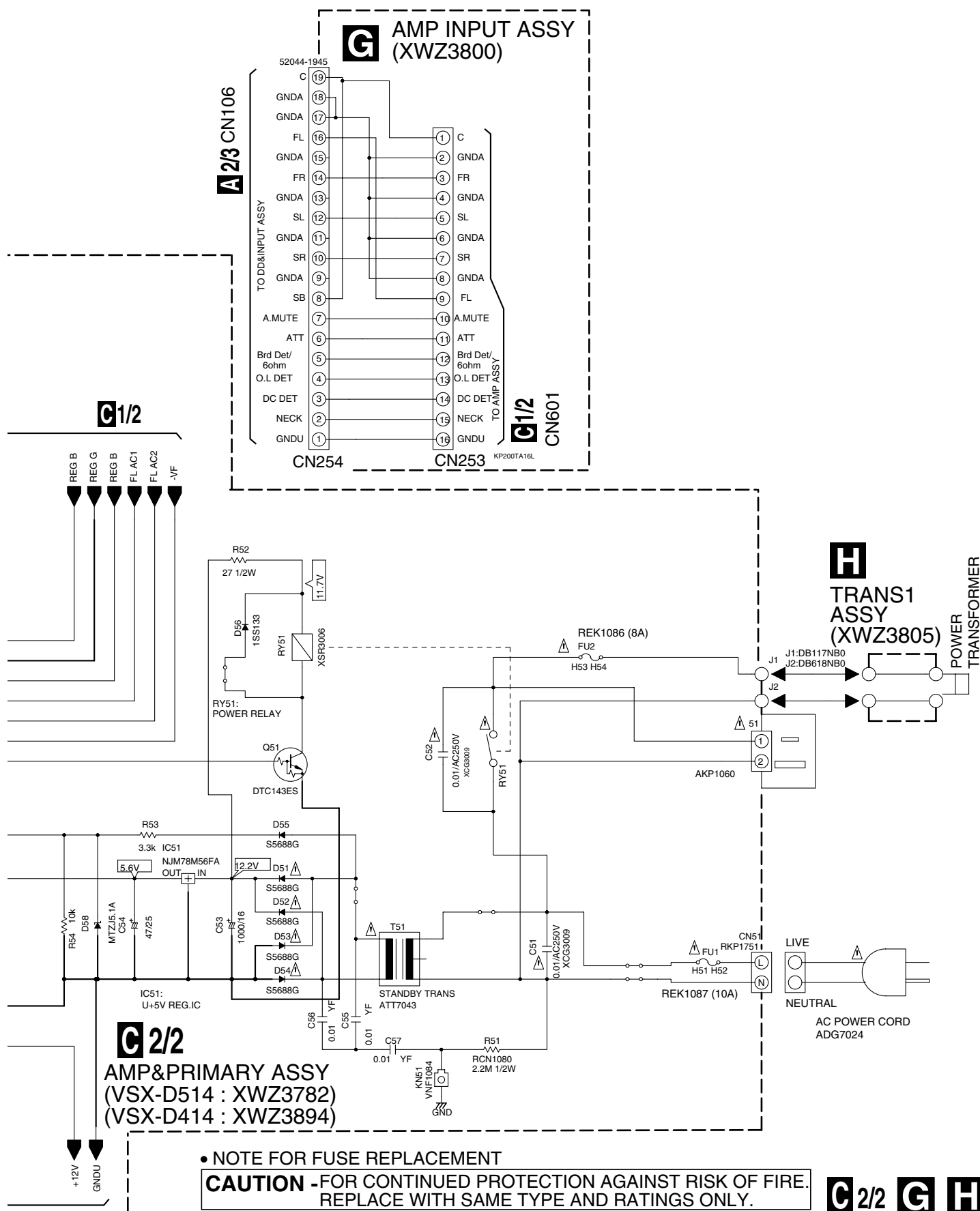
**C 1/2** AMP&PRIMARY ASSY  
(VSX-D514 : XWZ3782)  
(VSX-D414 : XWZ3894)





### 3.9 AMP & PRIMARY (2/2), REGULATOR, AMP INPUT and TRANS1 ASSYS





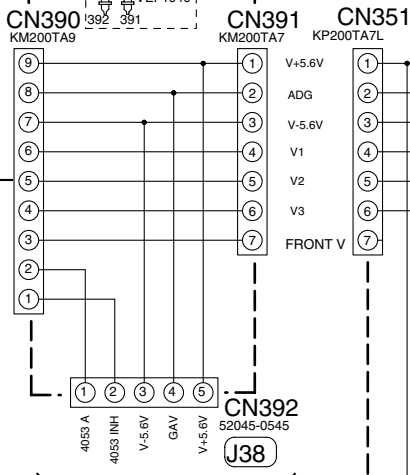
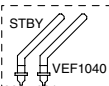
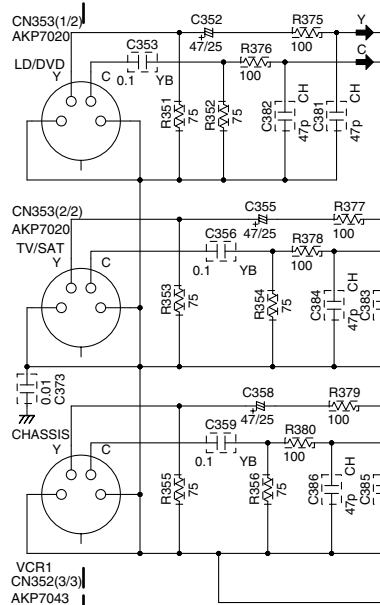
## 4





**K****B TO B ASSY  
(XWZ3781)**

Except VSX-D414

**U** CN551

→ VIDEO SIGNAL FLOW  
⇒ AUDIO SIGNAL FLOW

**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**

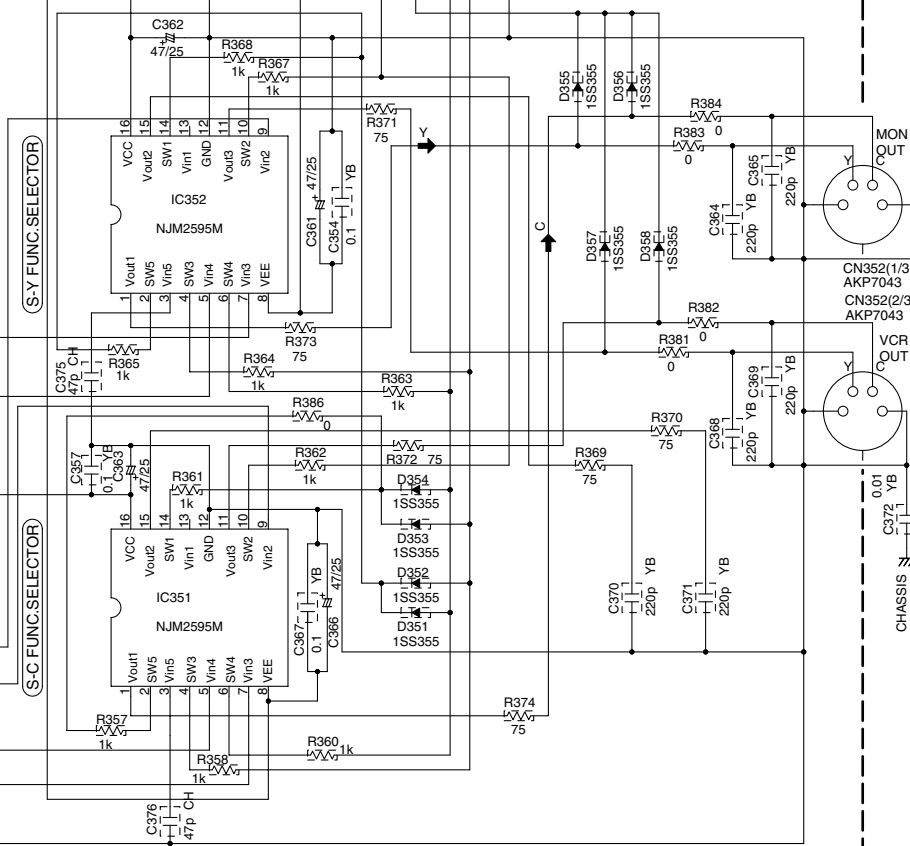
Unit: p-pF or μF unless otherwise noted.  
Ratings: Capacity(μF)/Voltage(V) unless otherwise noted.  
Rated Voltage: 50V expect for electrolytic capacitors.

**NJM2296D control port status**

SW1	SW2	SW3	SW4	SW5	Vout1	Vout2	Vout3	
1	0	(1)	0	1	Vin2	Vin2	mute	VIN 2.VCR
1	1	(1)	0	1	Vin3	Vin3	Vin3	VIN 3.DVD/LD
1	1	0	1	1	Vin4	Vin4	Vin4	VIN 4.TV/SAT
1	1	1	1	1	Vin5	Vin5	Vin5	VIN 5.FRONT
0	0	(0)	(0)	0	mute	mute	mute	Vout1. MON out
								Vout2. MR out
								Vout3. VCR out

**L****S. VIDEO ASSY  
(XWZ3774)**

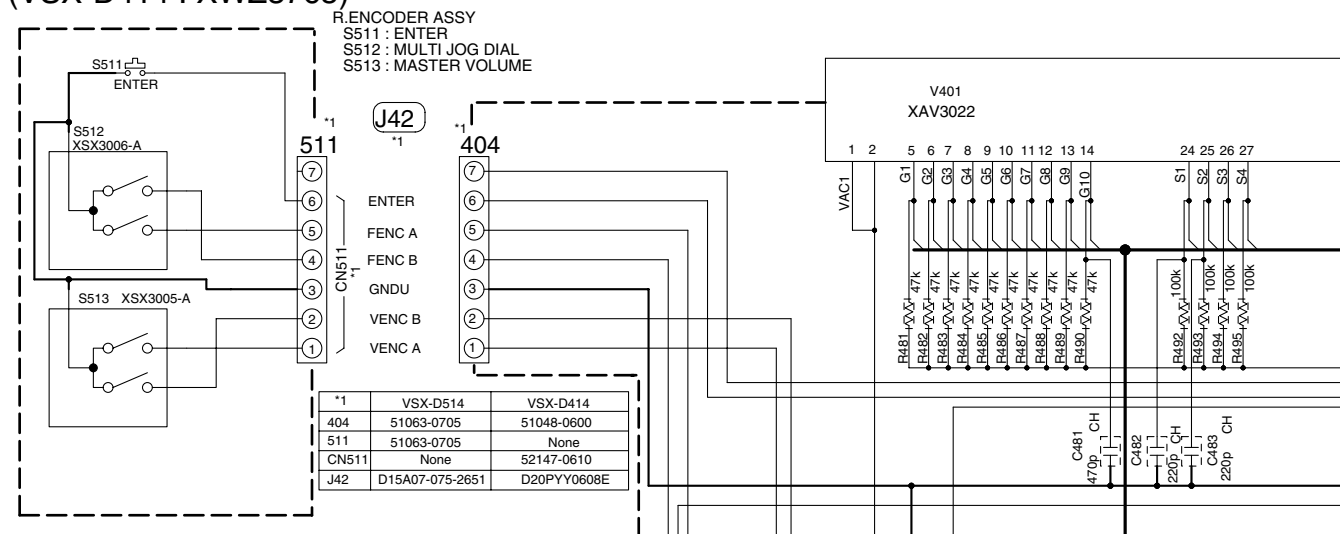
Except VSX-D414



### 3.11 FRONT DISPLAY, R. ENCODER, P. SW&FUNC KEY and F. KEY ASSYS

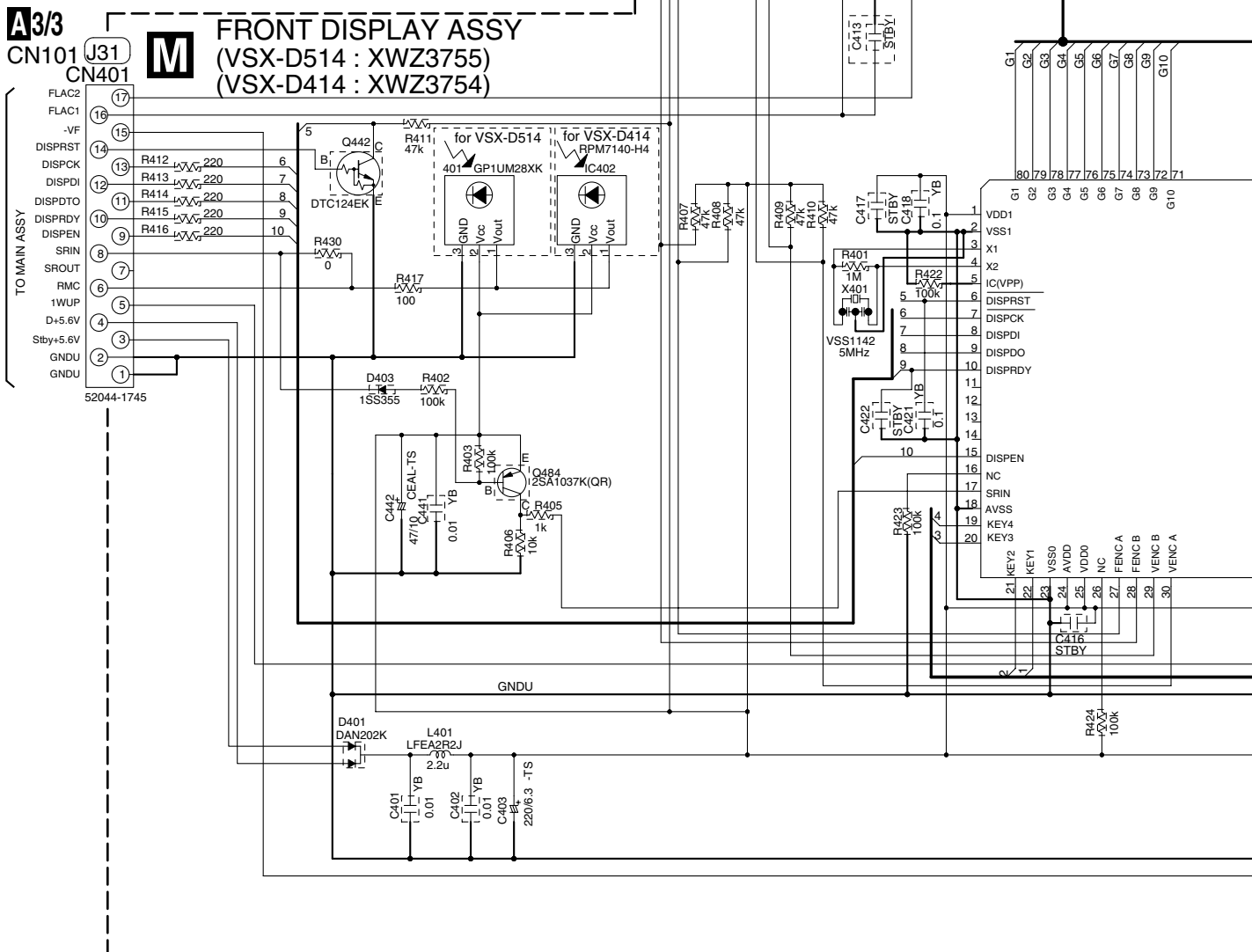
#### R.ENCODER ASSY

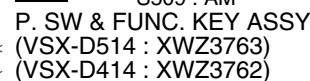
(VSX-D514 : XWZ3766)  
(VSX-D414 : XWZ3765)



#### FRONT DISPLAY ASSY

(VSX-D514 : XWZ3755)  
(VSX-D414 : XWZ3754)





S461 : TUNING -  
S462 : STATION +  
S463 : STATION -  
S464 : TUNER EDIT  
S465 : CLASS  
S466 : MUTE  
S467 : FL DIMMER  
S468 : INPUT ATT  
S476 : MPX

3.12 H.P. and COMPONENT ASSYS

A

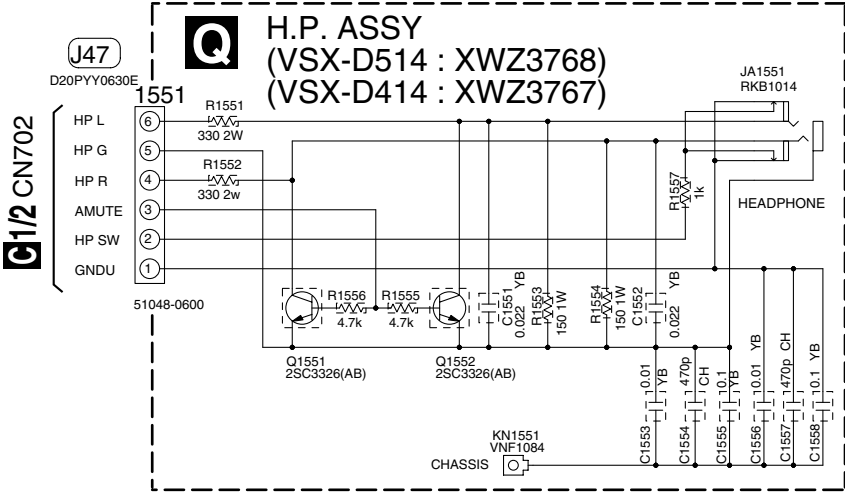
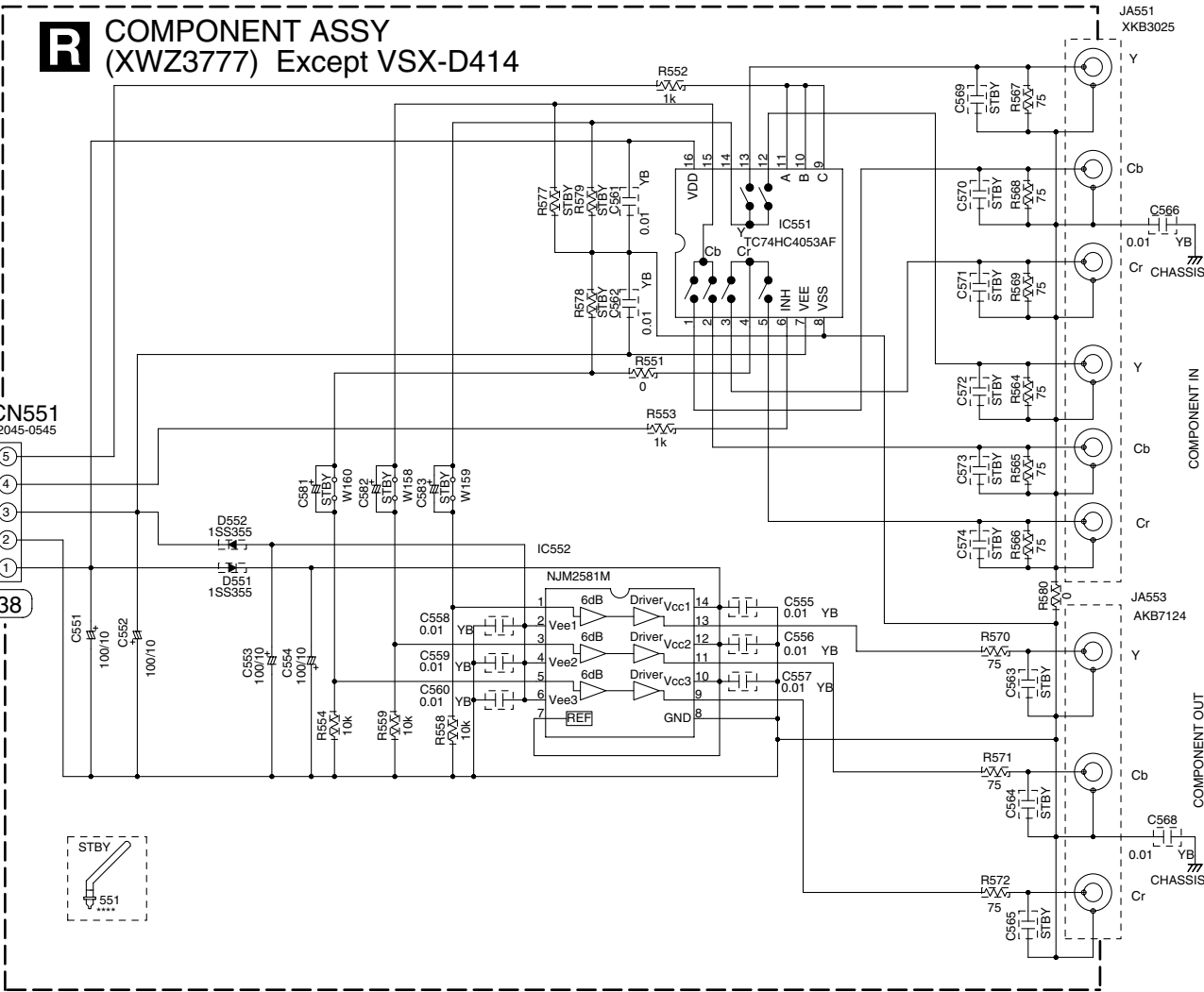
B

C

D

E

F



**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.


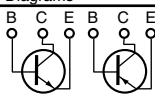

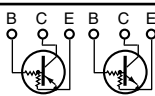

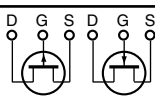

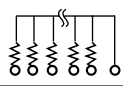


2. CAPACITORS  
Unit: p-pF or μF unless otherwise noted.  
Ratings: Capacity(μF)/Voltage(V) unless otherwise noted.  
Rated Voltage: 50V except for electrolytic capacitors.



