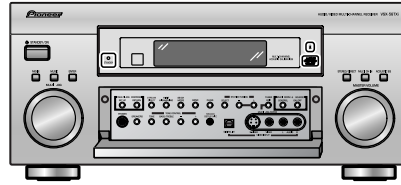


# Service Manual



VSX-56TXi

ORDER NO.  
**RRV2990**

**AUDIO/VIDEO MULTI-CHANNEL RECEIVER**

# VSX-56TXi

## VSX-54TX

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

Model	Type	Power Requirement	Remarks
VSX-56TXi	KUXJ/CA	AC120V	
VSX-54TX	KUXJ/CA	AC120V	



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

# SAFTY 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.

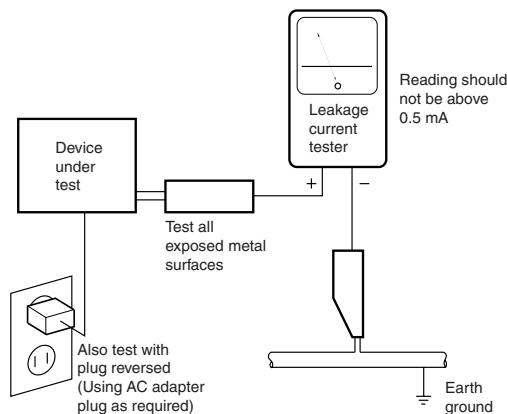
## (FOR USA MODEL ONLY)

### 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  $\Delta$  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 110 watts\* per channel, min., at 8 ohms, from 20 Hz to 20,000 Hz with no more than 0.09%\*\* total harmonic distortion (front).**

### Continuous Power Output

Front.....	110 W +110 W (20 Hz – 20 kHz, 0.09%, 8 Ω)
Center.....	110 W (20 Hz – 20 kHz, 0.09%, 8 Ω)
Surround.....	110 W +110 W (20 Hz – 20 kHz, 0.09%, 8 Ω)
Surround Back .....	110 W +110 W (20 Hz – 20 kHz, 0.09%, 8 Ω)

## Audio Section

Input (Sensitivity/Impedance)	
PHONO MM (Except 54TX).....	4.7 mV/47 kΩ
LINE.....	335 mV/47 kΩ

### Frequency Response

PHONO MM (Except 54TX).....	20 Hz to 20,000 Hz ± 0.3 dB
LINE.....	5 Hz to 100,000 Hz $\pm_{-3}^{+0}$ dB

### Output (Level/Impedance)

LINE.....	335 mV/2.2 kΩ
-----------	---------------

### Tone Control

BASS.....	± 6 dB (100 Hz)
TREBLE.....	± 6 dB (10 kHz)
LOUDNESS.....	+4/+2 dB (100Hz/10 kHz) (at volume position -40dB)

### Signal-to-Noise Ratio (IHF, short circuited, A network)

LINE.....	101 dB
-----------	--------

### Signal-to-Noise Ratio [EIA, at 1 W (1 kHz)]

LINE.....	83 dB
-----------	-------

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

\*\* Measured by Audio Spectrum Analyzer.

## Composite Video/S-Video Section

Input (Sensitivity/Impedance).....	1 Vp-p/75 Ω
Output (Level/Impedance).....	1 Vp-p/75 Ω
Signal-to-Noise Ratio.....	65 dB
Frequency Response.....	5 Hz to 10 MHz $\pm_{-3}^{+0}$ dB

## Component Video Section

Input (Sensitivity) .....	1 Vp-p/75 Ω
Output (Level/Impedance).....	1 Vp-p/75 Ω
Signal-to-Noise Ratio.....	65 dB
Frequency Response.....	5 Hz to 100 MHz $\pm_{-3}^{+0}$ dB

## FM Tuner Section

Frequency Range.....	87.5 MHz to 108 MHz
Usable Sensitivity.....	Mono: 13.2 dBf, IHF (1.3 μV/75 Ω) 50 dB Quieting Sensitivity.....
	Mono: 20.2 dBf 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.....	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
Antenna.....	Loop antenna

## Miscellaneous

Power Requirements.....	AC 120 V, 60 Hz
Power Consumption.....	600 W
Power Consumption in Standby mode.....	0.8 W
AC Outlet SWITCHED.....	100 W (0.8 A) MAX
Dimensions.....	420 (W) x 188 (H) x 464 (D) mm (16-9/16 (W) x 7-7/16 (H) x 18-5/16 (D) in.)
Weight (without package)(56TXi).....	20.3 kg (44.81lb)
	(54TX)..... 18.0 kg (39.71lb)

## Furnished Parts

Microphone for Auto Surround Sound Setup.....	1
Microphone Stand for Auto Surround Sound Setup.....	1
FM wire Antenna.....	1
AM loop Antenna.....	1
"AA" IEC LR6 batteries(56TXi).....	4
	(54TX)..... 2
Remote Control Unit.....	1
Power Cord(56TXi Only).....	1
Operating Instructions.....	1

### NOTE:

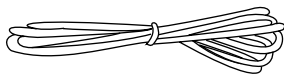
Specifications and the design are subject to possible modifications without notice, due to improvements.

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

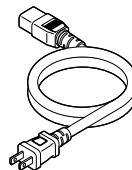
# ● Accessories



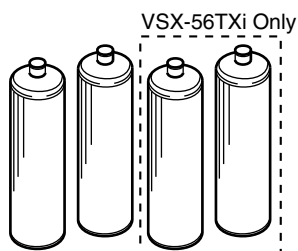
AM Loop Antenna  
(ATB7013)



FM Wire Antenna  
(ADH7030)



Power Cord  
(VSX-56TXi : ADG7061)



Operating Instructions  
(VSX-56TXi : ARB7307)  
(VSX-54TX : ARB7309)

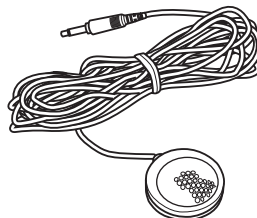
"AA" IEC LR6 batteries



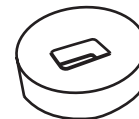
Remote Control Unit  
(VSX-56TXi : AXD7325)



Remote Control Unit  
(VSX-54TX : AXD7365)



Microphone for Auto  
Surround Sound Setup  
(APM7004)

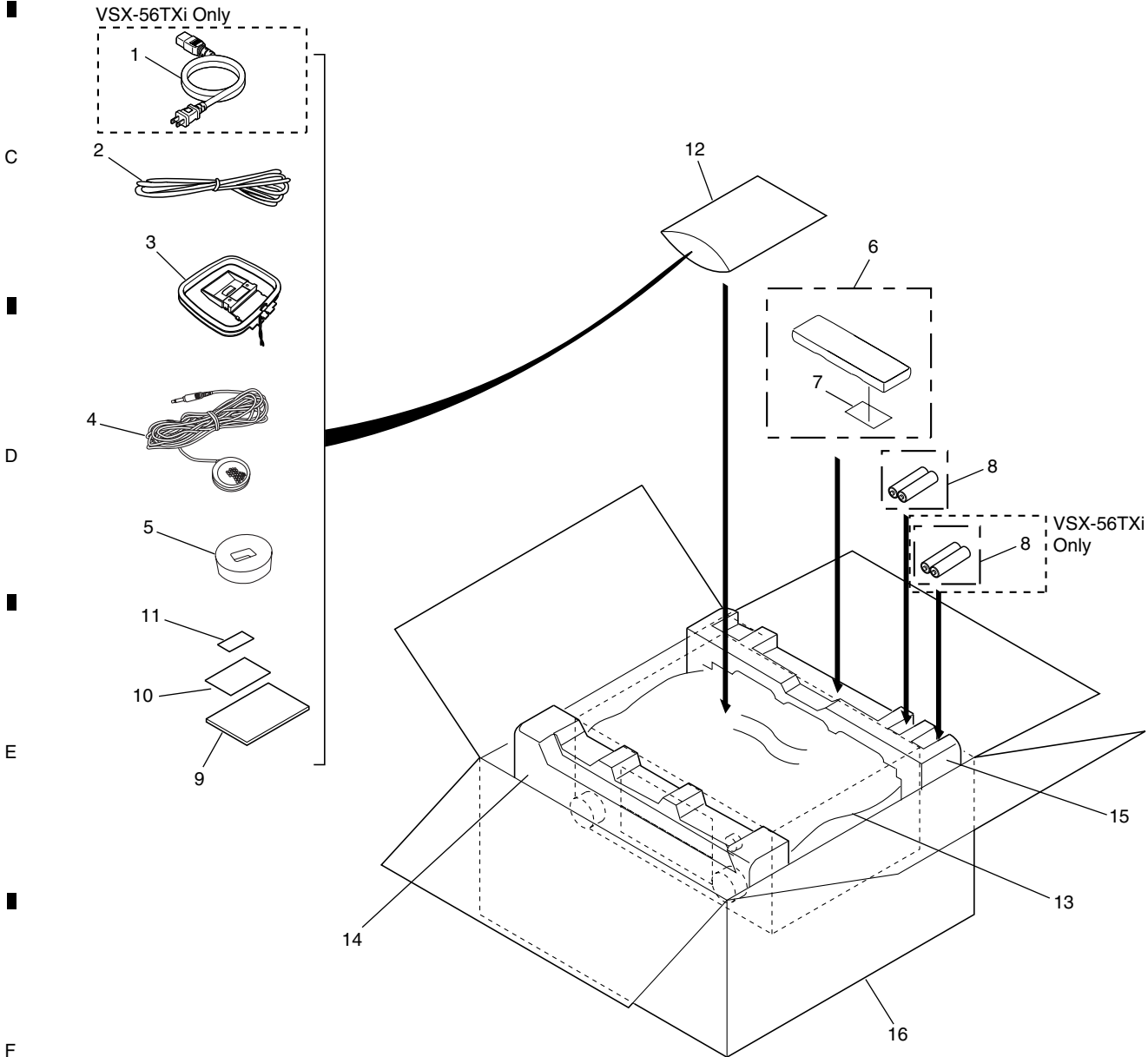


Microphone Stand for Auto  
Surround Sound Setup  
(AEB7269)

# 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





**(1) PACKING parts List**

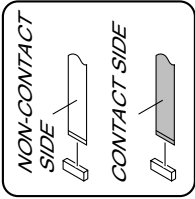
<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
⚠ 1	Power Cord	See Contrast table (2)	9	Operating Instructions (English)	See Contrast table (2)
2	FM Wire Antenna	ADH7030	10	Caution Sheet SP, E	ARM7056
3	AM Loop Antenna	ATB7013	NSP 11	Warranty Card	ARY7007
4	Microphone for Auto Surround Sound Setup	APM7004	NSP 12	Polyethylene Bag	AHG7117
5	Microphone Stand for Auto Surround Sound Setup	AEB7269	13	Packing Sheet	RHC1023
6	Remote Control Unit	See Contrast table (2)	14	Front Pad 45	AHA7374
7	Battery Cover	See Contrast table (2)	15	Rear Pad 45	AHA7375
NSP 8	Dry Cell Battery (AA/LR6)	VEM1023	16	Packing Case	See Contrast table (2)

**(2) CONTRAST TABLE**

VSX-56TXi/KUXJ/CA and VSX-54TX/KUXJ/CA are constructed the same except for the following:

Mark	No.	Symbol and Description	VSX-56TXi/ KUXJ/CA	VSX-54TX/ KUXJ/CA
⚠	1	Power Cord	ADG7061	Not used
	6	Remote Control Unit	AXD7325	AXD7365
	7	Battery Cover	AZN7896	AZA7424
	9	Operating Instructions (English)	ARB7307	ARB7309
	16	Packing Case 56KU	AHD8272	Not used
	16	Packing Case 54KU	Not used	AHD8276

# 2.2 EXTERIOR SECTION



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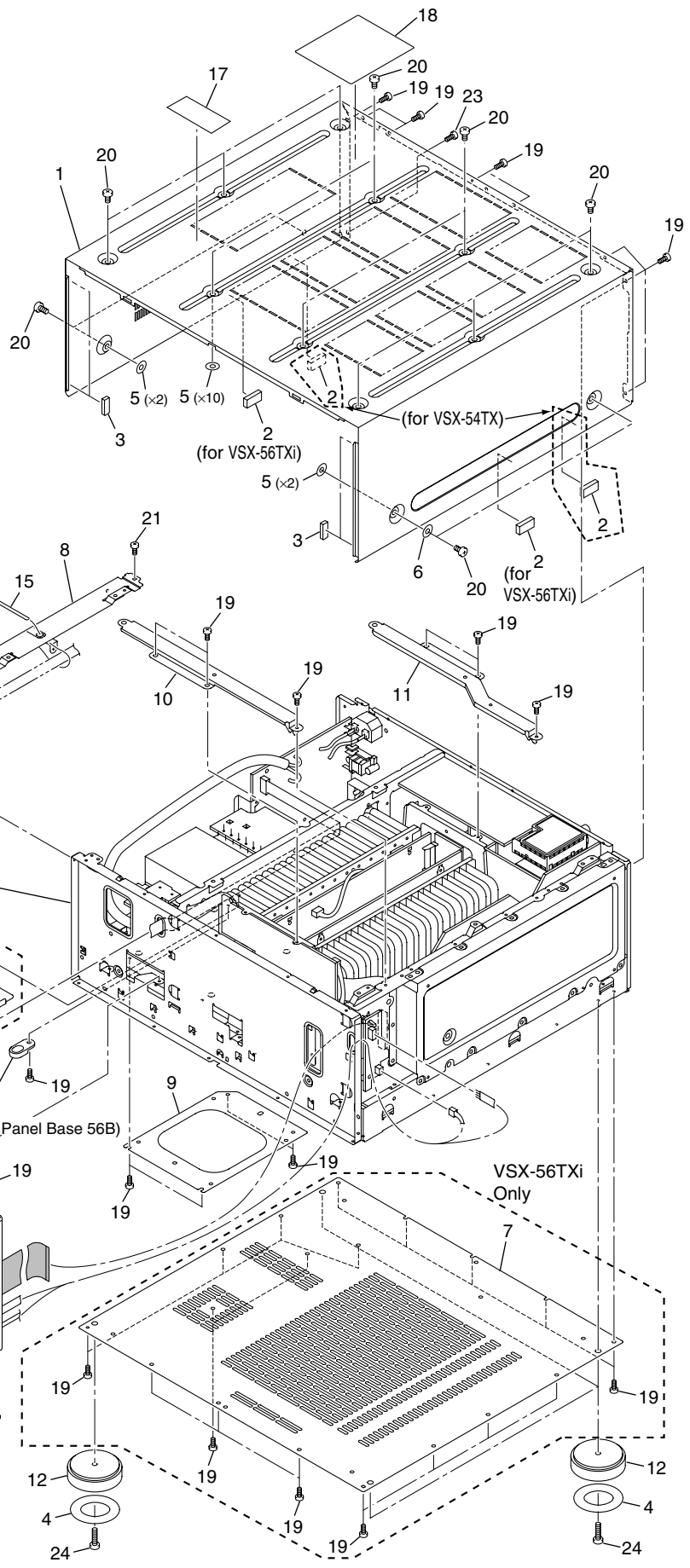
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Refer to "2.3 CHASSIS SECTION".

VSX-54TX Only

Screw Cover (Accessory of Panel Base 56B)

VSX-56TXi Only

Refer to "2.6 FRONT PANEL SECTION".

**(1) EXTERIOR SECTION parts List**

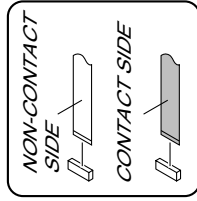
<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
1	Bonnet Case 56B	AZN7992	14	Push Rivet	See Contrast table (2)
2	Spacer 45A (3.5 x 10 x 27)	AEB7263	NSP 15	Binder	ZCA-BK1
3	Spacer 45B (6 x 7 x 13)	AEB7264			
4	Cushion	See Contrast table (2)	NSP 16	Energy Star Label	AAX8022
5	Spacer Circle (10 x 5)	AEC7330	17	Label (FCC/DOC)	ARW7191
			18	Label (DD/DTS/THX)	ARW7281
6	Spacer Circle (CLEAR)	AEC7531	19	Screw	ABA7098
7	Bottom Plate 56	See Contrast table (2)	20	Screw	ABA7119
8	Left Beam 45	ANG7401			
9	Stabilizer 45	ANG7408	21	Screw	ABA7102
10	Bridge Frame 45F	ANG7409	22	Screw	ABA7118
			23	Screw	ABA7101
11	Bridge Frame 45R	ANG7410	24	Screw	See Contrast table (2)
12	Insulator	See Contrast table (2)			
13	Screw Cover 45A	See Contrast table (2)			