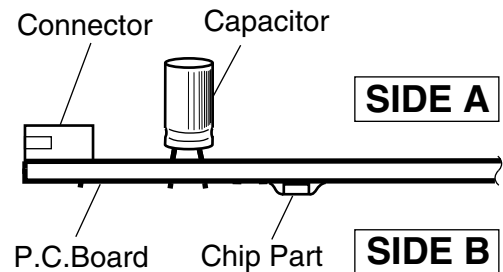
## 4. PCB CONNECTION DIAGRAM

### 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.



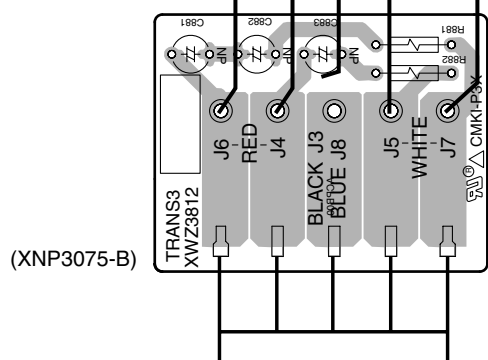
## 4.1 TRANS2, TRANS3 and TRANS1 ASSYS

**SIDE A**

**SIDE A**

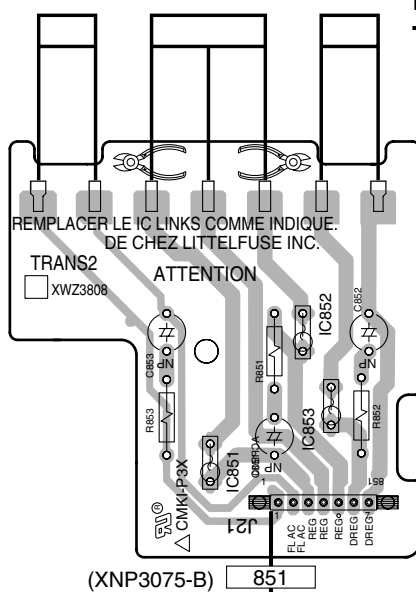
### **E** TRANS3 ASSY

**C** J6 J4 J3 J5 J7



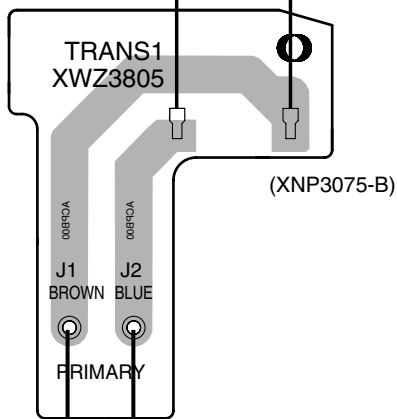
**POWER  
TRANSFORMER**

### **D** TRANS2 ASSY



**C** J1 J2

### **H** TRANS1 ASSY



**C** 701

**D E H**

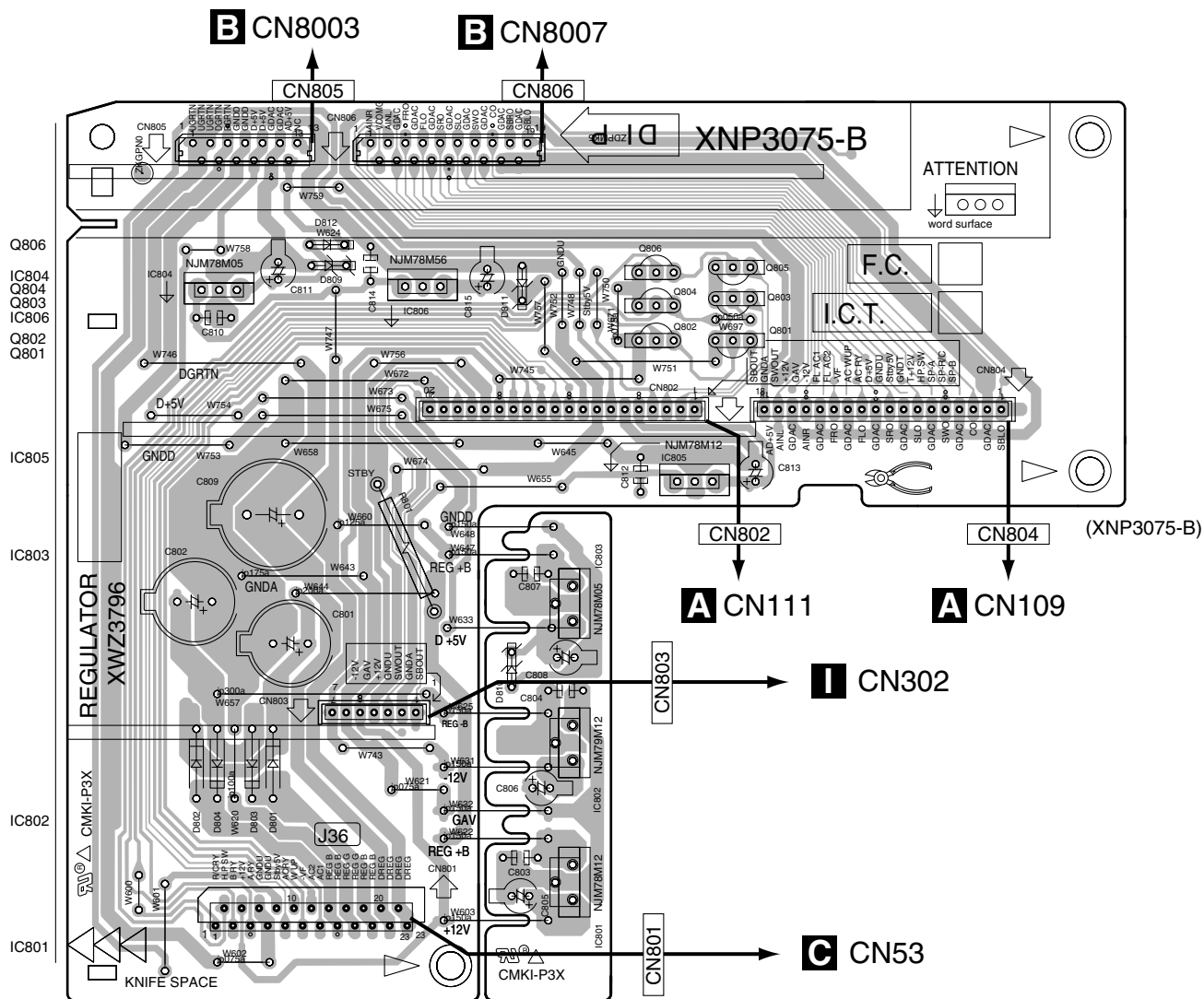
**D E H**

## 4.2 REGULATOR ASSY

**SIDE A**

**SIDE A**

### **F** REGULATOR ASSY

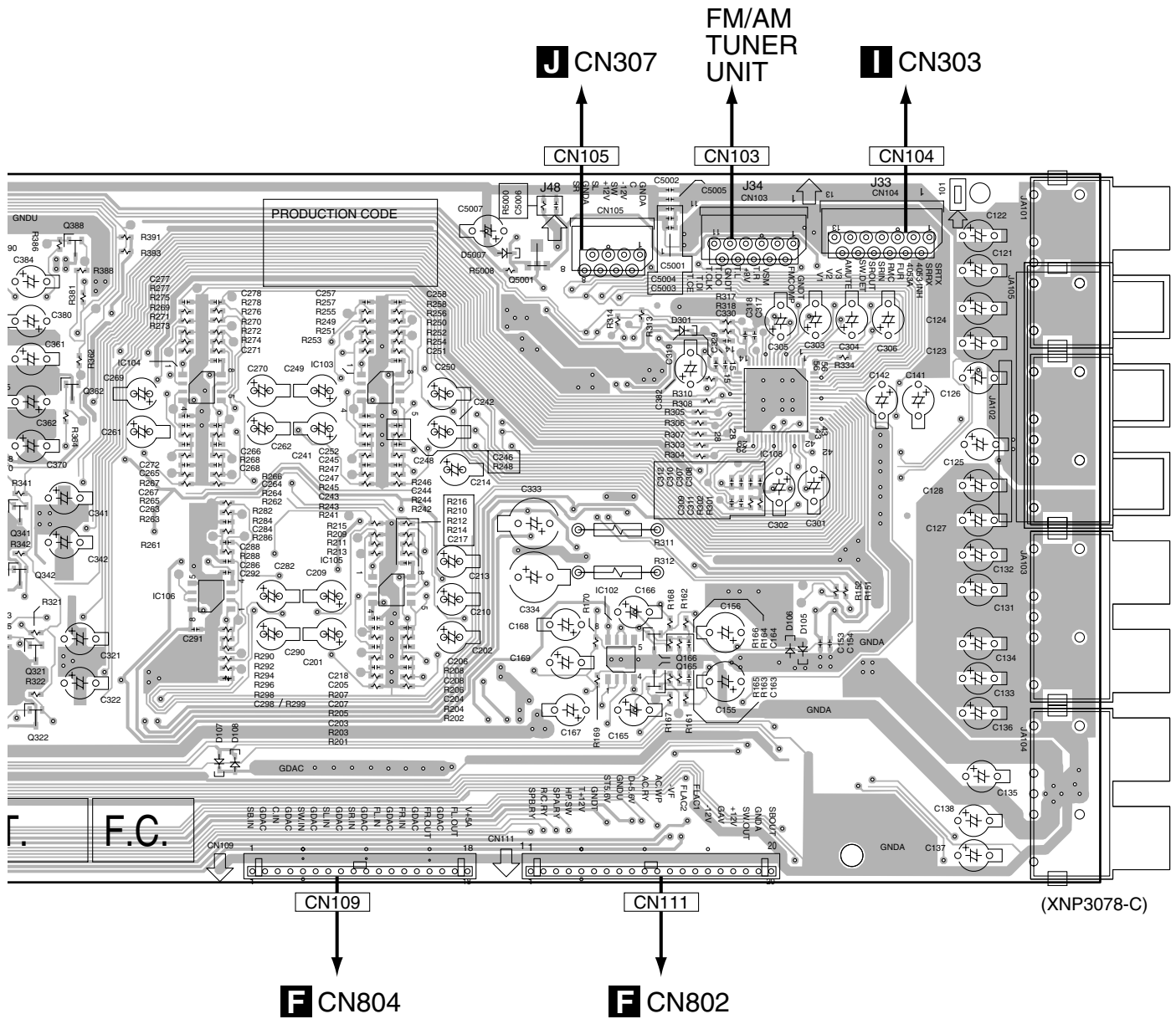


**F**

**F**

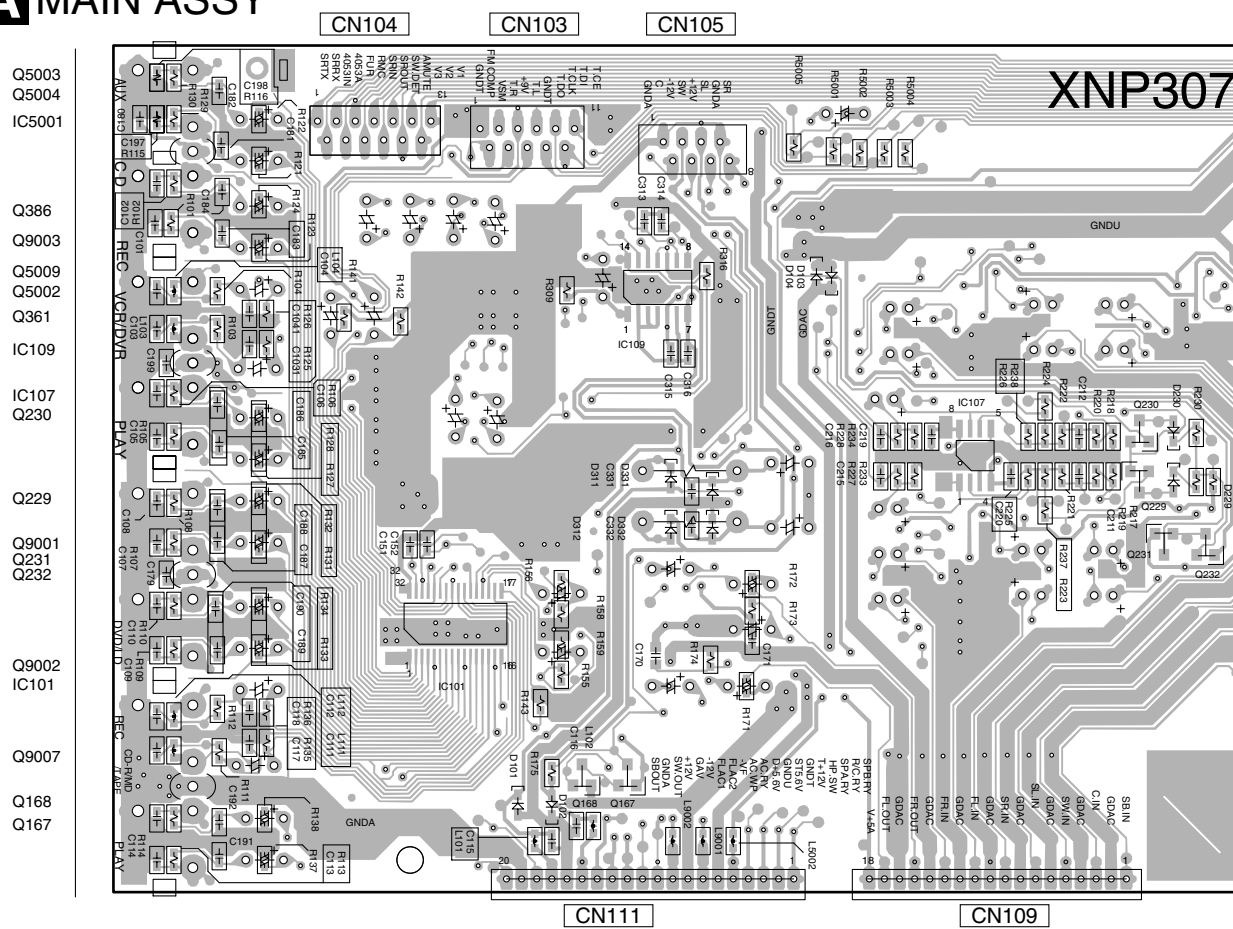






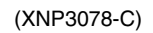
SIDE B

## A MAIN ASSY



A

43

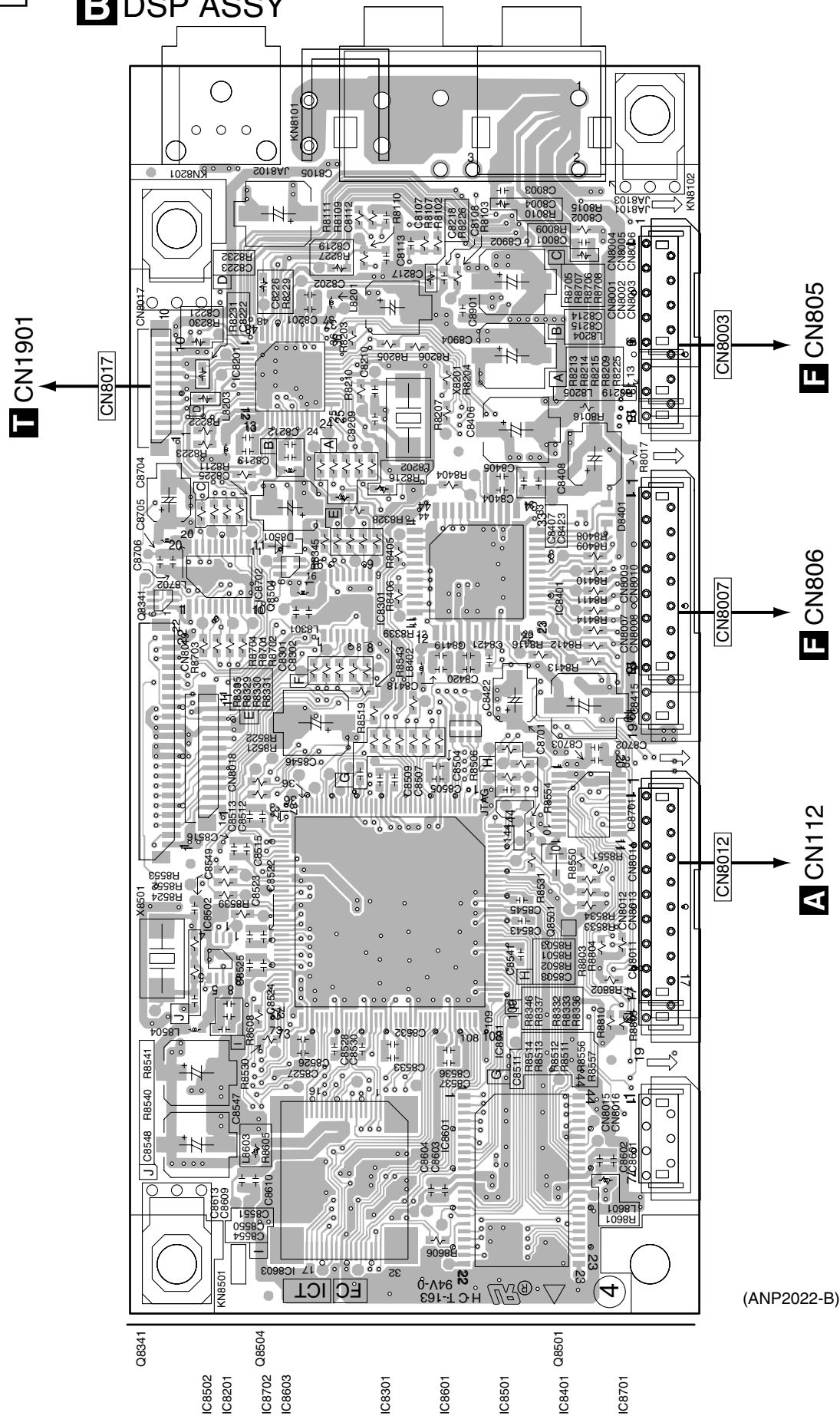


## 4.4 DSP ASSY

## SIDE A

## B DSP ASSY

## SIDE A

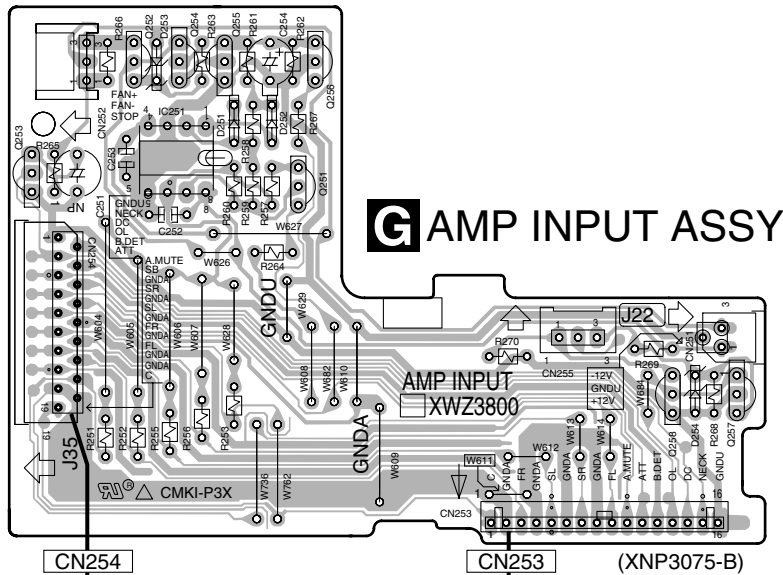






## 4.5 AMP & PRIMARY and AMP INPUT ASSYS

**SIDE A**



**A CN106**

**C AMP&PRIMARY ASSY**

**E J3**

**E J5**

IC702 Q704  
Q702  
Q722  
Q703  
Q721

IC701

Q701  
Q655  
Q602  
Q604  
Q633

Q606  
Q605  
Q601  
IC607 Q656  
IC605 Q654  
Q631  
Q652

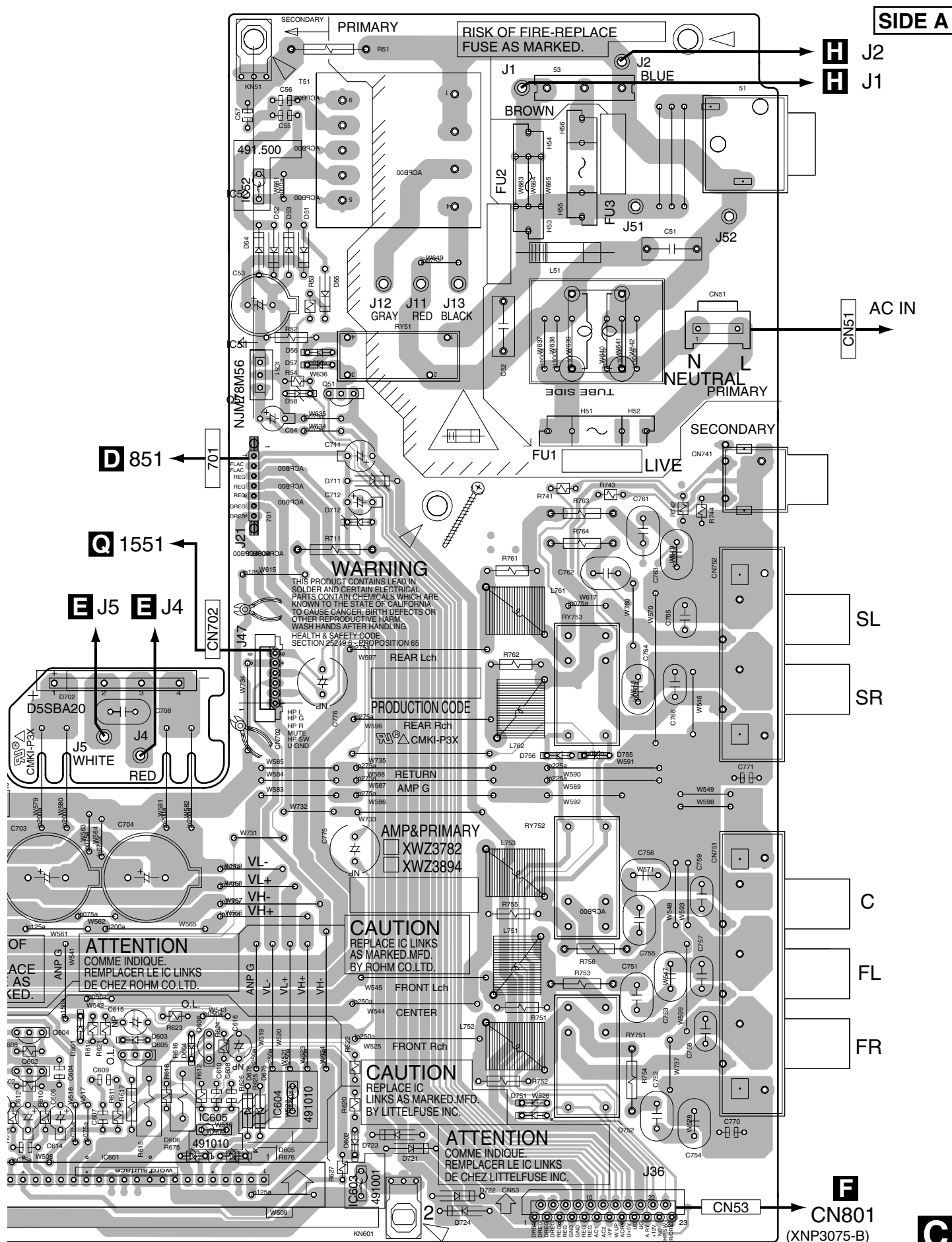
IC604 Q603  
IC606 Q632

IC603 Q653  
IC601

**E J6**  
**E J7**

**RISK OF FIRE - REPLACE FUSE AS MARKED.**

**ATTN COMM REEMPL DE CH**

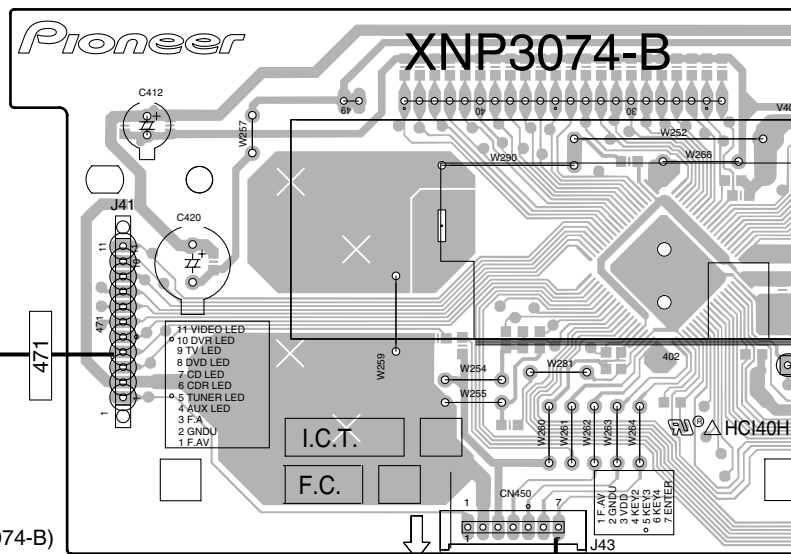


## 4.6 F. DISPLAY, R. ENCODER, P. SW & FUNC KEY, H. P. and F. KEY ASSYS

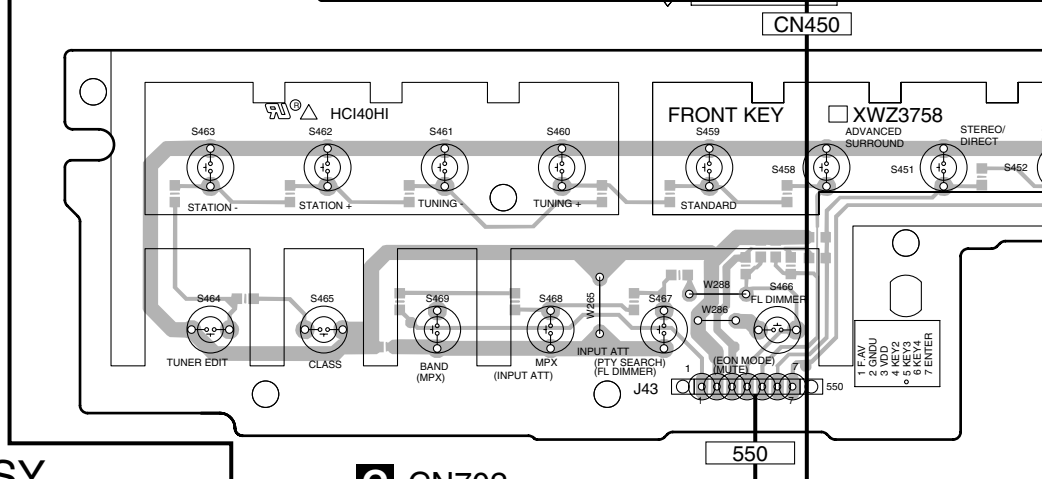
**SIDE A**

**M** FRONT DISPLAY ASSY

(for VSX-D514)



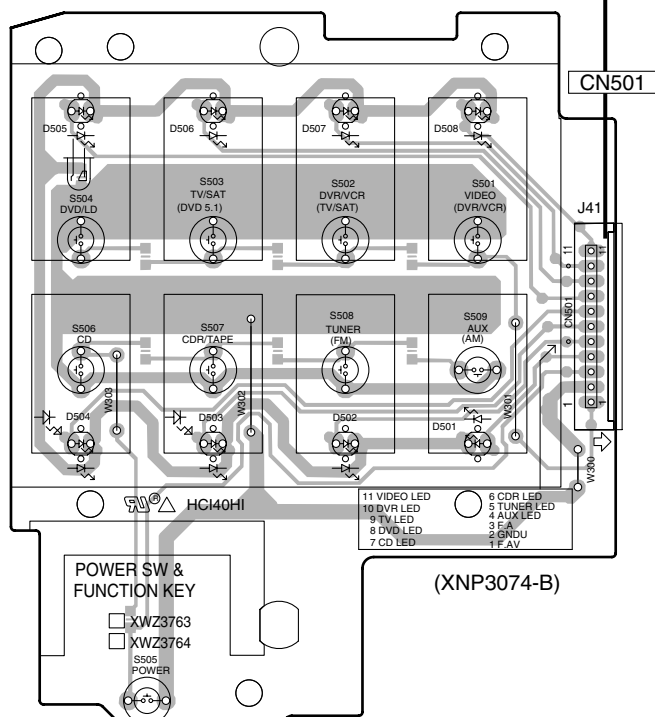
(XNP3074-B)



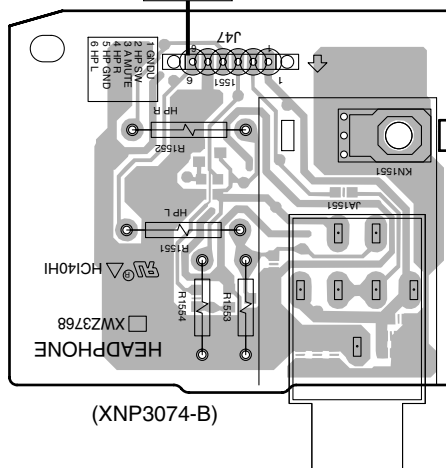
**C** CN702

**Q** H.P ASSY

**O** P. SW & FUNC. KEY ASSY



(XNP3074-B)



(XNP3074-B)

**M O P Q**



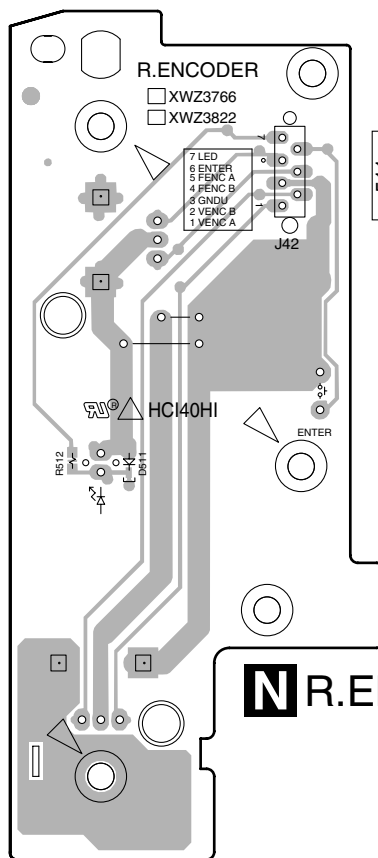
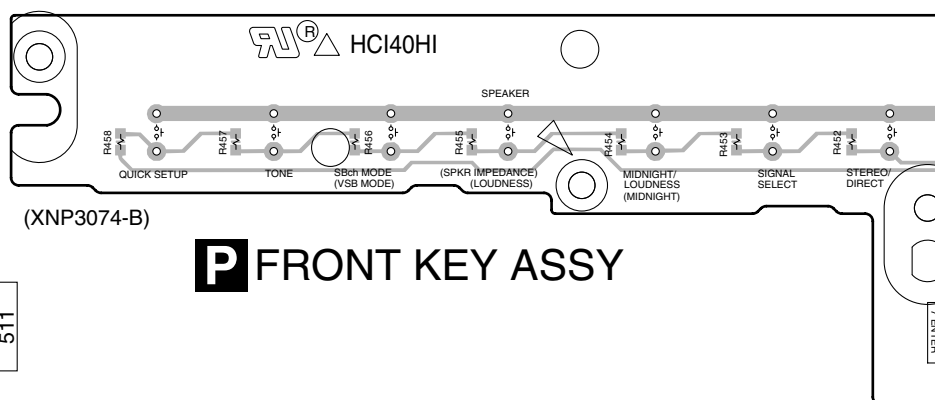
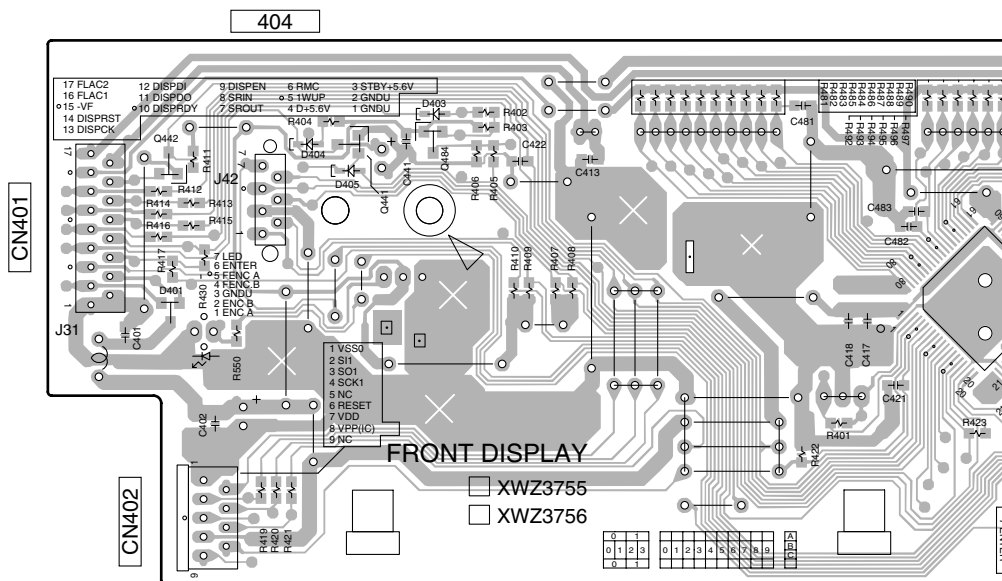
A



F

**SIDE B**

(for VSX-D514)



(XNP3074-B)

**R.ENCODER ASSY**

A

## B



(XNP3074-B)

CN450



550

## C

## D



(XNP3074-B)



(XNP3074-B)