**(2) CONTRAST TABLE**

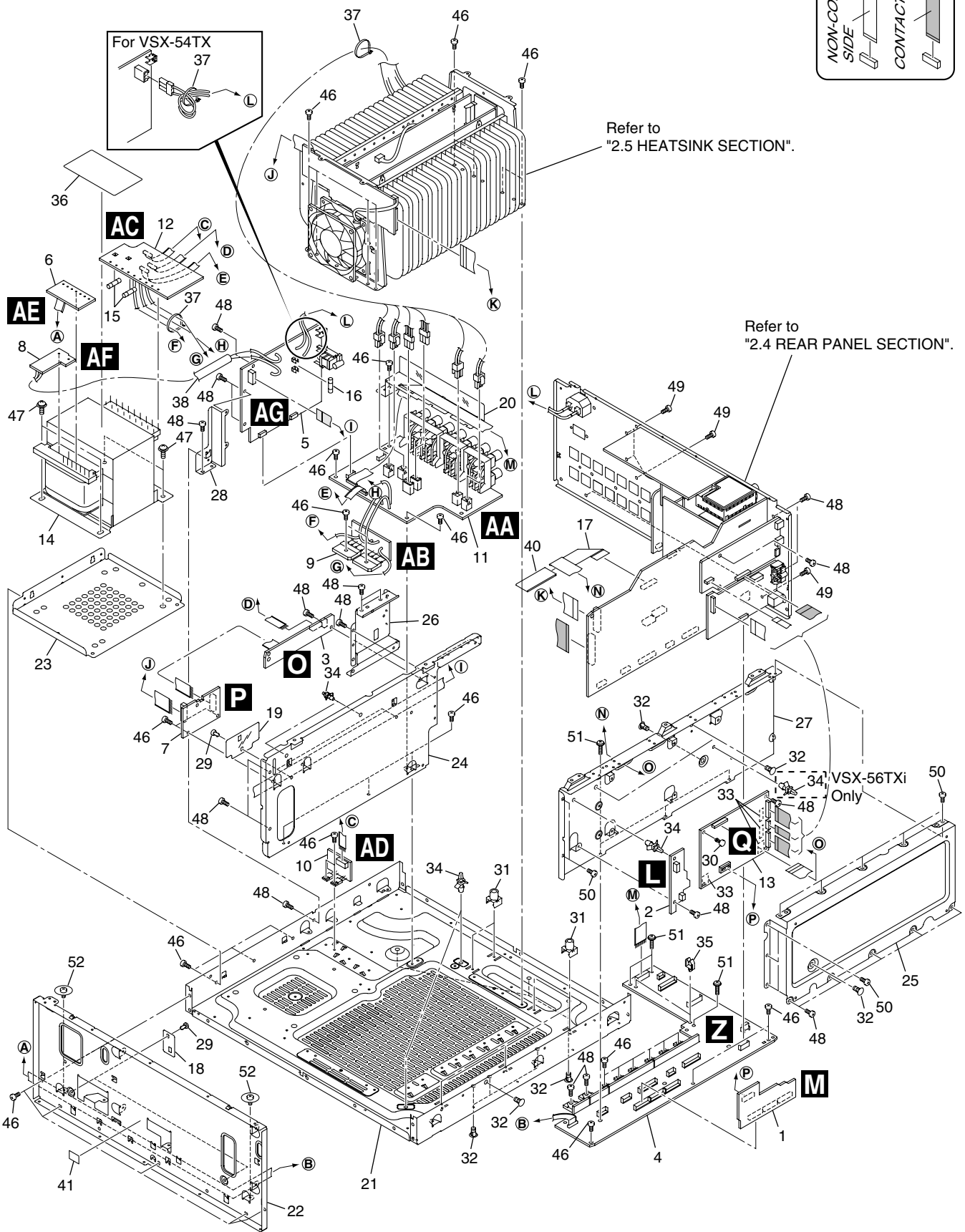
VSX-56TXi/KUXJ/CA and VSX-54TX/KUXJ/CA are constructed the same except for the following:

Mark	No.	Symbol and Description	VSX-56TXi/ KUXJ/CA	VSX-54TX/ KUXJ/CA
	4	Cushion	AEC7224	Not used
	7	Bottom Plate 56	ANF7039	Not used
	12	Insulator 56	ANL7028	Not used
	12	Insulator	Not used	PNW2766
	13	Screw Cover 45A	Not used	AEC7414
	14	Push Rivet	Not used	AEC7370
	24	Screw	ABA7120	ABA7102

# 2.3 CHASSIS SECTION



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**(1) CHASSIS SECTION parts List**

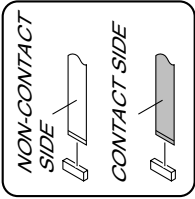
Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	DSP CONNECTION Assy	See Contrast table (2)	28	Primary Angle 56	ANG7526
2	MIC AMP Assy	AWX8447	29	Push Rivet	AEC7370
3	FAN CONNECTION Assy	AWX8448	30	Nyron Rivet	AEC7408
4	REGULATOR Assy	See Contrast table (2)			
5	PRIMARY Assy	See Contrast table (2)	31	PCB Mold	AMR2534
			32	Card Spacer	DNK2769
6	TRANS 2-2 Assy	AWX8465	NSP 33	Tape	PNM1249
7	FAN DRIVE Assy	AWX8469	34	Locking Card Spacer	PNW2917
8	TRANS 1 Assy	AWX8464	35	Holder	VEC1355
9	DIODE Assy	AWX8017			
10	VH TR Assy	AWX8018	NSP 36	Trans. Label 56	AAX8048
			NSP 37	Binder	ZCA-BK1
11	SP/PS Assy	See Contrast table (2)	38	Glass Tube (14 x 260)	ADN7009
12	TRANS 2-1 Assy	AWX8474	39	•••••	
13	DSP Assy	AWX8489	NSP 40	Tape	ZTA-156A-19
⚠ 14	Power Transformer (T1)	ATS7380			
⚠ 15	Fuse (FU4, 5 : 3.15A/125V)	REK1114	41	Cushion 11 x 11	AED7088
			42	•••••	
⚠ 16	Fuse (FU1 : 10A/125V)	VEK1029	43	•••••	
17	21P Flexible Cable (J7)	ADD7355	44	•••••	
18	Styling Sheet	AEC7413	45	•••••	
19	Styling Sheet B	AEC7437			
20	Barrier 45	AEC7444	46	Screw	ABA7098
			47	Screw	ABA7109
NSP 21	Under Base	See Contrast table (2)	48	Screw	ABA7102
NSP 22	Panel Stay 45	AND7047	49	Screw	ABA7101
23	Trans. Frame 45	ANG7399	50	Screw	ABA7118
24	Trans. Shield 45	ANG7400			
25	DSP Shield 45 B	ANG7403	51	Screw	ABA7100
			52	Screw	ABA7110
26	Fan Box 45	ANG7413			
27	DSP Shield	See Contrast table (2)			

**(2) CONTRAST TABLE**

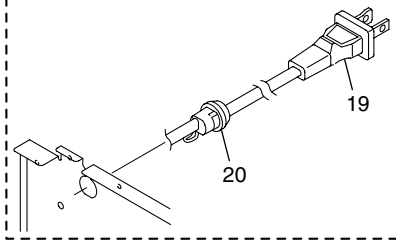
VSX-56TXi/KUXJ/CA and VSX-54TX/KUXJ/CA are constructed the same except for the following:

Mark	No.	Symbol and Description	VSX-56TXi/ KUXJ/CA	VSX-54TX/ KUXJ/CA
	1	DSP CONNECTION Assy	AWX8441	AWX8442
	4	REGULATOR Assy	AWX8457	AWX8459
	5	PRIMARY Assy	AWX8460	AWX8524
	11	SP/PS Assy	AWX8455	AWX8487
NSP	21	Under Base 56	ANA7170	Not used
NSP	21	Under Base 53	Not used	ANA7158
	27	DSP Shield 1394 A	ANG7420	Not used
	27	DSP Shield 45A	Not used	ANG7402