RI<sup>®</sup>  HCl40HI

1

1

**M O P Q**

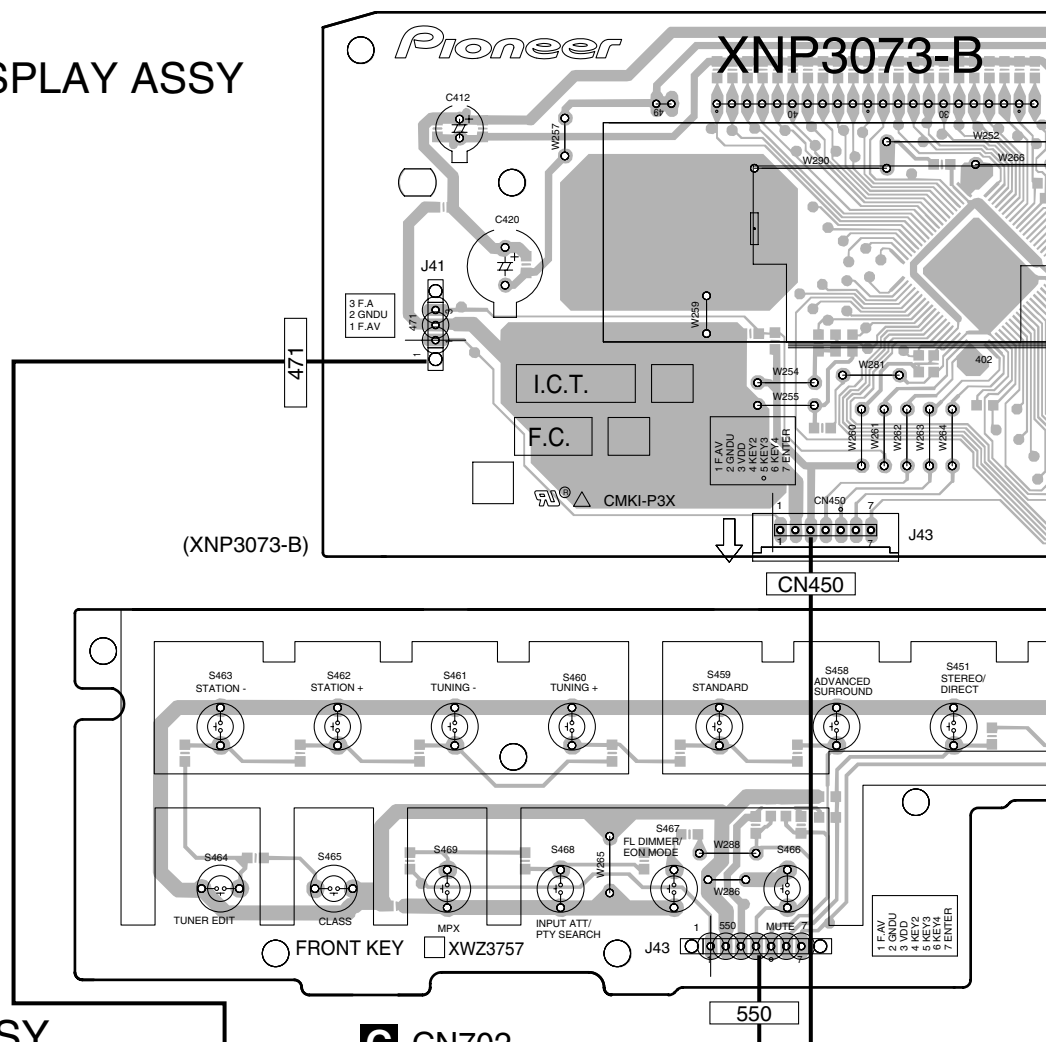
F

VSX-D514-K

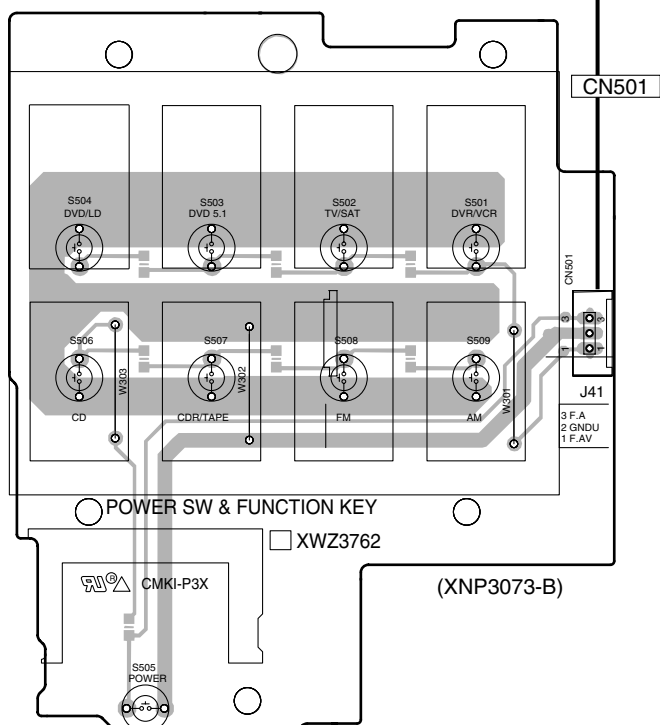
## SIDE A

## M FRONT DISPLAY ASSY

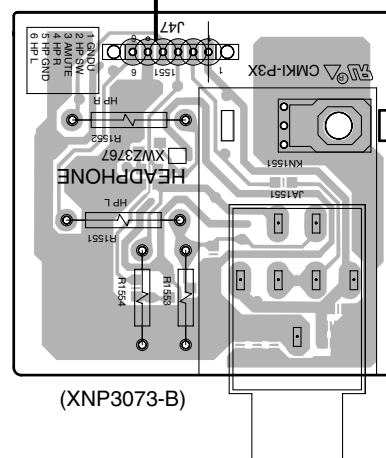
(for VSX-D414)



**O** P. SW &  
FUNC. KEY ASSY

**C** CN702

## Q H.P ASSY







F

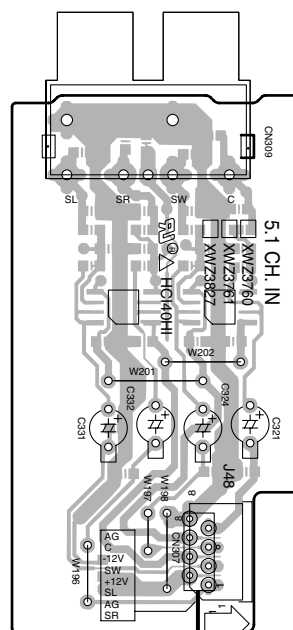


## 4.7 B TO B, VIDEO and 5.1CH ASSYS

**SIDE A**

(for VSX-D514)

**J** 5.1CH ASSY



(XNP3074-B)

CN307

**A** CN105

**I** VIDEO ASSY

**F** CN803

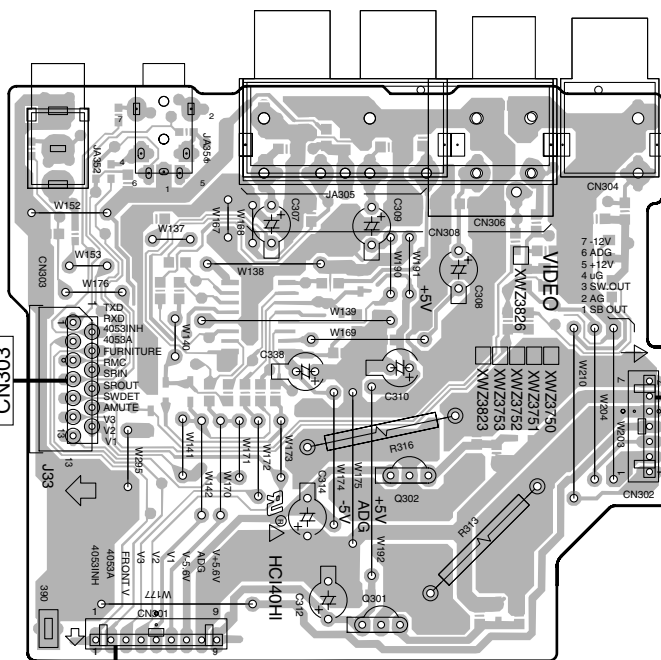
Q302

Q301

**A**

CN104

CN303

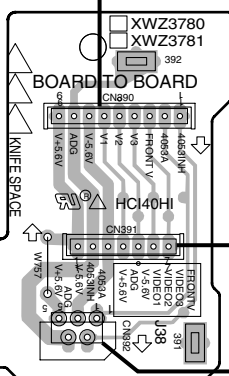


(XNP3074-B)

CN301

CN390

**K** B TO B ASSY



(XNP3074-B)

CN391

**L** CN351

CN392

**R** CN551

**I J K**

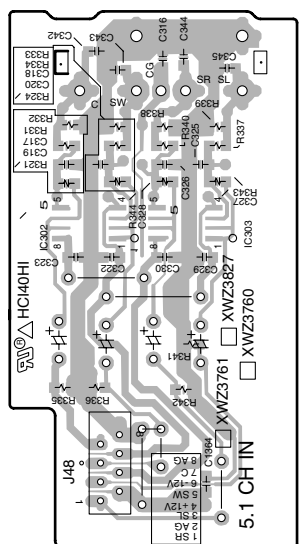
**I J K**



SIDE B

SIDE B

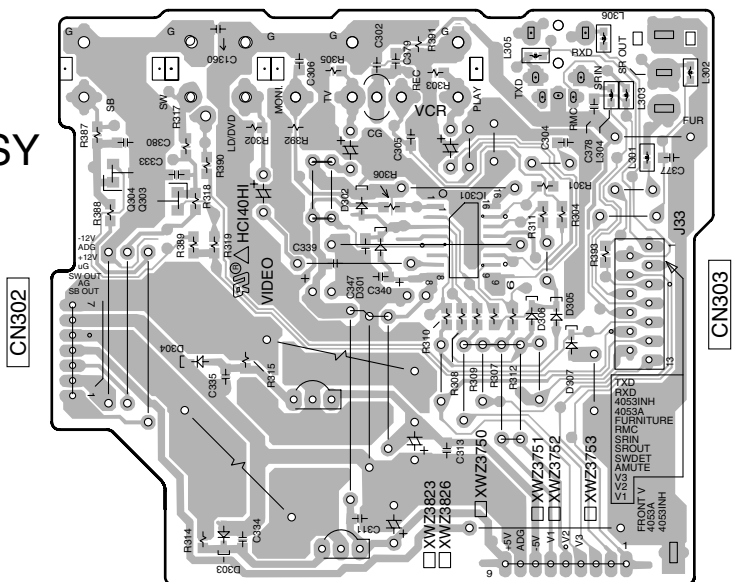
# J 5.1CH ASSY



(for VSX-D514)

CN307 (XNP3074-B)

# I VIDEO ASSY

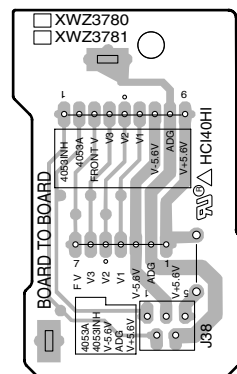


(XNP3074-B)

CN301

CN390

# K B TO B ASSY



(XNP3074-B)

CN391  
CN392

I J K

I J K

VSX-D514-K

57

## SIDE A

## SIDE A

## J 5.1CH ASSY

(for VSX-D414)

**F** CN803

Q302

Q301

(XNP3073-B)

**A**  
CN104

**A** CN105

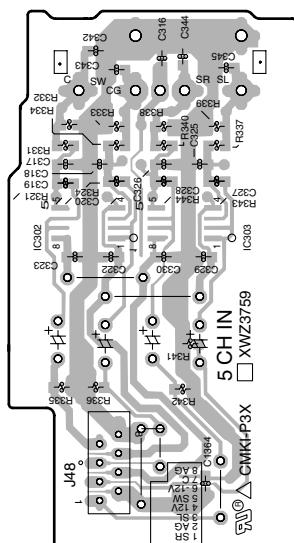
58

VSX-D514-K

SIDE B

SIDE B

## J 5.1CH ASSY



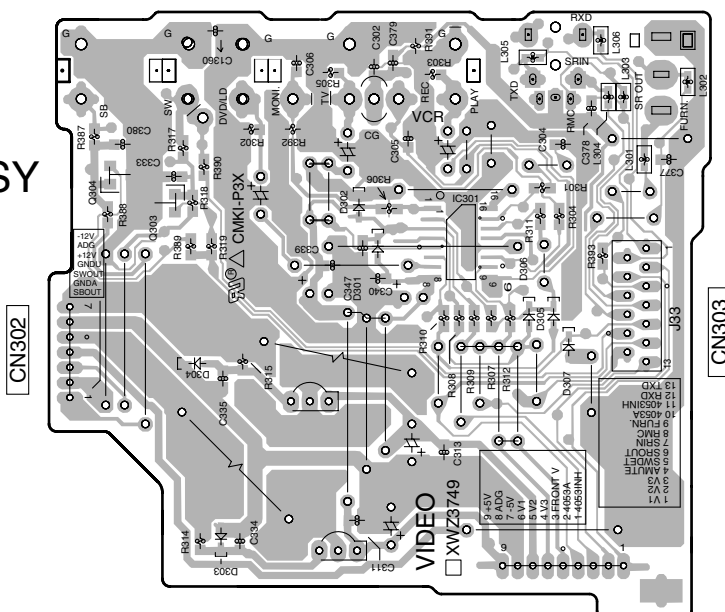
CN307

(XNP3073-B)

IC302  
IC303

(for VSX-D414)

## I VIDEO ASSY



CN302

(XNP3073-B)

CN303

Q304  
Q303  
IC301

I J

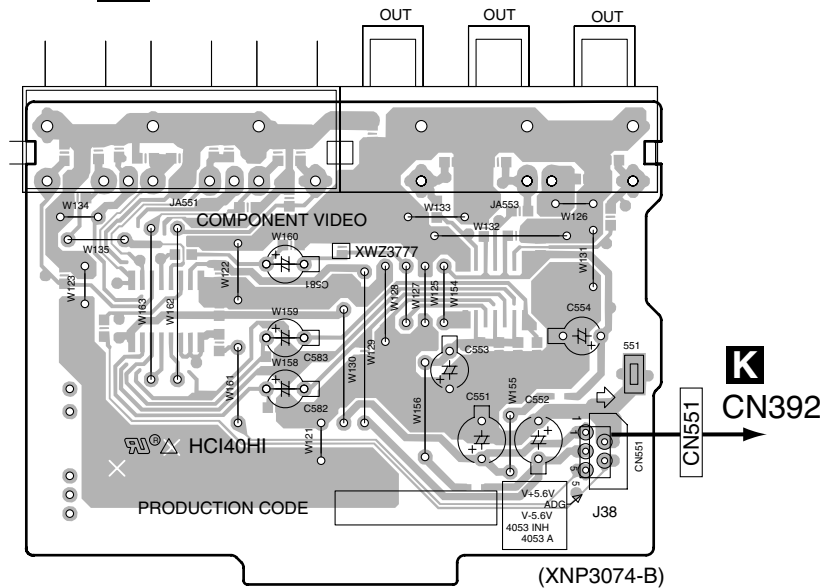
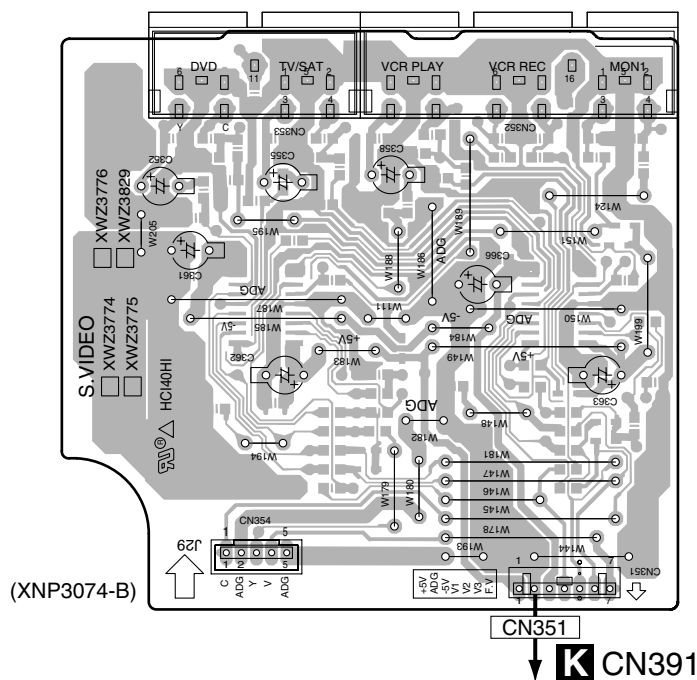
I J

## 4.8 S.VIDEO and COMPONENT ASSYS

**SIDE A**
**R** COMPONENT ASSY

**SIDE A**

(Except VSX-D414)

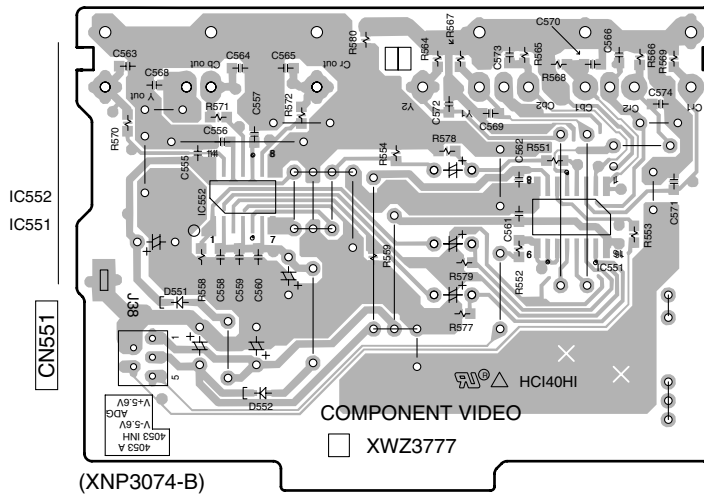

**L** S. VIDEO ASSY

**L R**
**L R**

**SIDE B**

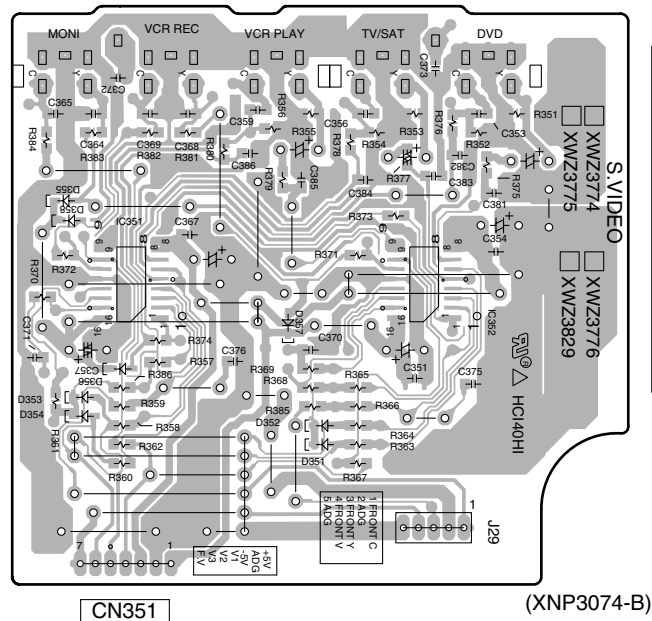
**SIDE B**

# **R** COMPONENT ASSY

(Except VSX-D414)



# **L** S. VIDEO ASSY



**L R**

**L R**

## 5. PCB PARTS LIST

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

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

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

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

560  $\Omega$   $\rightarrow$  56  $\times 10^1 \rightarrow$  561 ..... RD1/4PU  $\overline{561}$  J

47k  $\Omega$   $\rightarrow$  47  $\times 10^3 \rightarrow$  473 ..... RD1/4PU  $\overline{473}$  J

0.5  $\Omega$   $\rightarrow$  R50 ..... RN2H  $\overline{R50}$  K

1  $\Omega$   $\rightarrow$  1R0 ..... RS1P  $\overline{1R0}$  K

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

5.62k  $\Omega$   $\rightarrow$  562  $\times 10^1 \rightarrow$  5621 ..... RN1/4PC  $\overline{5621}$  F

### LIST OF WHOLE PCB ASSEMBLIES

Mark	Symbol and Description	VSX-D514-K/ KUCXJI	VSX-D514-S/ KUCXJI	VSX-D414-K/ KUCXJI	VSX-D414-S/ KUCXJI
NSP	1..MAIN ASSY	XWK3116	XWK3116	XWK3148	XWK3148
	1..DSP ASSY	AWX8418	AWX8418	AWX8418	AWX8418
	1..AMP & PS ASSY	XWK3132	XWK3132	XWK3152	XWK3152
	2..AMP & PRIMARY ASSY	XWZ3782	XWZ3782	XWZ3894	XWZ3894
	2..TRANS2 ASSY	XWZ3808	XWZ3808	XWZ3808	XWZ3808
	2..TRANS3 ASSY	XWZ3812	XWZ3812	XWZ3812	XWZ3812
	2..REGULATOR ASSY	XWZ3796	XWZ3796	XWZ3796	XWZ3796
	2..AMP INPUT ASSY	XWZ3800	XWZ3800	XWZ3800	XWZ3800
NSP	2..TRANS1 ASSY	XWZ3805	XWZ3805	XWZ3805	XWZ3805
	1..COMPLEX ASSY	XWK3147	XWK3147	XWK3126	XWK3126
	2..VIDEO ASSY	XWZ3823	XWZ3823	XWZ3749	XWZ3749
	2..5.1CH ASSY	XWZ3760*	XWZ3760*	XWZ3759*	XWZ3759*
	2..B TO B ASSY	XWZ3781	XWZ3781	Not used	Not used
	2..S. VIDEO ASSY	XWZ3774	XWZ3774	Not used	Not used
	2..FRONT DISPLAY ASSY	XWZ3755	XWZ3755	XWZ3754	XWZ3754
	2..R.ENCODER ASSY	XWZ3766	XWZ3766	XWZ3765	XWZ3765
	2..P.SW & FUNC.KEY ASSY	XWZ3763	XWZ3763	XWZ3762	XWZ3762
	2..FRONT KEY ASSY	XWZ3758*	XWZ3758*	XWZ3757*	XWZ3757*
	2..H.P. ASSY	XWZ3768*	XWZ3768*	XWZ3767*	XWZ3767*
	2..COMPONENT ASSY	XWZ3777	XWZ3777	Not used	Not used
	1..FM/AM TUNER UNIT	AXX7172	AXX7172	AXX7172	AXX7172

\* : Costructed same.