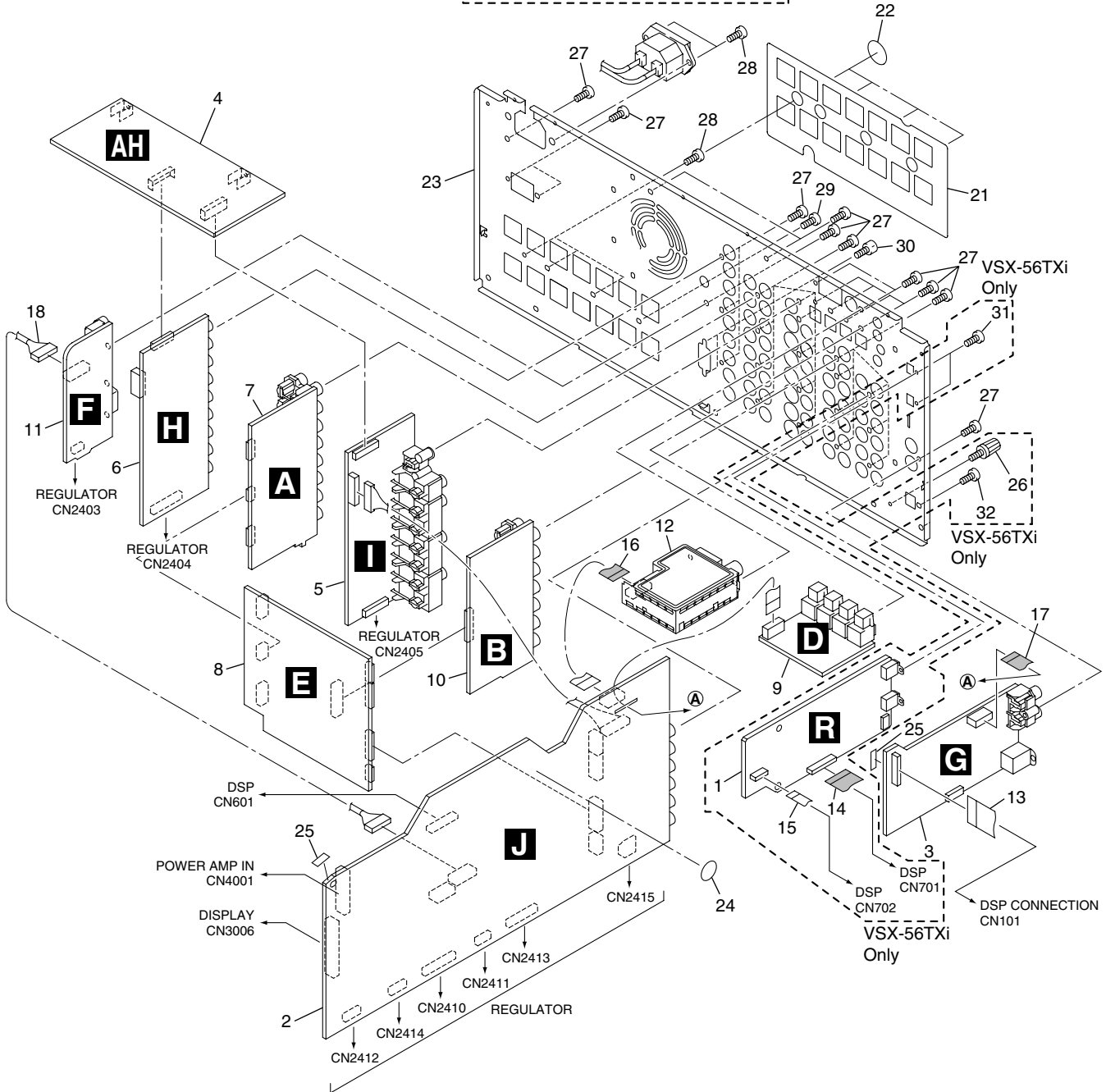
# 2.4 REAR PANEL SECTION



VSX-54TX Only



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**(1) REAR PANEL SECTION parts List**

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
1	1394 Assy	See Contrast table (2)	18	Connector Assy (8P)(J1902)	ADE7085
2	MAIN CONTROL Assy	See Contrast table (2)	⚠ 19	Power Cable	See Contrast table (2)
3	COAXIAL IN Assy	See Contrast table (2)	20	Cord Stopper	See Contrast table (2)
4	VIDEO CONVERT Assy	AWX8450			
5	VIDEO Assy	See Contrast table (2)	21	Speaker Sheet KU	AAK8016
			22	Cushion Circle 16B	AED7052
6	COMPONENT Assy	See Contrast table (2)	23	Rear Panel	See Contrast table (2)
7	7.1CH I/O Assy	See Contrast table (2)	24	Cushion Circle 6B	AED7044
8	INPUT CONNECT Assy	AWX7974	NSP 25	Tape	PNM1249
9	OPTICAL IN Assy	AWX7978			
10	V-AUDIO IN Assy	See Contrast table (2)	26	Terminal Screw	See Contrast table (2)
			27	Screw	ABA7098
11	12V TRIGGER Assy	AWX8472	28	Screw	ABA7102
12	FM/AM TUNER Unit	AXX7172	29	Screw	ABA1208
13	20P Flexible Cable (J6)	ADD7354	30	Screw	ABA7078
14	22P Flexible Cable (J16)	See Contrast table (2)			
15	10P Flexible Cable (J17)	See Contrast table (2)	31	Screw	See Contrast table (2)
			32	Screw	See Contrast table (2)
16	11P Flexible Cable (J8)	ADD7468			
17	9P Flexible Cable (J5)	ADD7469			

**(2) CONTRAST TABLE**

VSX-56TXi/KUXJ/CA and VSX-54TX/KUXJ/CA are constructed the same except for the following:

Mark	No.	Symbol and Description	VSX-56TXi/ KUXJ/CA	VSX-54TX/ KUXJ/CA
	1	1394 Assy	AWK7834	Not used
	2	MAIN CONTROL Assy	AWX8434	AWX8439
	3	COAXIAL IN Assy	AWX8443	AWX8445
	5	VIDEO Assy	AWX8452	AWX8453
	6	COMPONENT Assy	AWX8454	AWX8456
	7	7.1CH I/O Assy	AWX8466	AWX8467
	10	V-AUDIO IN Assy	AWX8313	AWX7964
	14	22P Flexible Cable (J16)	ADD7431	Not used
	15	10P Flexible Cable (J17)	ADD7432	Not used
⚠	19	Power Cable	Not used	VDG1075
	20	Cord Stopper	Not used	CM-22C
	23	Rear Panel 56KU	ANC8279	Not used
	23	Rear Panel 54KU	Not used	ANC8283
	26	Terminal Screw	AKE-031	Not used
	31	Screw	PCZ26P060FCC	Not used
	32	Screw	PMZ30P060FCC	Not used



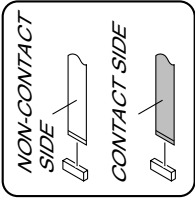


HEAT SINK SECTION parts List

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
NSP 1	POWER AMP IN Assy	AWX8468
2	POWER AMP-L Assy	AWX7984
3	POWER AMP-R Assy	AWX7985
4	POWER AMP-C Assy	AWX7986
5	24P Flexible Cable (J14)	ADD7357
△ 6	Thermistor (TH1)	AEX7014
△ 7	Fan Motor (Front)	AXM7032
8	Mica Sheet 45	AEE7047
9	H.S Angle 45	ANG7404
10	PCB Angle 45	ANG7406
11	Fan Holder 80	ANG7407
NSP 12	Heatsink 45	ANH7152
NSP 13	Speed Clamp	AEC7445
NSP 14	Wire Saddle	DEC1450
15	Screw	ABA7102
16	Screw	ABA7085
17	Screw	BBZ30P300FTC

A  
B  
C  
D  
E  
F

# 2.6 FRONT PANEL SECTION



A

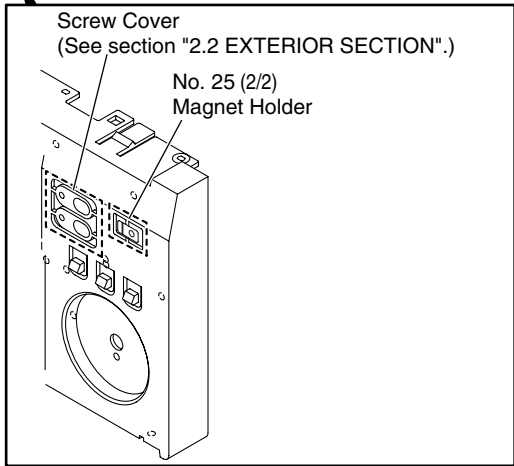
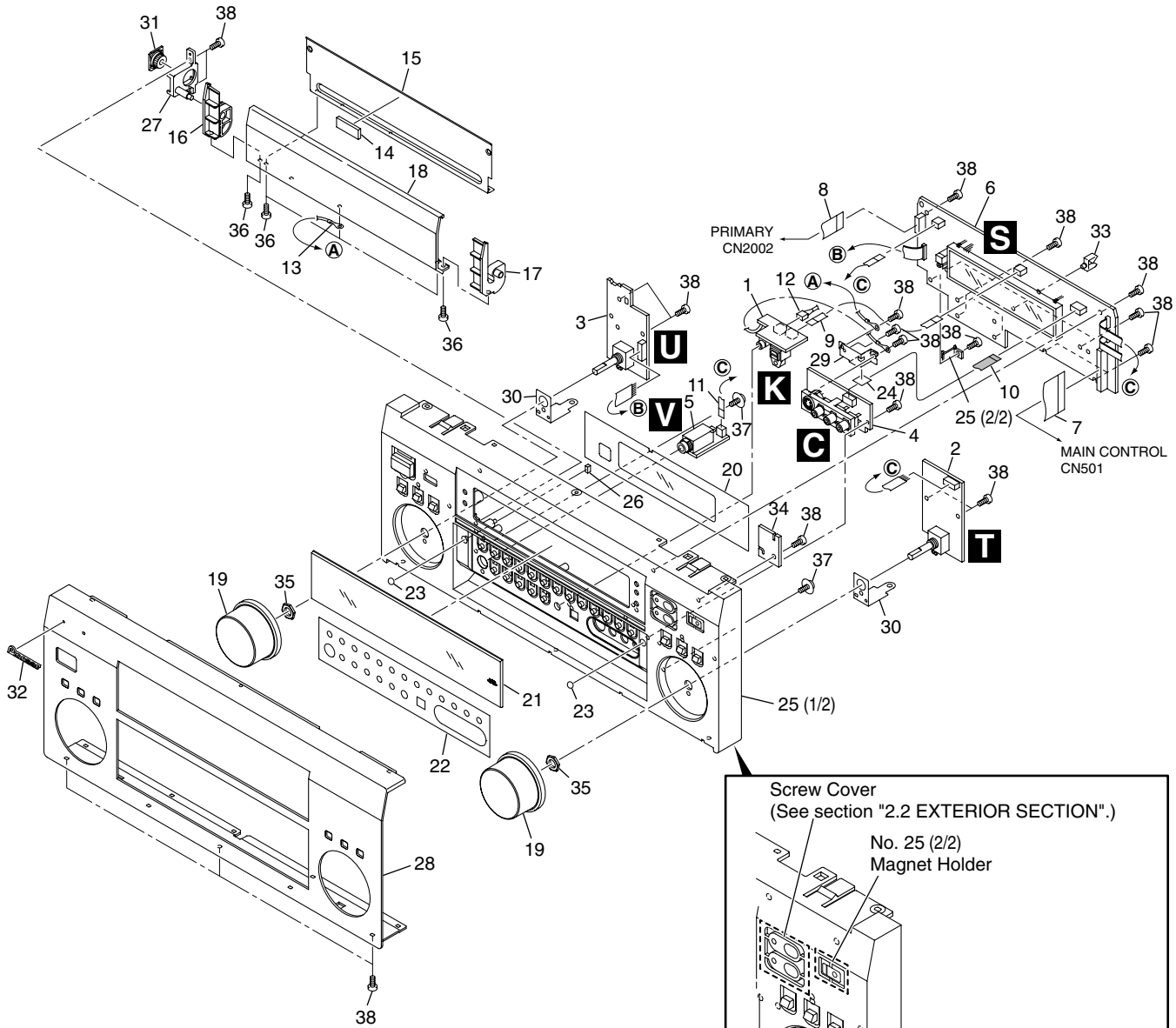
B

C

D

E

F



**(1) FRONT PANEL SECTION parts List**

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	MIC & F. OPT IN Assy	AWX8446	21	Window	See Contrast table (2)
NSP 2	VOLUME Assy	AWX7971	22	D. Sheet 56B	AAK8238
NSP 3	MULTI JOG Assy	AWX7972	23	Cushion Circle 6B	AED7044
NSP 4	FRONT IN Assy	AWX7977	24	Cushion 11 x 11	AED7088
5	HEADPHONE Assy	AWX7980	25	Panel Base 56B	AMB7883
6	DISPLAY Assy	See Contrast table (2)	26	Magnet 35	AMF7007
7	32P Flexible Cable (J1)	ADD7349	27	Door Shaft 35	AMR7295
8	11P Flexible Cable (J2)	ADD7350	28	F. Panel	See Contrast table (2)
9	4P Flexible Cable (J3)	ADD7351	29	Earth Plate A	ANG7411
10	7P Flexible Cable (J4)	ADD7352	30	Earth Plate B	ANG7412
11	3P Flexible Cable (J15)	ADD7371	31	Damper Assy (200)	AXA7088
12	Connector Assy (3P)(J1901)	ADE7084	32	Name Plate B	PAN1376
13	Cord with Plug	ADH7022	33	Holder	VEC1355
14	Spacer 45A (3.5 x 10 x 27)	AEB7263	NSP 34	Styling Assy	•••••
15	Door Stay 45B	AMR7089	35	Nut	NK90FUC
16	Door Hinge L 45B	AMR7386	36	Screw	ABA7098
17	Door Hinge R 45B	AMR7387	37	Screw	ABA7110
18	Door 45	ANB7277	38	Screw	BPZ30P100FTC
19	Rotary Knob L BK	AAA7018			
20	FL Sheet 45R	See Contrast table (2)			

**(2) CONTRAST TABLE**

VSX-56TXi/KUXJ/CA and VSX-54TX/KUXJ/CA are constructed the same except for the following:

Mark	No.	Symbol and Description	VSX-56TXi/ KUXJ/CA	VSX-54TX/ KUXJ/CA
	6	DISPLAY Assy	AWX8473	AWX8483
	20	FL Sheet 45R	AAK7957	Not used
	21	Window 56TX	AAK8232	Not used
	21	Window 54TX	Not used	AK8235
	28	F. Panel 56BKU	ANB7348	Not used
	28	F. Panel 54BKU	Not used	ANB7352