### COMPLEX ASSY

XWK3147 and XWK3126 are constructed the same except for the following :

Mark	Symbol and Description	XWK3147	XWK3126
	J41 Jumper Wire 11P	D20PYY1107	Not used
	J41 Jumper Wire 3P	Not used	D20PYY0307E
	J42 Jumper Wire 7P	D15A07-075-2651	Not used
	J42 Jumper Wire 6P	Not used	D20PYY0608E

### MAIN ASSY

XWK3116 and XWK3148 are constructed the same except for the following :

Mark	Symbol and Description	XWK3116	XWK3148
	Q9006	DTC143EK	Not used
	R9024	Not used	RS1/16S472J
	R9026	RS1/16S0R0J	RS1/16S622J
	R9061	RS1/16S473J	Not used

## CAMP & PRIMARY ASSY

XWZ3782 and XWZ3894 are constructed the same except for the following :

Mark	Symbol and Description	XWZ3782	XWZ3894
	R741, R743	Not used	RD1/4PU333J
	R742, R744	Not used	RD1/4PU202J
	CN741	Not used	AKB7008

## I VIDEO ASSY

XWZ3823 and XWZ3749 are constructed the same except for the following :

Mark	Symbol and Description	XWZ3823	XWZ3749
	R313, R316	RS3LMF390J	RS3LMF560J
	CN301	KP200TA9L	Not used
	390 PCB Binder	Not used	VEF1040

## M FRONT DISPLAY ASSY

XWZ3755 and XWK3754 are constructed the same except for the following :

Mark	Symbol and Description	XWZ3755	XWZ3754
	401	GP1UM28XK	Not used
	IC402	Not used	RPM7140-H4
	3P Cable Holder	Not used	51048-0300
	6P Cable Holder	Not used	51048-0600
	7P Cable Holder	51063-0705	Not used
	11P Cable Holder	51048-1100	Not used

## N R.ENCODER ASSY

XWZ3766 and XWZ3765 are constructed the same except for the following :

Mark	Symbol and Description	XWZ3766	XWZ3765
	6P Cable Holder	Not used	52147-0610
	7P Cable Holder	51063-0705	Not used

## O P.SW & FUNC. KEY ASSY

XWZ3763 and XWZ3762 are constructed the same except for the following :

Mark	Symbol and Description	XWZ3763	XWZ3762
NSP	CN501	52151-1110	Not used
	CN501	Not used	52151-0310

### Mark No. Description Part No.

#### AMP & PS ASSY

##### OTHERS

J21 Jumper Wire	D20PYY0715E
J6 Lead wire Unit	DB215NB0

#### COMPLEX ASSY

##### OTHERS

J42 Jumper Wire	D15A07-075-2651
J47 Jumper Wire	D20PYY0630E
J43 Jumper Wire 7P	D20PYY0708E
J41 Jumper Wire 11P	D20PYY1107E

## A MAIN ASSY

### SEMICONDUCTORS

IC108	BD3813KS
IC101	BD3841FS
IC103-IC105, IC107	HA17558AF

### Mark No. Description Part No.

IC102	NJM2100M
IC9001	PD5963A
IC110-IC112	UPC4570G2
Q165, Q166, Q321, Q322	2SC3326
Q341, Q342, Q361, Q362, Q395	2SC3326
Q5001	2SD1664
Q229, Q230	2SK208
Q167, Q231, Q9002-Q9005	DTA124EK
Q9008	DTA143TK
Q232	DTC124EK
Q168, Q9001, Q9006	DTC143EK
Q9007	DTC143TK
D103-D108, D229, D230, D301	1SS355
D311, D312, D9001-D9013	1SS355
D101, D102	RB501V-40
D5007	UDZS10B
D331, D332	UDZS6.8B

### COILS AND FILTERS

L9001, L9002 Chip Solid Inductor	ATL7002
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**Mark No. Description**

L9003  
L101-L104, L111, L112, L5002  
Chip Solid Inductor

**Part No.**

LFEA2R2J  
QTL1013

**Mark No. Description**

JA105 6P Pin Jack

**Part No.**

XKB3037

**CAPACITORS**

C9003 (0.22F/5.6V)  
C151, C152, C243, C244, C263  
C317, C318, C323, C324  
C343, C344, C363  
C1031, C1041, C117, C118  
C205-C208, C245-C248, C265

ACH7144  
CCSRCH101J50  
CCSRCH101J50  
CCSRCH101J50  
CCSRCH220J50  
CCSRCH331J50

C267  
C203, C204  
C366  
C123-C128, C131-C138  
C141, C142, C167, C168

CCSRCH331J50  
CCSRCH471J50  
CEANP4R7M50  
CEAT100M50  
CEAT100M50

C209, C210, C213, C214  
C249, C250, C269, C270  
C301-C306, C321, C322  
C341, C342, C361, C362  
C5007

CEAT100M50  
CEAT100M50  
CEAT100M50  
CEAT100M50  
CEAT101M16

C169  
C201, C202, C241, C242  
C261, C262, C9005  
C9007

CEAT221M6R3  
CEAT2R2M50  
CEAT2R2M50  
CEAT331M6R3  
CEAT470M25

C155, C156  
C333, C334  
C9013  
C165, C166, C370  
C170

CEAT470M50  
CEAT471M10  
CEAT471M6R3  
CEAT4R7M50  
CKSQYB104K16

C320, C392, C5001, C9015, C9016  
C115, C116, C153, C154, C171  
C179, C180, C199, C215-C218  
C251, C252, C266, C271, C272  
C319, C327-C330, C347, C348

CKSRYB102K50  
CKSRYB103K50  
CKSRYB103K50  
CKSRYB103K50  
CKSRYB103K50

C367, C368, C5002, C9004, C9008  
C9017  
C219, C220, C309-C312  
C5003, C9006  
C264

CKSRYB103K50  
CKSRYB103K50  
CKSRYB104K16  
CKSRYB105K10  
CKSRYB223K25

C257, C258, C277, C278  
C307, C308, C364  
C9011, C9014  
C268  
C391

CKSRYB472K50  
CKSRYB472K50  
CKSRYB473K16  
CKSRYB562K50  
CKSRYF104Z16

**RESISTORS**

⚠ R171, R172  
⚠ R173, R174  
⚠ R311, R312  
Other Resistors

RS1/16S470J  
RS1/16S472J  
RS1LMF101J  
RS1/16S###J

**OTHERS**

X9001 (15.7MHz)  
CN105 8P Connector  
CN103 11P Connector  
CN104 13P Connector  
CN101 17P Conector

XSS3004  
52044-0845  
52044-1145  
52044-1345  
52045-1745

CN106, CN112 19P Connector  
CN109 18P Socket  
CN111 20P Socket  
JA103, JA104 PCB Binder

52045-1945  
KP200TA18L  
KP200TA20L  
XKB3017

**B DSP ASSY  
SEMICONDUCTORS**

IC8201  
IC8401  
IC8501  
IC8901  
IC8902

AK4114VQ  
AK4628VQ  
DSPD56367PV150  
NJM2391DL1-33  
NJU7223DL1-18

IC8101  
IC8701  
IC8702  
IC8502  
Q8504

TC74HCU04AF  
TC74LVX244FT  
TC74VHCT244AFT  
TC7WU04FU  
UMD2N

Q8503  
D8501  
D8401  
D8402, D8502, D8503

UN5112  
1SS355  
DAN202K  
DAP202K

**COILS AND FILTERS**

L8002, L8004, L8501, L8502  
Chip Solid Inductor  
L8101-L8104, L8201, L8203, L8204  
L8401, L8402, L8504, L8701, L8702  
Chip Solid Inductor

ATL7002  
  
QTL1013  
QTL1013

**CAPACITORS**

C8209, C8210  
C8421  
C8107, C8112  
C8007, C8008, C8109, C8201, C8212  
C8214, C8404, C8409-C8414

CCSRCH100D50  
CCSRCH101J50  
CCSRCH470J50  
CCSRCH471J50  
CCSRCH471J50

C8416, C8417, C8419, C8505, C8507  
C8509, C8511, C8512, C8515, C8518  
C8520, C8522, C8524, C8526, C8528  
C8530, C8532, C8534, C8536, C8539  
C8541, C8543, C8545, C8551, C8703

CCSRCH471J50  
CCSRCH471J50  
CCSRCH471J50  
CCSRCH471J50  
CCSRCH471J50

C8706  
C8548, C8549  
C8701, C8704  
C8105, C8406, C8415, C8546, C8547  
C8902, C8904

CCSRCH471J50  
CCSRCH8R0D50  
CEVW100M16  
CEVW101M16  
CEVW101M16

C8217, C8225, C8408  
C8204, C8555  
C8009, C8104, C8114, C8405, C8418  
C8517, C8554  
C8010, C8115, C8202, C8207, C8213

CEVW470M6R3  
CKSRYB102K50  
CKSRYB103K50  
CKSRYB103K50  
CKSRYB104K16

C8215, C8407, C8420, C8422, C8504  
C8513, C8521, C8523, C8525, C8527  
C8529, C8531, C8533, C8535  
C8537, C8538, C8540, C8542, C8544  
C8550, C8702, C8705, C8901, C8903

CKSRYB104K16  
CKSRYB104K16  
CKSRYB104K16  
CKSRYB104K16  
CKSRYB104K16

C8110, C8516  
C8514  
C8203

CKSRYB105K6R3  
CKSRYB333K16  
CKSRYB473K50

**RESISTORS**

R8506  
R8201  
Other Resistors

RAB4C101J  
RS1/16S1802F  
RS1/16S###J

**OTHERS**

VSX-D514-K



Mark No.	Description	Part No.
X8501 (20MHz)		VSS1171
X8201 (24.576MHz)		XSS3003
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

## C AMP & PRIMARY ASSY SEMICONDUCTORS

⚠ IC603	AEK7009
⚠ IC604-IC607	AEK7022
⚠ IC701, IC702	ICP-N10
IC51	NJM78M56FA
⚠ IC601	PAC010A
⚠ IC602	PAC011A
Q703, Q721	2SA1145
Q702	2SA2005
Q691, Q692	2SC1740S
Q704, Q722	2SC1845
Q605, Q606, Q633, Q655, Q656	2SC2240
Q701	2SC5511
Q601-Q604, Q631, Q632	2SC5974A
Q651-Q654	2SC5974A
Q51	DTC143ES
D56, D601-D604, D631, D632	1SS133
D651-D654, D752, D756	1SS133
⚠ D701, D702	D5SBA20(B)
D675-D678	MTZJ16A
D711	MTZJ22D
D58, D712	MTZJ5.1B
⚠ D51-D55, D721-D724	S5688G

## COILS AND FILTERS

L751-L753, L761, L762 Coil	ATH1004
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## SWITCHES AND RELAYS

RY51	XSR3006
RY751-RY753	XSR3007

## CAPACITORS

C707, C708 (0.01/AC250V)	ACG1005
C607-C610, C634, C635	CCPUCH6R8K50
C657-C660	CCPUCH6R8K50
C615, C616, C638, C665, C666	CEANP2R2M50
C775, C776	CEANP470M50
C712	CEAT101M10
C611, C612, C636, C661, C662	CEAT101M16
C711	CEAT101M35
C53	CEAT102M16
C692	CEAT221M10
C54	CEAT470M25
C605, C606, C633, C655, C656	CEAT4R7M50
C705, C706	CEHAT100M2A
C613, C614, C637, C663, C664	CKPUYB101K50
C691	CKPUYB102K50
C603, C604, C632, C653, C654	CKPUYB331K50
C55-C57	CKPUYF103Z25
C751, C752, C755, C761, C762	CQMB104J50
C51, C52 (10000pF/AC250V)	XCG3009

Mark No.	Description	Part No.
C703, C704 (3300/42V)		XCH3012
C701, C702 (5600/71V)		XCH3013

## RESISTORS

⚠ R615, R616, R638, R665	ACN7094
⚠ R666 (0.22 /5W)	ACN7094
⚠ R51 (2.2M 1/2W)	RCN1080
⚠ R52	RD1/2PM270J
⚠ R751, R752, R755, R761, R762	RD1/4PUF101J
⚠ R753, R754, R756, R763, R764	RS1LMF4R7J
⚠ R711	RS2LMF392J
Other Resistors	RD1/4PU###J

## OTHERS

CN53 23P Connector	52045-2345
CN702 6P Jumper Connector	52147-0610
51 AC Socket 1-P	AKP1060
H51-H54, H701, H702 Fuse Clip	AKR7001
⚠ T51 Standby Transformer	ATT7043
CN601 16P Plug	KM200TA16
CN51 AC Cord Socket	RKP1751
KN51, KN601 Earth Metal Fitting	VNF1084
CN752 4P Speaker Terminal	XKE3010
CN751 6P Speaker terminal	XKE3012
701 7P Cable Holder	XKP3047

## D TRANS2 ASSY SEMICONDUCTORS

⚠ IC851-IC853	AEK7012
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## OTHERS

851 7P Cable Holder	XKP3047
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## 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	DTA124ES
Q802, Q804	DTC114ES
D809-D811	MTZJ6.2B
⚠ D801-D804	S5688G

## CAPACITORS

C811, C815	CEAT101M10
C813	CEAT101M16
C801, C802	CEAT222M25
C809	CEAT472M16
C808	CEHAT101M10
C805, C806	CEHAT101M16
C803, C804, C807, C810, C812	CKPUYF103Z25
C814	CKPUYF103Z25

## RESISTORS

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
R801		RS3LMF331J

## **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

## **H TRANS1 ASSY**

TRANS1 ASSY has no service part.

## **I VIDEO ASSY**

### **SEMICONDUCTORS**

IC301	NJM2595M
Q302	2SA1515
Q303	2SC3326
Q301	2SC3377
D301, D302, D305, D306	1SS355

D303, D304	UDZS6.2B
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### **CAPACITORS**

C347	CCSRCH470J50
C307-C310, C312, C314, C338	CEAT470M25
C1360, C302	CKSRYB103K50
C339, C340	CKSRYB104K25
C304-C306	CKSRYB221K50

C333	CKSRYB331K50
C311, C313	CKSRYB473K25

### **RESISTORS**

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

### **OTHERS**

CN303 13P Connector	52044-1345
CN308 6P Pin Jack	AKB7123
CN302 7P Socket	KP200TA7L
CN301 9P Socket	KP200TA9L

## **J 5.1CH ASSY**

### **CAPACITORS**

C342-C345	CCSRCH101J50
C321, C324, C331, C332	CEAT4R7M50
C1364	CKSRYB102K50
C316	CKSRYB103K50
C317, C318, C325, C326	CKSRYB221K50

### **RESISTORS**

Other Resistors	RS1/16S###J
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### **OTHERS**

CN307 8P Connector	52044-0845
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<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
CN309 4P Pin Jack		XKB3035

## **K B TO B ASSY**

### **OTHERS**

CN392 5P Connector	52045-0545
CN391 7P Plug	KM200TA7
CN390 9P Plug	KM200TA9
391 PCB Binder	VEF1040

## **L S.VIDEO ASSY**

### **SEMICONDUCTORS**

IC351, IC352	NJM2595M
D351-D358	1SS355

### **CAPACITORS**

C375, C376, C381-C386	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**

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

### **OTHERS**

CN353 2-4P Mini DIN Socket	AKP7020
CN352 3-4P Mini DIN Socket	AKP7043
CN351 7P Socket	KP200TA7L

## **M FRONT DISPLAY ASSY**

### **SEMICONDUCTORS**

IC401	PE5420A
Q484	2SA1037K
Q442	DTC124EK
D403	1SS355
D401	DAN202K

### **COILS AND FILTERS**

L401	LFEA2R2J
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### **CAPACITORS**

C482, C483	CCSRCH221J50
C481	CCSRCH471J50
C442	CEAL470M10
C403	CEAT221M6R3
C412	CEAT470M50

C415, C454	CKSRYB102K50
C401, C402, C410, C411, C419	CKSRYB103K50
C441	CKSRYB103K50
C418, C421	CKSRYB104K16
C420	XCH3011

### **RESISTORS**

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

### **OTHERS**

X401 (5MHz)	VSS1142
401 Remote Receiver Unit	GP1UM28XK
471 11P Cable Holder	51048-1100
404 7P Cable Holder	51063-0705

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
CN401	17P Cable Holder	52044-1745
CN450	7P Jumper Connector	52151-0710
V401	FL Tube	XAV3022

## **N** R.ENCODER ASSY SWITCHES AND RELAYS

S511	VSG1024
S513	XSX3005
S512	XSX3006

### OTHERS

511	7P Cable Hoder	51063-0705
-----	----------------	------------

## **O** P.SW & FUNC. ASSY SWITCHES AND RELAYS

S501-S509	VSG1024
-----------	---------

### RESISTORS

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

## **P** FRONT KEY ASSY SWITCHES AND RELAYS

S451-S469	VSG1024
-----------	---------

### CAPACITORS

C451-C453	CKSRYB102K50
-----------	--------------

### RESISTORS

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

### OTHERS

550	7P Cable Holder	51048-0700
-----	-----------------	------------

## **Q** 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

## **R** COMPONENT ASSY SEMICONDUCTORS

IC552	NJM2581M
IC551	TC74HC4053AF
D551, D552	1SS355

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

### CAPACITORS

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

### RESISTORS

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

### OTHERS

CN551	5P Connector	52045-0545
JA553	3P RCA Pin Jack	AKB7124
JA551	6P RCA Pin Jack	XKB3025

## **FM/AM TUNER UNIT**

FM/AM TUNER UNIT has no service part.