# 3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

## 3.1 BLOCK DIAGRAM

### 3.1.1 AUDIO BLOCK DIAGRAM

A

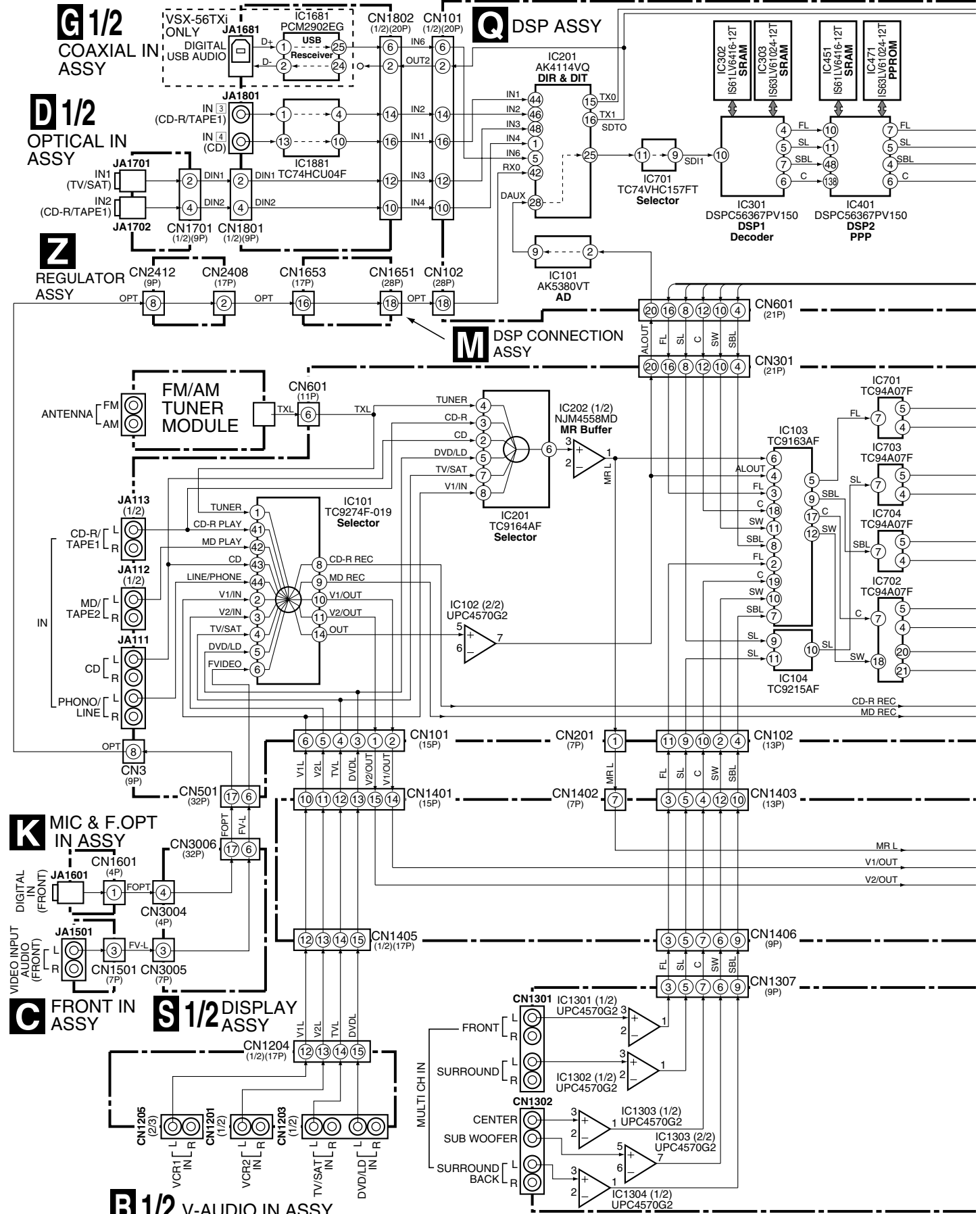
B

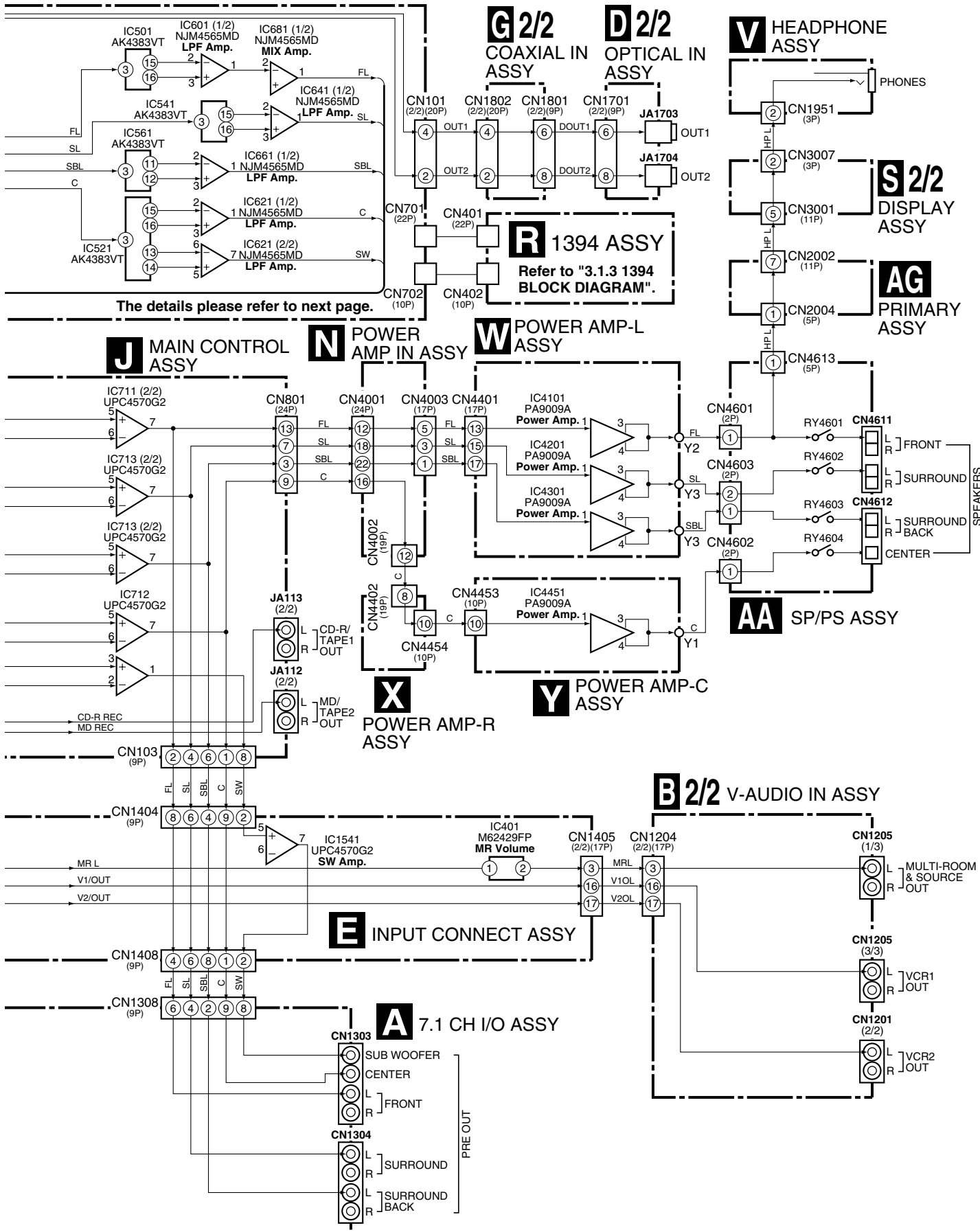
C

D

E

F





The details please refer to next page.

**R 1394 ASSY**  
Refer to "3.1.3 1394 BLOCK DIAGRAM".

**AA SP/PS ASSY**

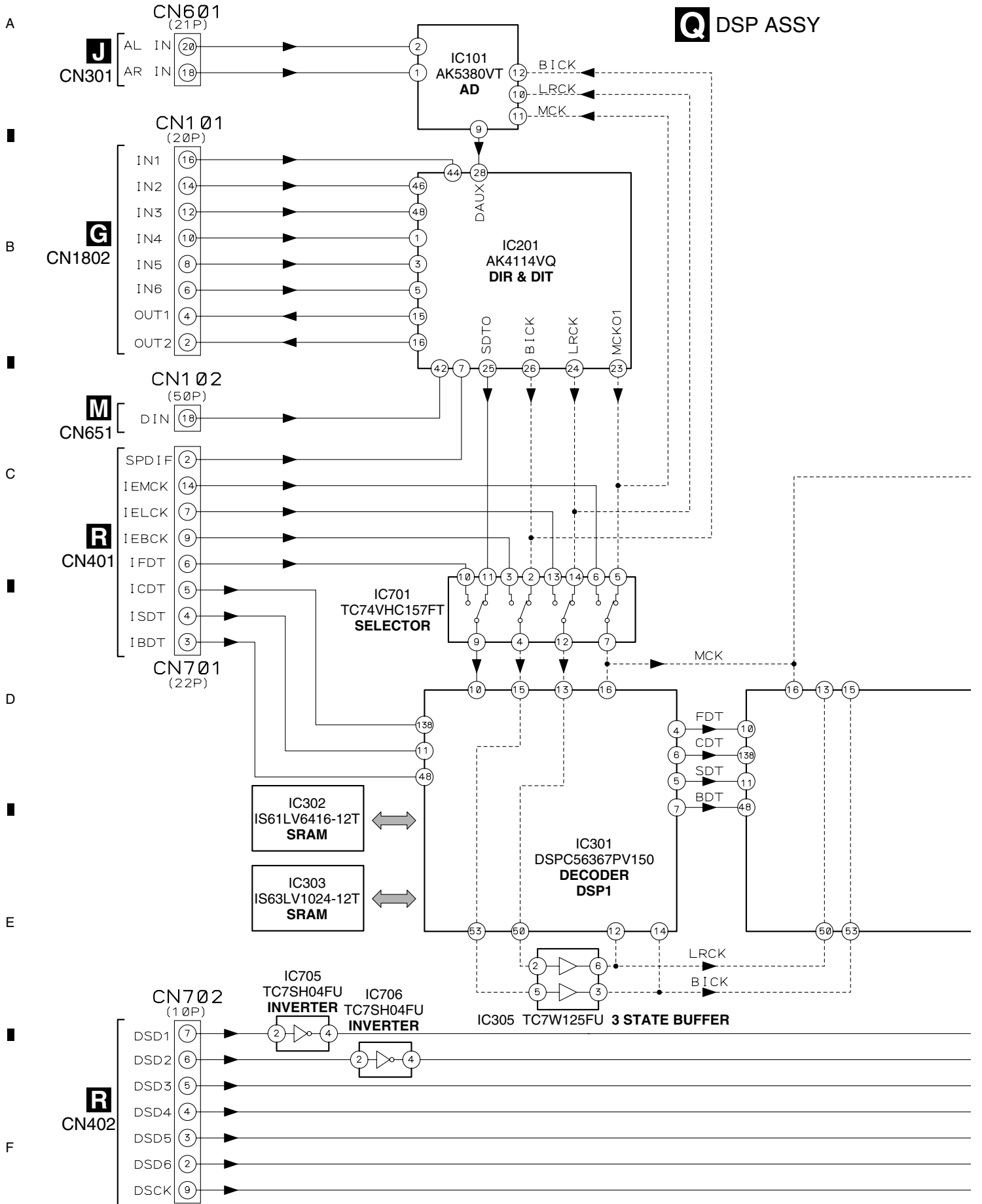
**X POWER AMP-R ASSY**

**Y POWER AMP-C ASSY**

**E INPUT CONNECT ASSY**

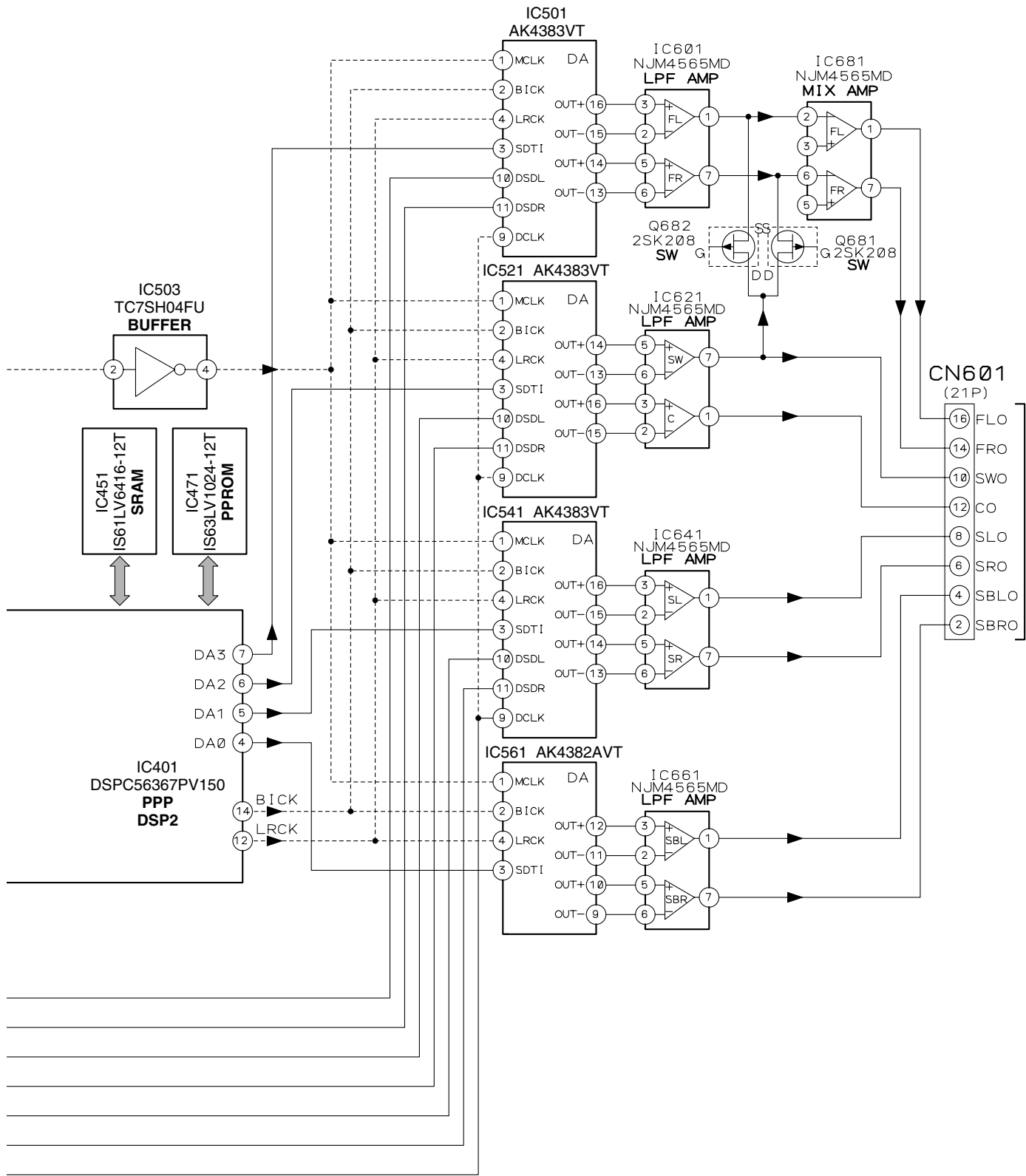
**A 7.1 CH I/O ASSY**

### 3.1.2 DSP BLOCK DIAGRAM



A  