# 6. ADJUSTMENT

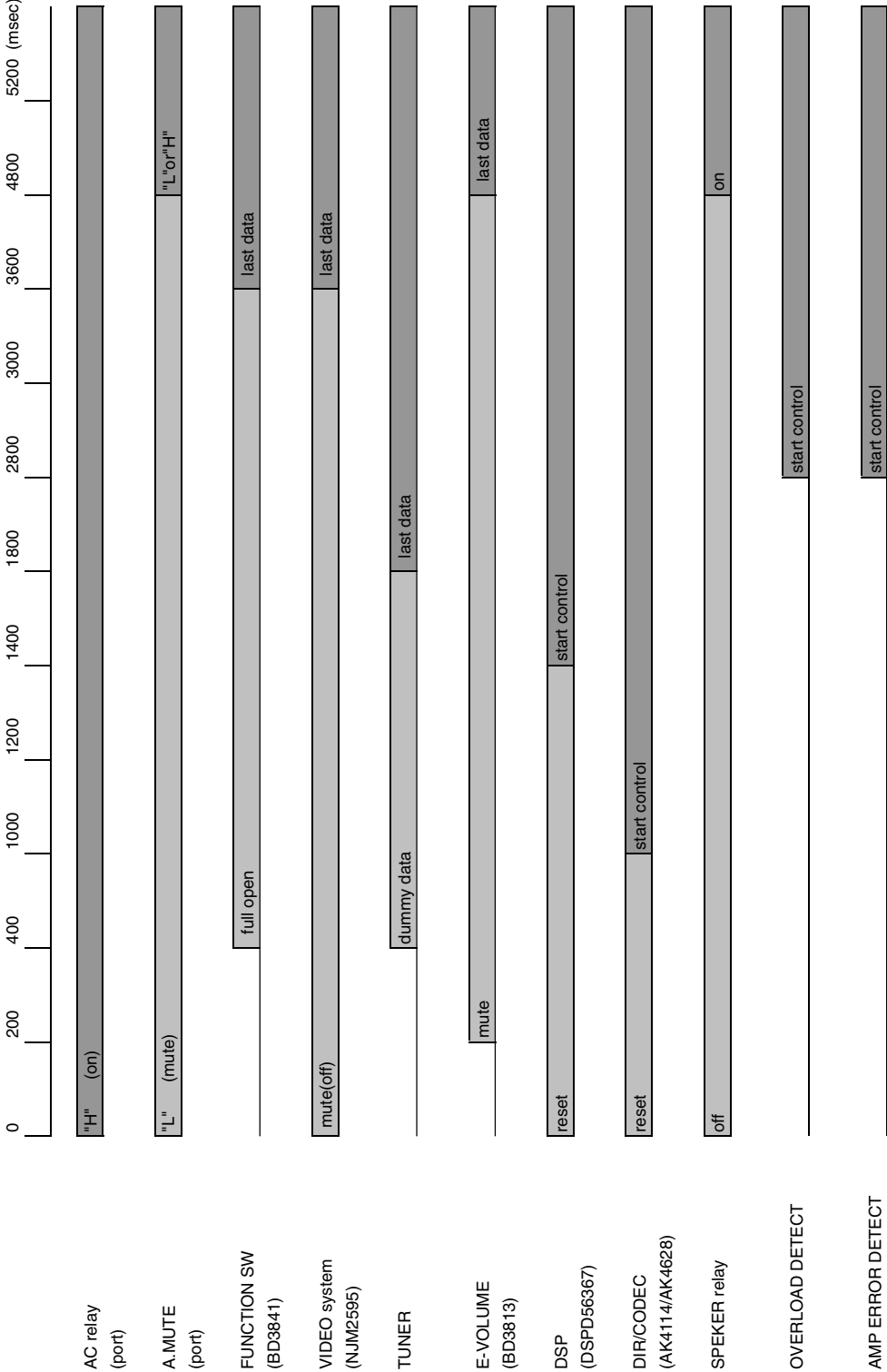
There is no information to be shown in this chapter.

7. GENERAL INFORMATION

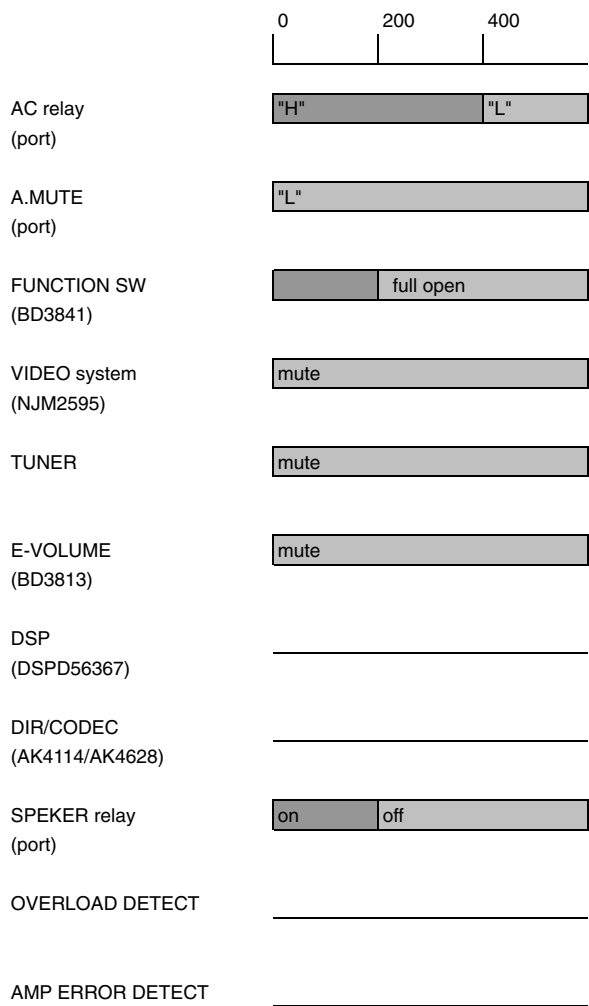
7.1 DIAGNOSIS

7.1.1 POWER ON AND OFF INITIAL TIMING CHART

POWER ON INITIAL TIMING CHART



■ POWER OFF INITIAL TIMING CHART



A

B

C

D

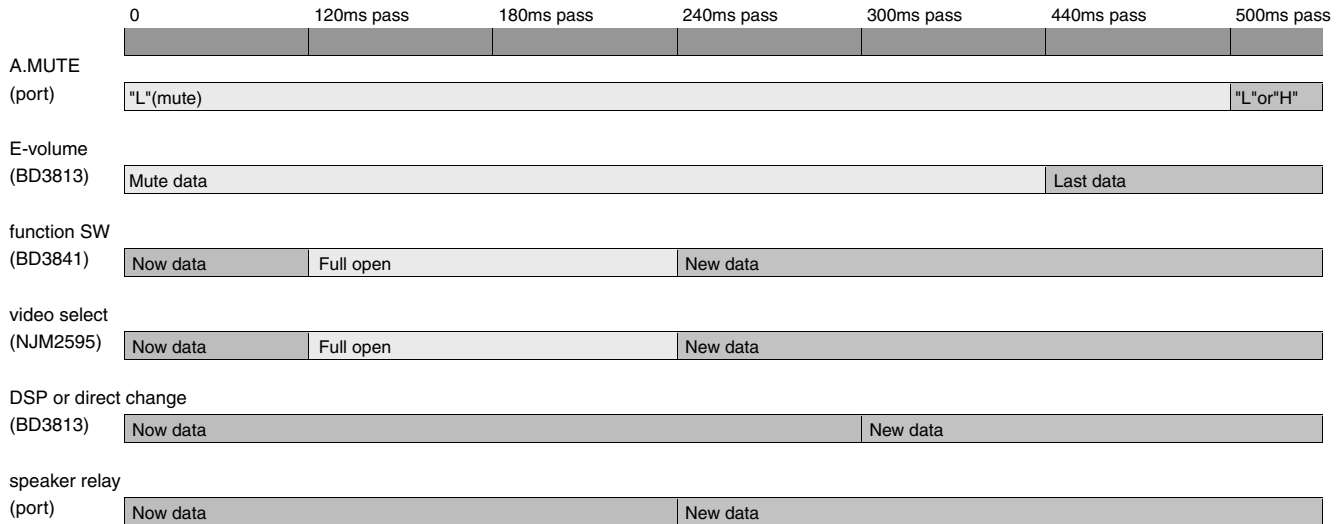
E

F

## 7.1.2 IC DATA TRANSMISSION TIMING CHART

### IC data transmission timing chart

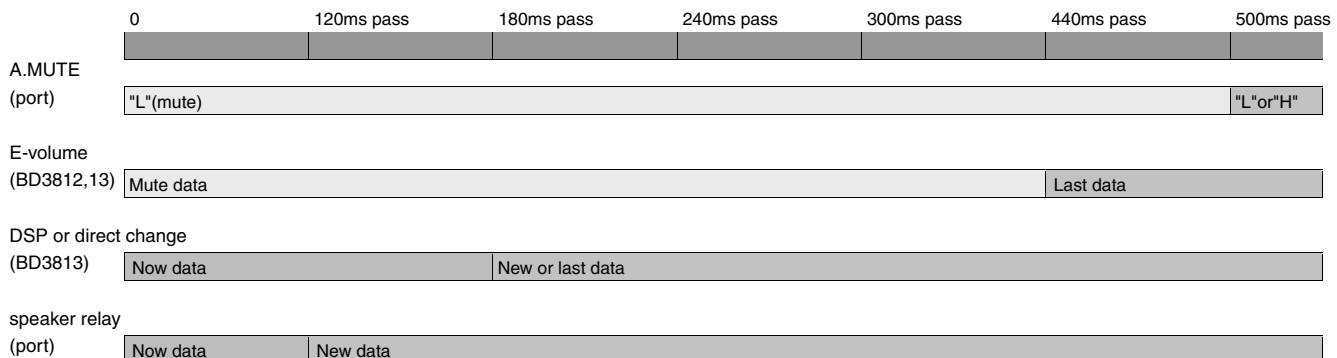
#### 1. When function change



#### 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

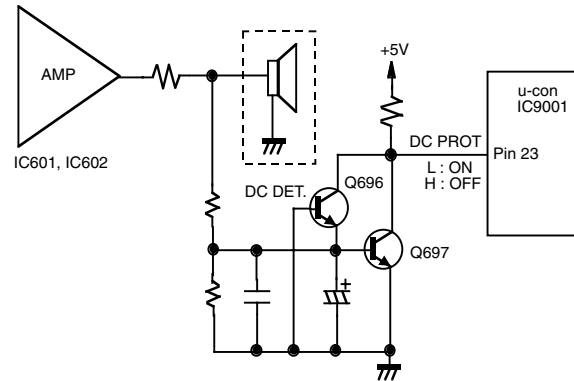


#### condition of mute cancel (system mute & E-volume mute)

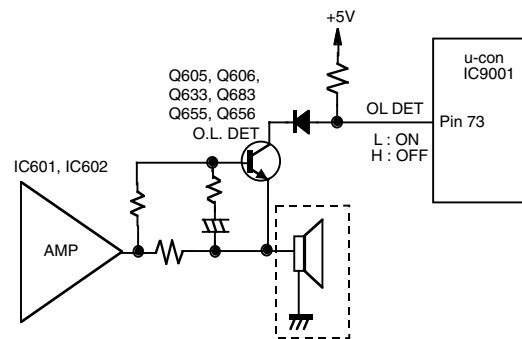
- 1) when tuner mute during Tuner function
- 2) when communicate to DSP
- 3) when initial processing
- 4) when detect trouble of AMP DC
- 5) when detect overload of AMP
- 6) when Power off
- 7) when muting by key input

## 7.1.3 DETECTION CIRCUIT

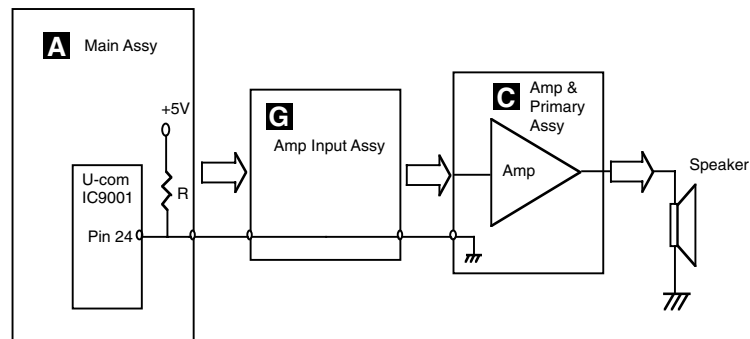
1. DC Detection Circuit Diagram:



2. Overload Detection Circuit Diagram:



3. PCB Board Protection Circuit Diagram



## 7.1.4 AMPLIFIER SYSTEM PROTECTION OPERATION SPECIFICATION

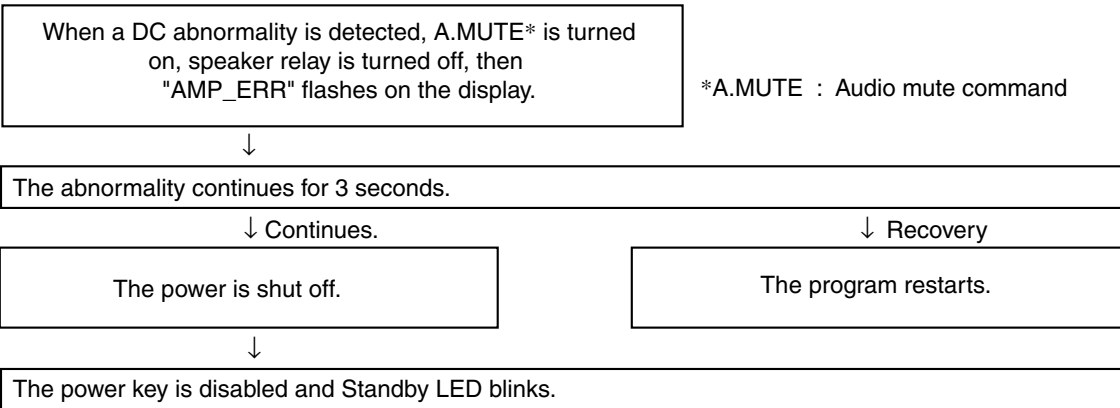
### 1. DC-abnormality detection

DC detection is only enabled 2 seconds after power-on.

If there is a fault in the power amplifier or a high-level signal lower than 5 Hz is input, the DC\_DET port becomes "L".

If the "L" is detected, the microprocessor will perform as following flow chart.

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



But be switched on with the following methods.

① TESTMODE ON (A55F+A55F)

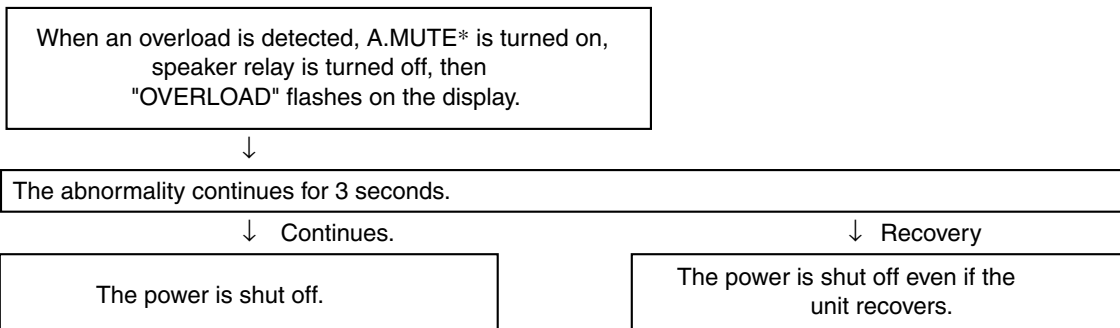
② When power off, push FRONT ENTER key + ADVANCED SURROUND key continuously 2sec.

(②: When a DC abnormality is detected and the power is shut off.)

### 2. Overload detection

If the speaker terminals are short-circuited or low-load driving is detected, the OL\_DET port becomes "L".

If the "L" is detected, the microprocessor will perform as following flow chart.



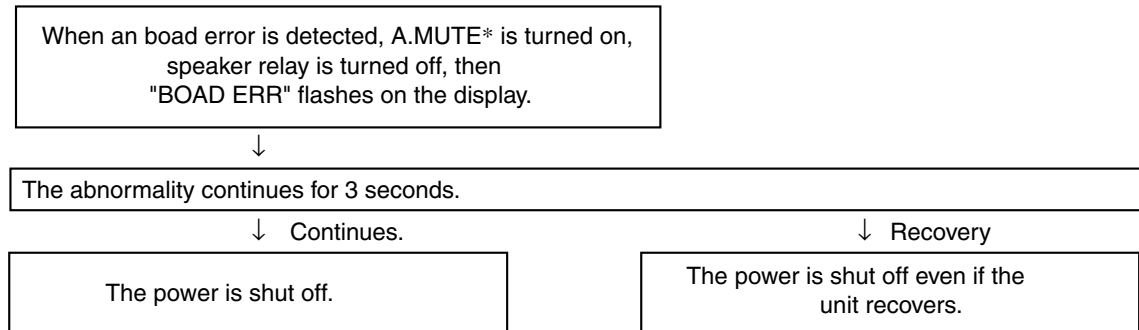


### 3. Board detection

If the board connection from MAIN ASSY to AM & PRIMARY ASSY is interrupted, the BOARD\_DET port becomes "H".

If the "H" is detected, the microprocessor will perform as following flow chart.

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



## 7.1.5 AMPLIFIER FAILURE DIAGNOSIS FLOW CHART

### ■ Amplifier failure diagnosis flow chart

When DC detection is activated ("AMP\_ERR" flashes on the display), failure (damage) of the power amplifier section is considered.

#### ■ Caution:

When release the lock state of power key before repair, please be careful because there is the possibility that more damages will occur when turns on the power once again!

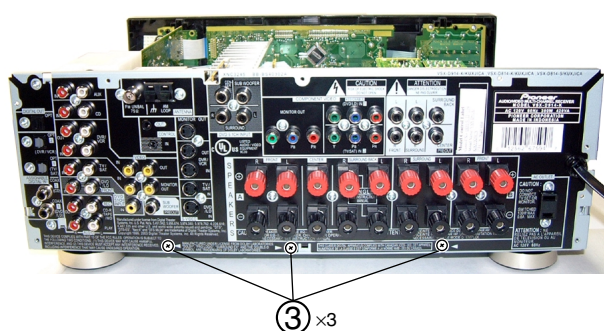
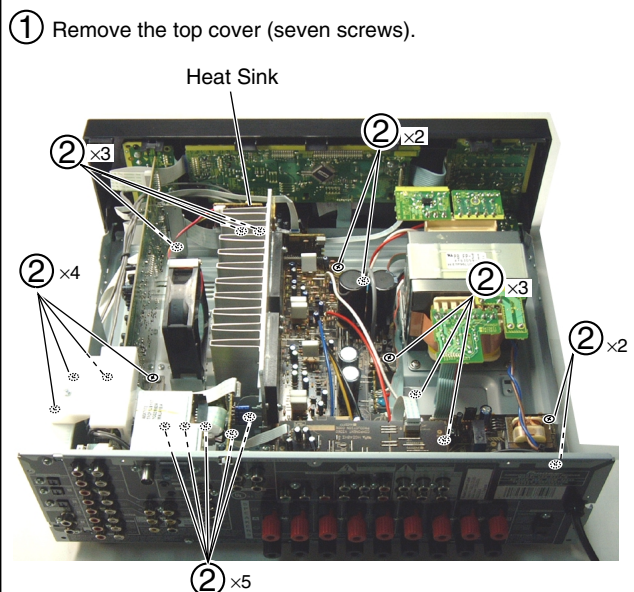
• According to a symptom, perform the following confirmation beforehand.

- 1) Is the operation of fan motor in normal condition?
- 2) Are there any Fuses and IC protectors open?
- 3) After turn on the power, confirm that the supply voltage of the point that can be measured is appropriate.
- 4) Whether the voltage of pin3 of IC601 or IC602 is equal to (VL-0.7V). If not (eg, equal to VH), then change the corresponding power pack IC601 or IC602.
- 5) Furthermore, check the output DC voltage of each channel of power pack IC601 and IC602 to limit the failure channel and identify the defect power pack.

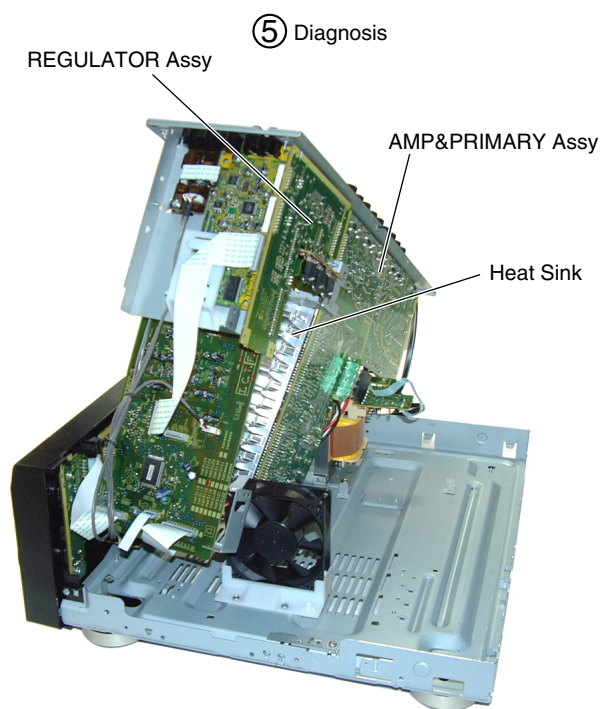
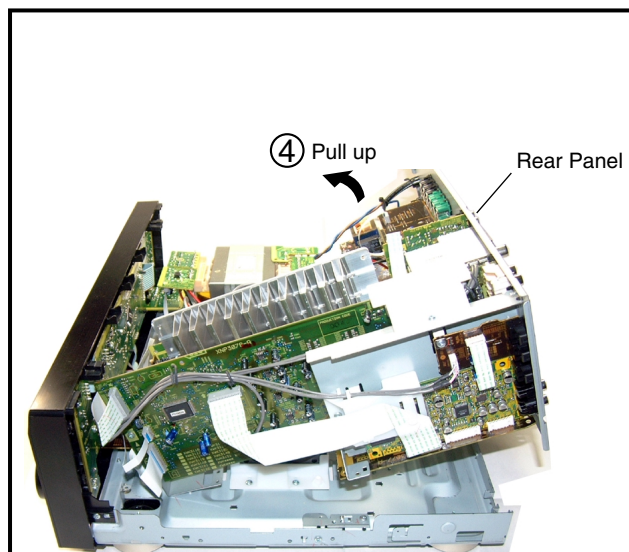
• After identify the failure channel, check that each part is not damaged (resistor, diode... etc. value / open / short)

## 7.1.6 DISASSEMBLY

### ■ Diagnosis



Note : This photograph may show a different model.  
However, the method for disassembly is the same.



Note : This photograph may show a different model.  
However, the method for disassembly is the same.

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

**Heat-sink caution in the disassembling** : Because Heat-sink becomes hot, please pay attention.

A

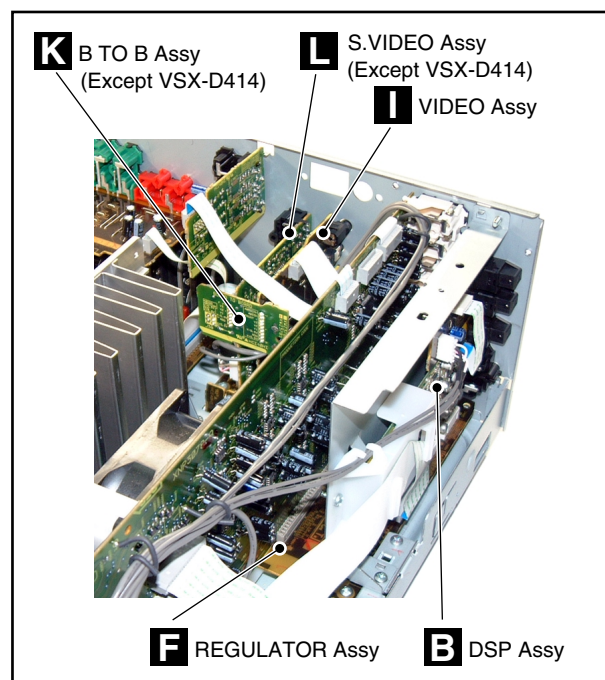
B

C

D

E

F



**C** AMP&PRIMARY  
Assy

**D** TRANS 2  
Assy

**R** (Except VSX-D414)  
COMPONENT  
Assy

**J** 5.1CH  
Assy

FM/AM TUNER  
UNIT

**A** MAIN Assy

**G** AMP INPUT Assy

**H** TRANS 1  
Assy

**E** TRANS 3  
Assy

**N** R. ENCODER Assy

**M** FRONT DISPLAY Assy

**P** FRONT KEY Assy

**Q** H.P. Assy

**O** P. SW &  
FUNC. KEY Assy

## 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.

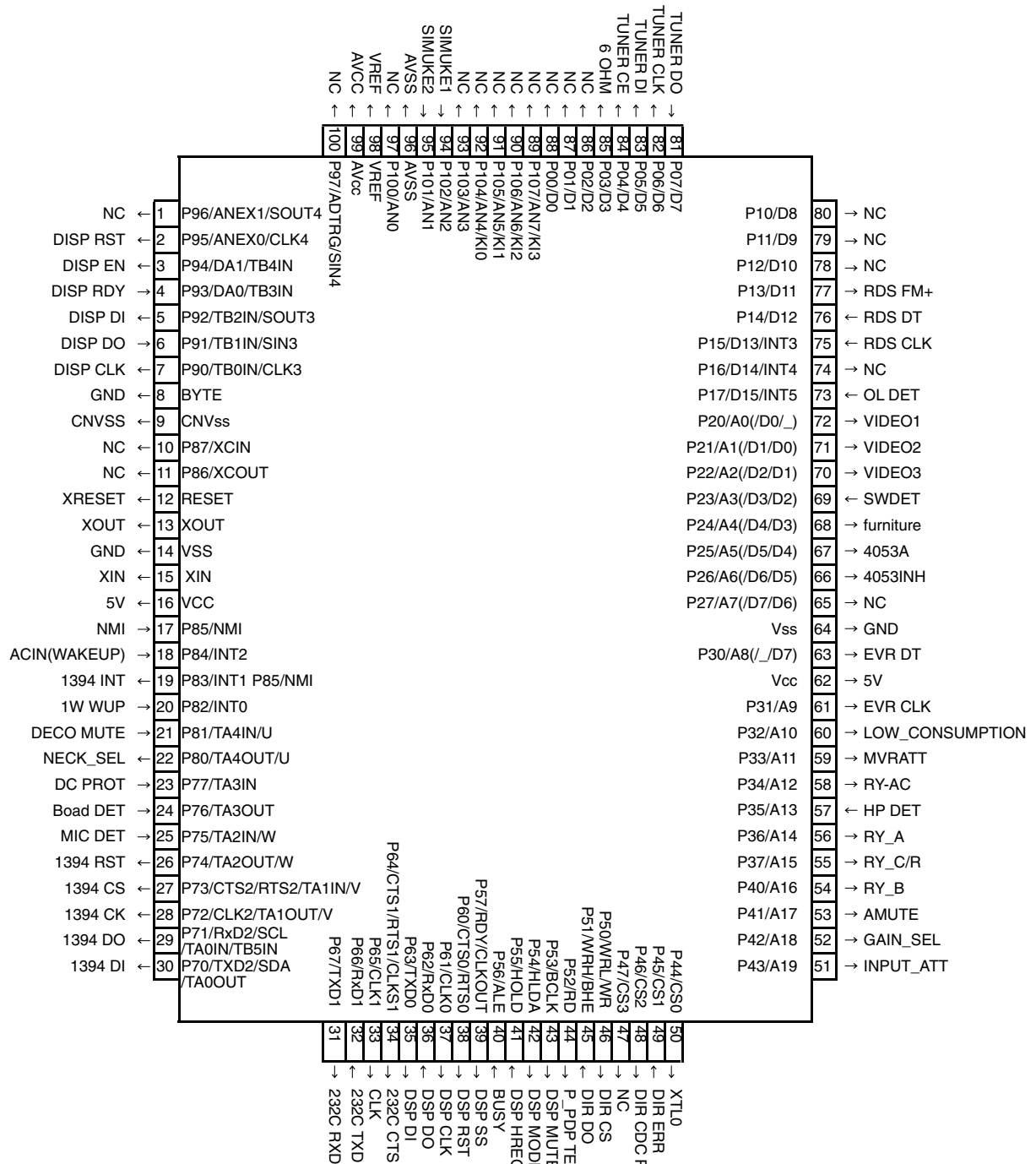
- **List of IC**

PD5963B, PE5420A, BD3841FS, BD3813KS

#### ■ PD5963B (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	RST	
13	XOUT	XOUT	OSC	
14	VSS	GND	GND	
15	XIN	XIN	OSC	
16	VCC	5V	5V	
17	P85/NMI	NMI	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 Boot success 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 falling off detect, H : detected
25	P75/TA2IN/W	MIC DET	I/O	MIC detect (No Use)
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	No use, fixed to "L" (For rewriting 232C (Data output))
32	P66/RxD1	232C TXD	I/O	No use, fixed to "L" (For rewriting 232C (Data input))
33	P65/CLK1	CLK	I/O	No use (It is necessary when writing for JIG)
34	P64/CTS1/RTS1/CLKS1	232C CTS	I/O	No use, fixed to "L" (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	Slave 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 (H : ROMmode, L : RAM(PPP) mode)
43	P53/BCLK	DSP MUTE	I/O	DSP ASSY mute
44	P52/RD	P_PDPTEST	I/O	Fixed to "L" during normal operation. (for SR+ testmode only)
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
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 (L : Mute ON)
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
61	P31/A9	EVR CLK	I/O	Clock signal for Function and E-volume
62	Vcc	5V	5V	
63	P30/A8(/_D7)	EVR DT	I/O	Data signal for Function and E-volume
64	Vss	GND	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
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	Fixed to "L".
76	P14/D12	DT	I/O	Fixed to "L".
77	P13/D11	FM+	I/O	Fixed to "L".
78	P12/D10	NC	I/O	
79	P11/D9	NC	I/O	
80	P10/D8	NC	I/O	
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	6 OHM	I/O	if stop mode, port L, else L/H depends on selection.
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	
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	GND	Connect to VSS
97	P100/AN0	NC	I/O	
98	VREF	VREF	5V	Connect to VCC
99	AVcc	AVCC	5V	Connect to VCC
100	P97/ADTRG/SIN4	NC	I/O	





# • 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	VOL LED	I/O	LED Output
38	P50/FIP40	MCACC LED	I/O	LED Output
39	P47/FIP39	FUNC/AUX	O	LED Output
40	P46/FIP38	FUNC_TUNER	O	LED Output

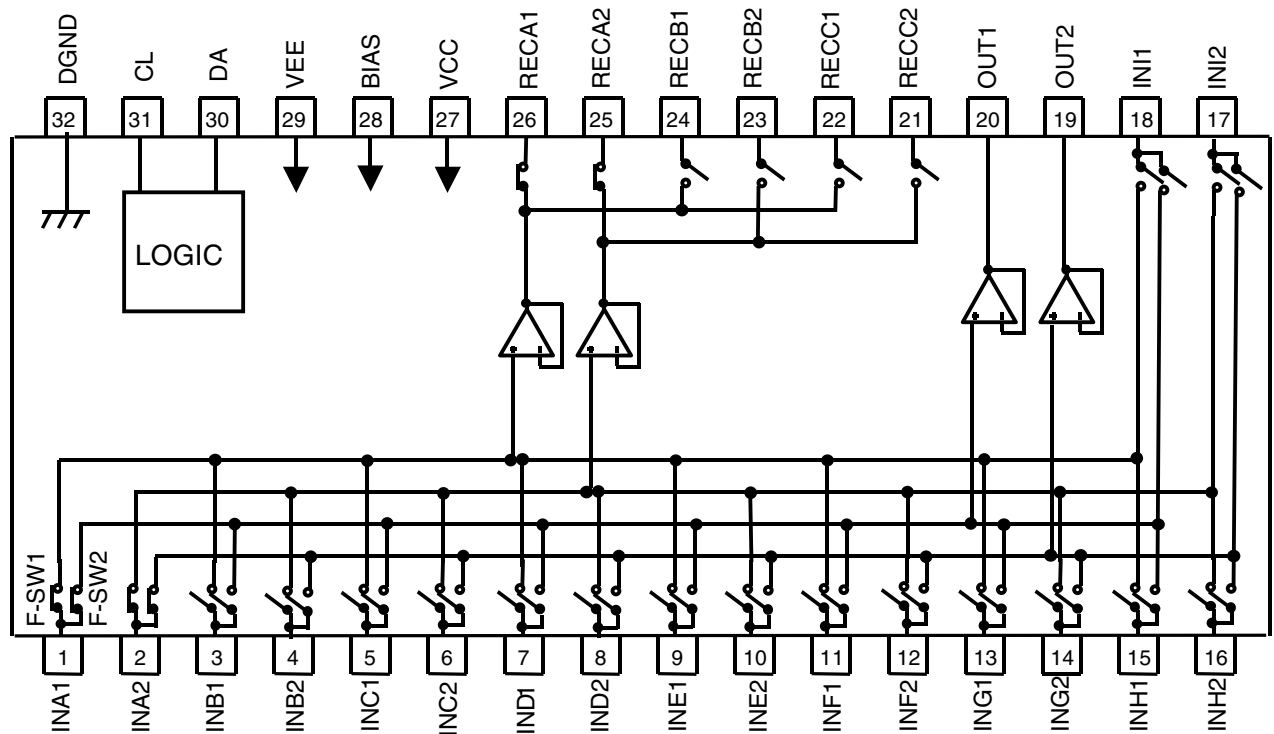
# • Pin Function

No.	Port	Pin Name	I/O	Pin Function
41	FIP37/P45	FUNC_CDR	O	LED Output
42	FIP36/P44	FUNC_CD	O	LED Output
42	FIP35/P43	FUNC_DVD	O	LED Output
44	FIP34/P42	FUNC_TV	O	LED Output
45	FIP33/P41	FUNC_VCR	O	LED Output
46	FIP32/P40	FUNC_VIDEO	O	LED Output
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

## ■ BD3841FS (MAIN ASSY : IC101)

### • 9ch Function Switch

### ■ Block Diagram



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

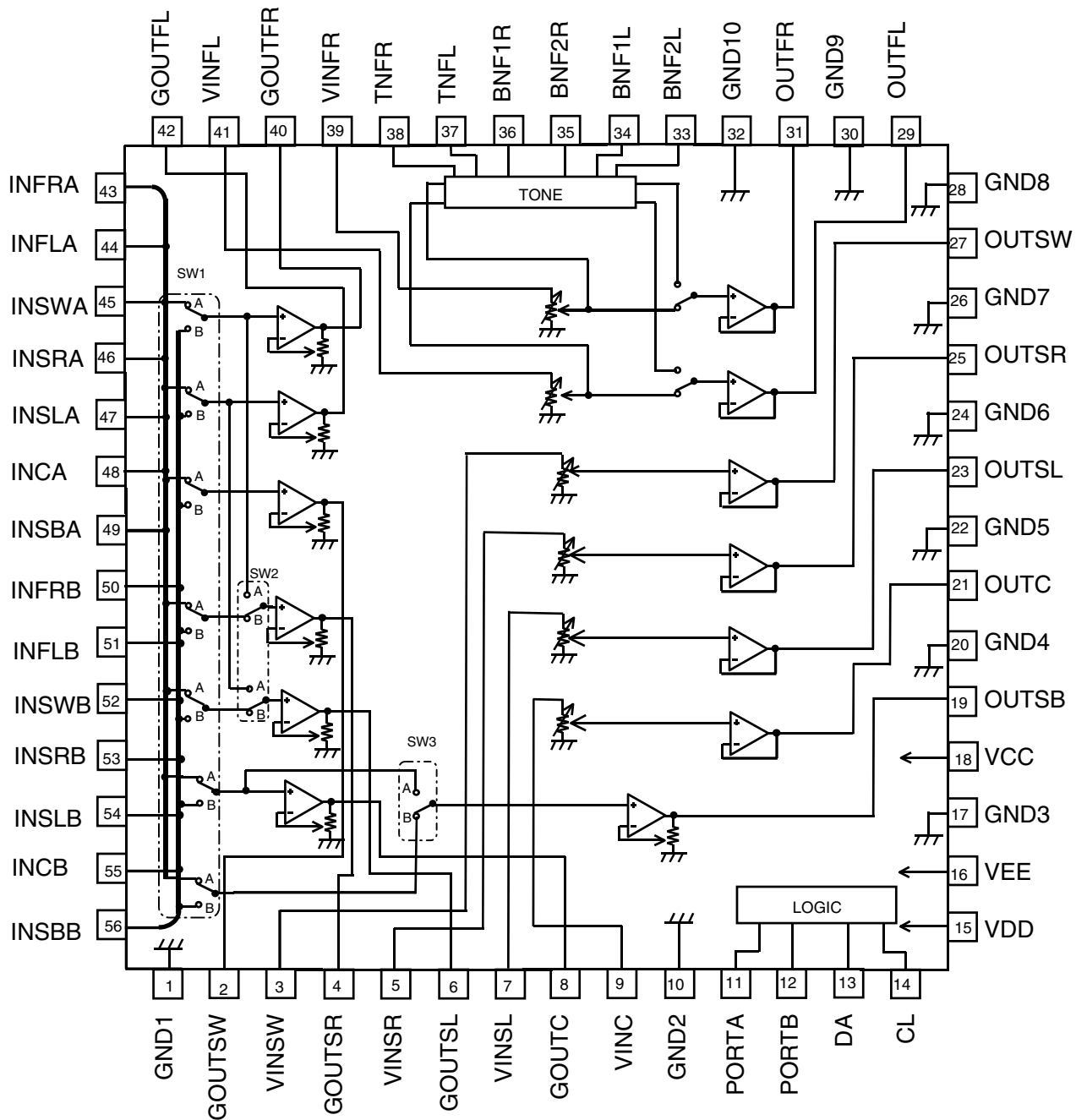
### • Description of terminal

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 an latch 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

# 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

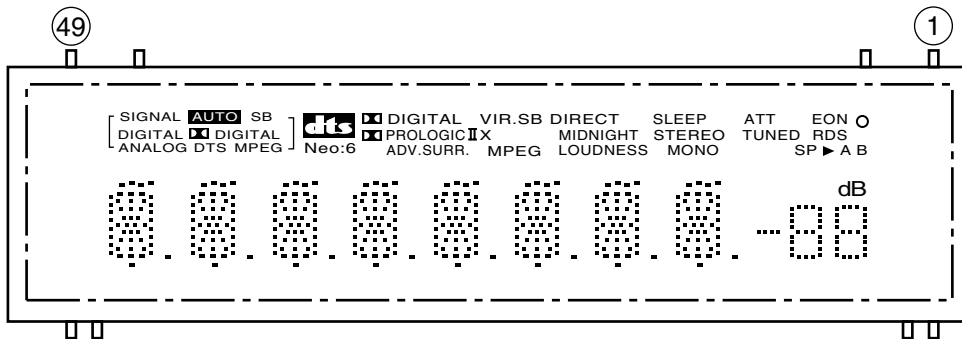
Terminal Number	Terminal Name	Description	Terminal Number	Terminal Name	Description
27	OUTSW	Sub woofer output terminal	42	GOUTFL	Lch input gain output terminal
28	GND8	Ground terminal	43	INFRA	Rch DVD input terminal
29	OUTFL	Lch output terminal	44	INFLA	Lch DVD input terminal
30	GND9	Ground terminal	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

## 7.2.2 DISPLAY

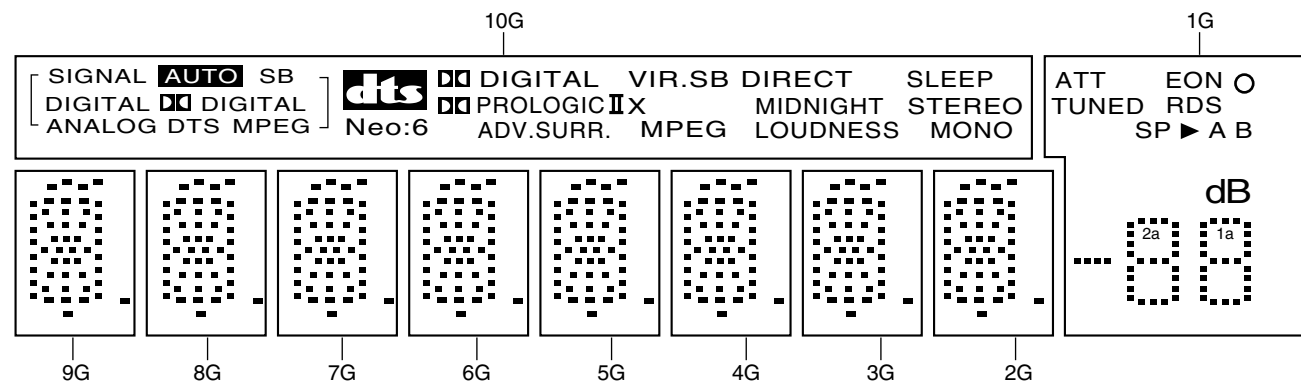
### ■ XAV3022 (FRONT ASSY : V401)

#### • FL DISPLAY

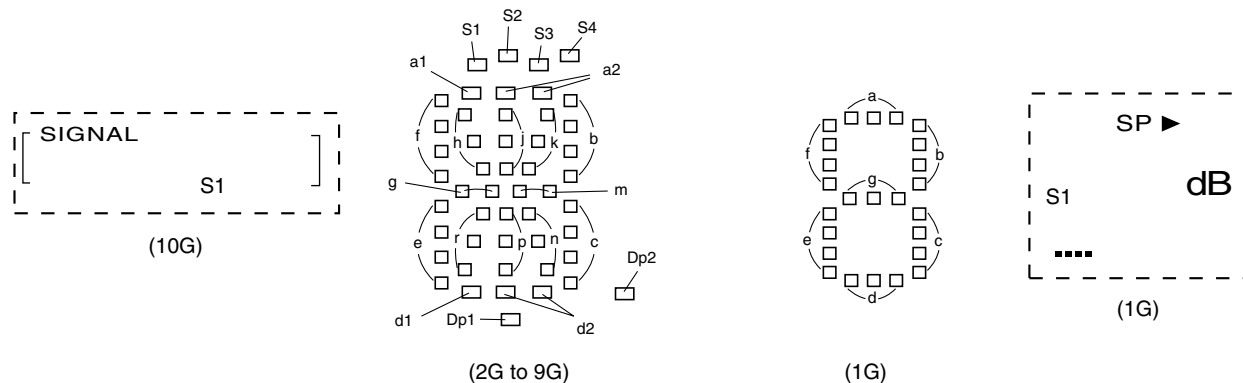
#### • Pin Assignment



#### • 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	

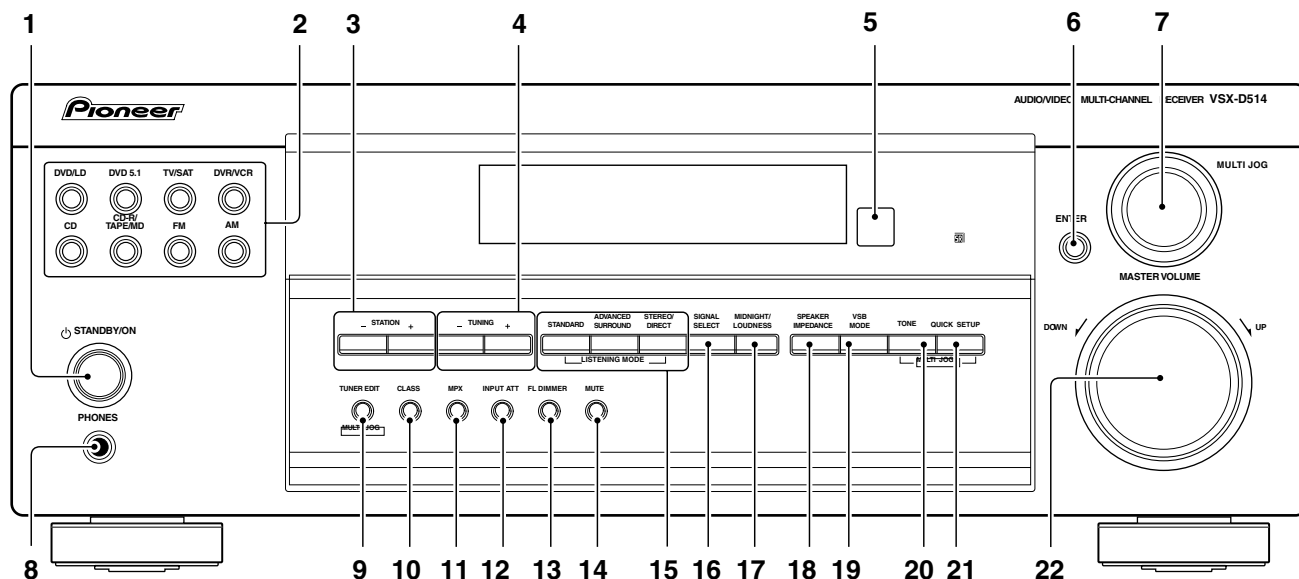
NOTE 1) F1, F2..... Filament  
 2) NP..... No pin  
 3) NX..... No extend pin  
 4) DL..... Datum Line  
 5) 1G to 10G..... Grid  
 6) Field of vision is a minimum of 21.8° from the lower side.

### • Anode Connection

	10G	9G-2G	1G
P1	S1	a1	ATT
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 (L)	m	B
P9		g	1a
P10	MPEG (R)	c	1b
P11	 DIGITAL (R)	e	1f
P12	 PRO LOGIC II	r	1g
P13	Neo:6	p	1c
P14	VIR.SB	n	1e
P15	ADV.SURR.	d1	1d
P16	X	d2	2a
P17	DIRECT	Dp2	2b
P18	MIDNIGHT	Dp1	2f
P19	LOUDNESS	S1	2g
P20	SLEEP	S4	2c
P21	STEREO	S2	2e
P22	MONO	S3	2d

# 8. PANEL FACILITIES

## Front Panel



### 1 STANDBY/ON

Switches the receiver between on and standby.

### 2 INPUT SELECT buttons

Use to select the input source.

### 3 STATION (+/-) buttons

Select station presets when using the tuner .

### 4 TUNING (+/-) buttons

Select the frequency when using the tuner .

### 5 Remote sensor

Receives the signals from the remote control.

### 6 ENTER

### 7 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**

### 8 PHONES jack

Use to connect headphones.

### 9 TUNER EDIT

Press to memorize and name a station for recall.

### 10 CLASS

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

### 11 MPX

Press the **MPX** button to receive a radio broadcast in mono.

### 12 INPUT ATT

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

### 13 FL DIMMER

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

### 14 MUTE

Use to mute the sound or restore the sound if it has been muted.

### 15 LISTENING MODE buttons

#### STANDARD

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

#### ADVANCED SURROUND

Use to switch between the various surround modes.

#### STEREO/DIRECT

Switches direct playback on or off Direct playback bypasses the tone controls and channel levels for the most accurate reproduction of a source.

### 16 SIGNAL SELECT

Use to select between an analog or digital signal.

### 17 MIDNIGHT/LOUDNESS

Use to switch to Midnight or Loudness listening.

### 18 SPEAKER IMPEDANCE

Use to switch the speaker impedance when using low-impedance speakers.

### 19 VSB MODE

Press to switch the Virtual Surround Back mode on or off.

### 20 TONE

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

### 21 QUICK SETUP

### 22 MASTER VOLUME

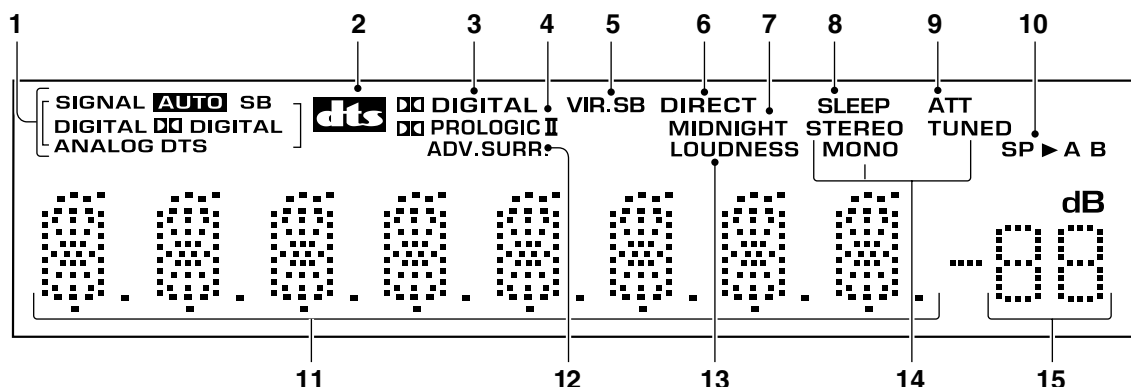


#### Note

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



## 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

**DIGITAL** : Lights when a digital audio signal is detected.

**DIGITAL** : Lights when a Dolby Digital signal is detected.

**ANALOG** : Lights when an analog signal is detected.

**DTS** : Lights when a source with DTS audio signal is detected.

**SB** : Lights when a source (such as DTS-ES and Dolby Digital EX) with surround back channel information 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 mode of the receiver is on, this lights to indicate Prologic II decoding.

### 5 VIR. SB

Lights during Virtual surround back processing.

### 6 DIRECT

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

### 7 MIDNIGHT

Lights during Midnight listening.

### 8 SLEEP

Lights when the receiver is in sleep mode.

### 9 ATT

Lights when **INPUT ATT** is used to attenuate (reduce) the level of the input signal (can only be used with an analog signal).

### 10 Speaker indicator

Shows if the speaker system is on or not.

**SP ► A** means speakers are switched on. **SP ►** means the headphones are connected.

### 11 Character display

### 12 ADV. SURR. (Advanced Surround)

Lights when one of the Advanced Surround listening modes of the receiver is selected.

### 13 LOUDNESS

Lights during Loudness listening.

### 14 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.

### 15 Master volume level

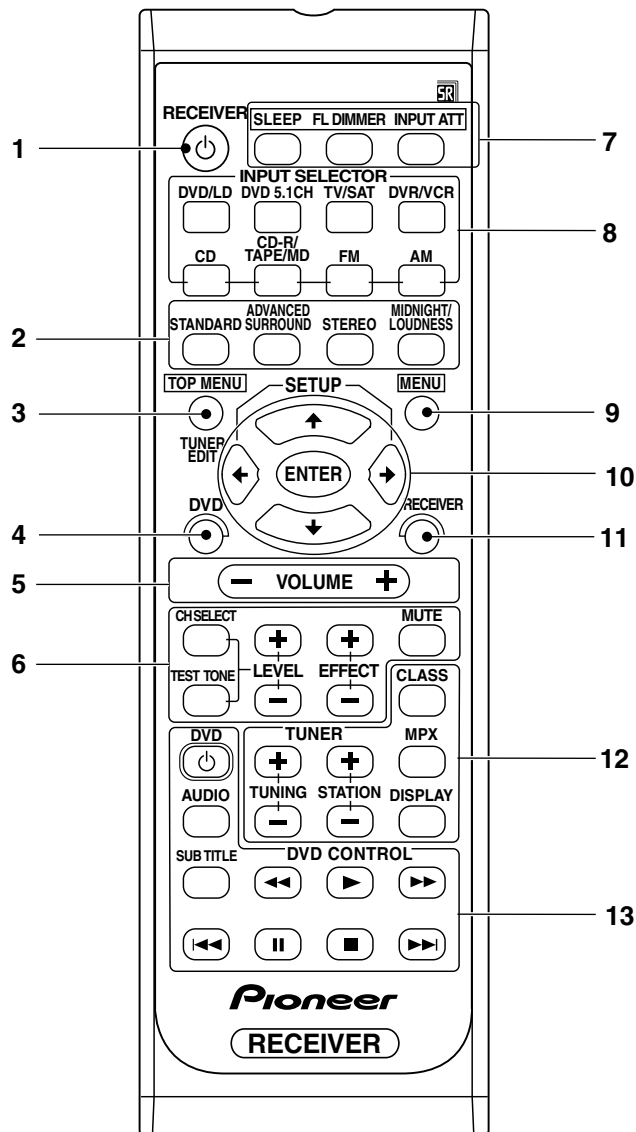
Shows the overall volume level:--- dB indicates the minimum level, and - 0dB indicates the maximum level.



#### Note

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

## Remote Control



### STEREO

Switches direct playback on or off Direct playback bypasses the tone controls and channel levels for the most accurate reproduction of a source.

### MIDNIGHT/LOUDNESS

Use to switch to Midnight or Loudness listening.

### 3 TOP MENU (DVD control)

Displays the disc 'top' menu of a DVD.

### TUNER EDIT(receiver control)

Press to memorize and name a station for recall.

### 4 DVD

Use to switch over to the DVD controls on the remote control.

### Note

The DVD controls on the remote control (**TOP MENU**, **MENU**, **←/→/↑/↓** and **ENTER/SETUP** buttons) can only be used for DVD control after pressing **DVD/LD** on the remote. See below for more on the separate **DVD CONTROL** buttons.

### 5 VOLUME

Use to set the overall listening volume.

### 6 CH SELECT

Use to select a channel when setting up the surround sound of the receiver

### TEST TONE

Use to sound the test tones when setting up the surround sound of the receiver

### LEVEL +/-

Use to set up the levels of the surround sound of the receiver

### EFFECT +/-

Use to add or subtract the amount of effect in the Advanced Surround modes.

### 1 RECEIVER

Switches the receiver between on and standby

### 2 STANDARD

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

### ADVANCED SURROUND

Use to switch between the various surround modes.

**MUTE**

Use to mute the sound or restore the sound if it has been muted.

**7 SLEEP**

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

**FL DIMMER**

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

**INPUT ATT**

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

**8 INPUT SELECTOR buttons**

Use to select the input source.

**9 MENU (DVD control)**

Use to access different menus associated with your DVD player

**10 ←/→/↑/↓ and ENTER/SETUP buttons**

Use these arrow buttons when setting up your surround sound system. These buttons are also used to control DVD menus/options.

**11 RECEIVER**

Use to switch to the receiver controls on the remote control. Also used when setting up the surround sound for the receiver

**12 Tuner controls**

The **TUNING +/-** buttons can be used to find radio frequencies. The **STATION +/-** buttons can be used to select preset radio stations.

**CLASS**

Use to switch between the three banks (classes) of station presets.

**MPX**









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

**DISPLAY**

Use to switch the display between the station preset name and the frequency

**13 DVD CONTROL buttons**

You can use these buttons to control a Pioneer DVD player connected to your system.

Button	What it does
<b>DVD</b> 	Turns DVD power on/off.
<b>AUDIO</b>	Changes the audio language or channel.
<b>SUBTITLE</b>	Displays/changes the subtitles included in multilingual DVD-Video discs.
	Press to start fast reverse scanning.
	Starts playback.
	Press to start fast forward scanning.
	Stops playback.
	Pauses a disc that's playing, or restarts a paused disc.
	Skips to the start of the current track or chapter, then to previous tracks/chapters.
	Skips to the next track or chapter.