B  
C  
D  
E  
F

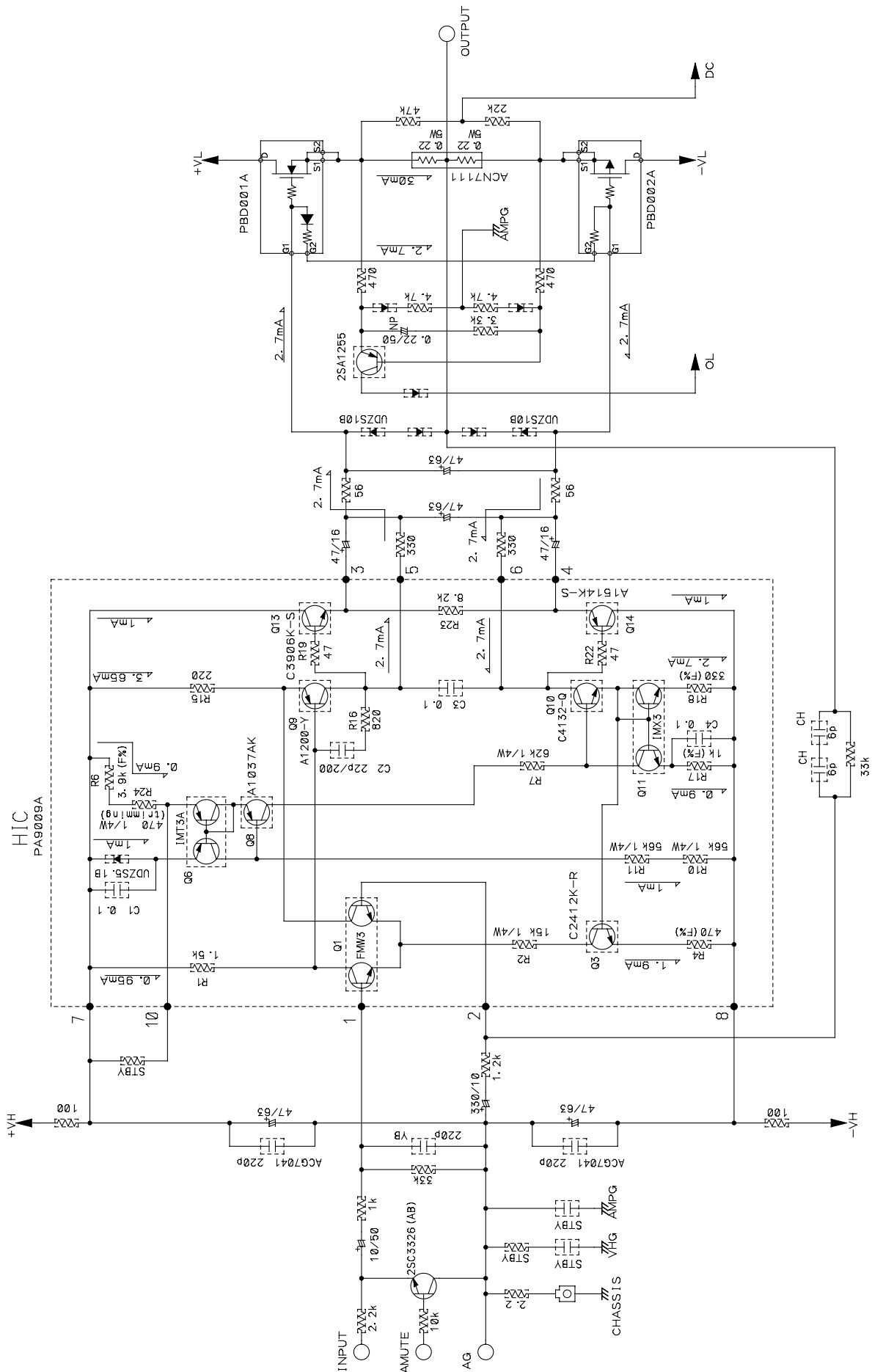
----- CLOCK LINE  
————— DATA LINE



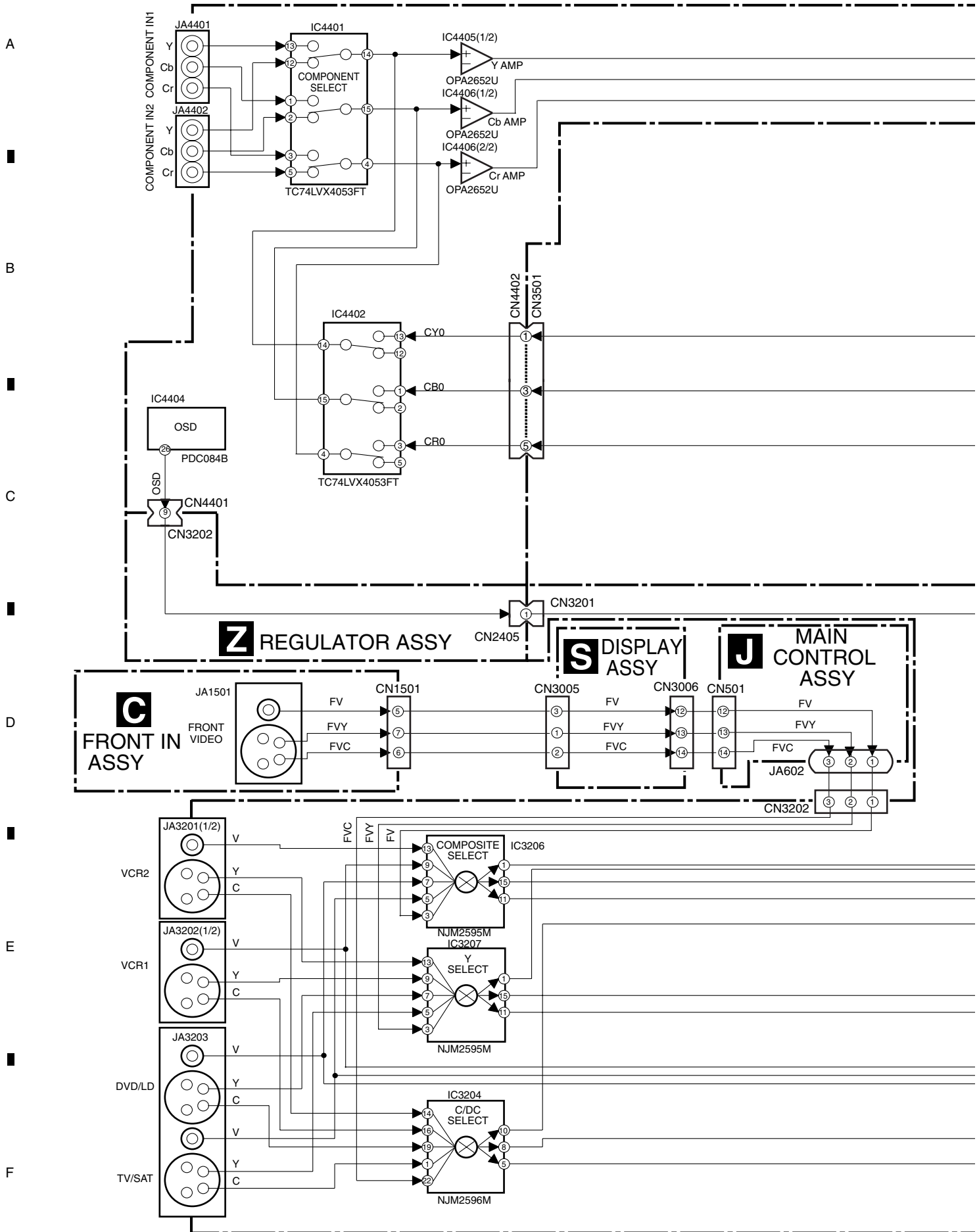




### 3.1.4 POWER AMP BLOCK DIAGRAM

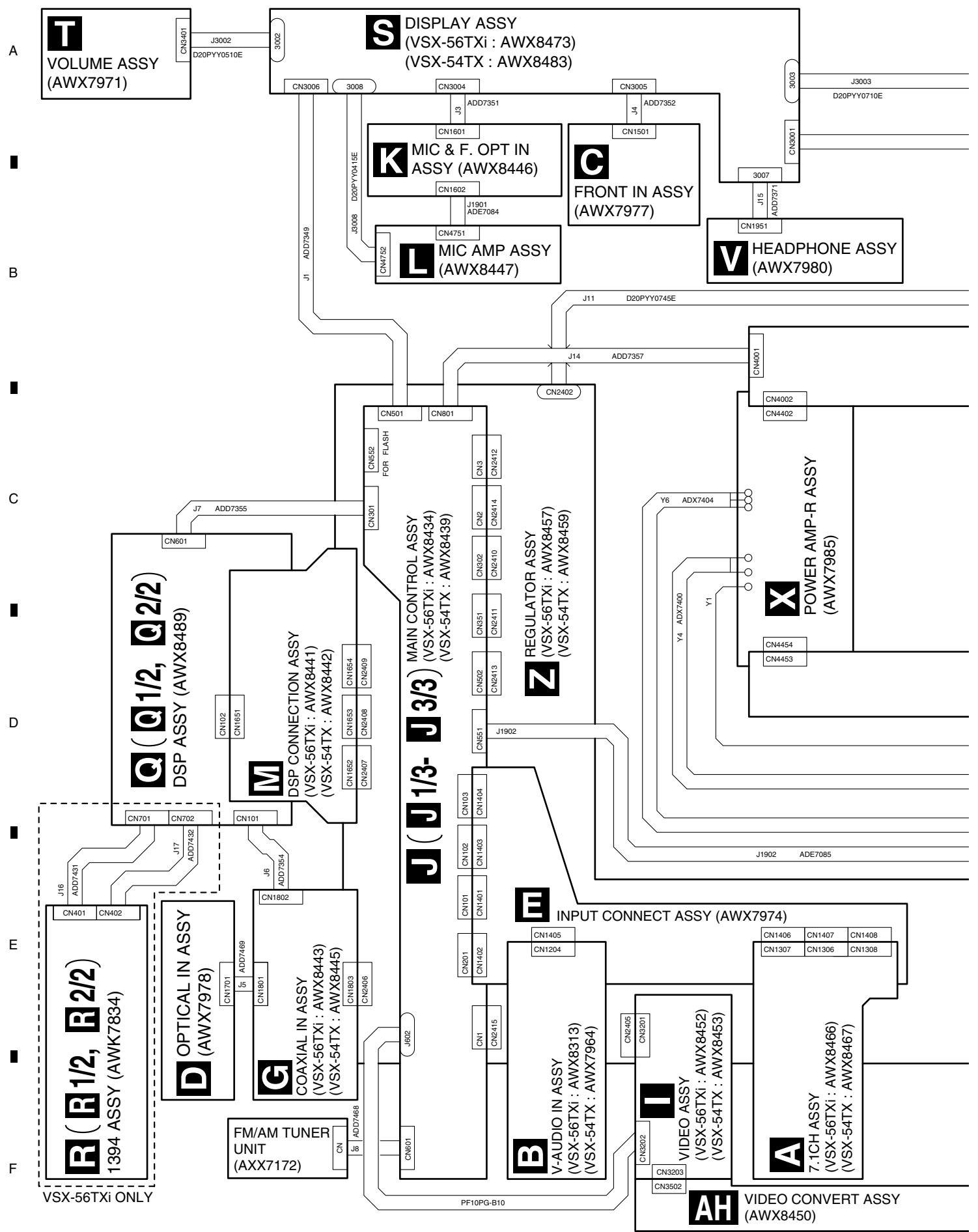



### 3.1.5 VIDEO BLOCK DIAGRAM

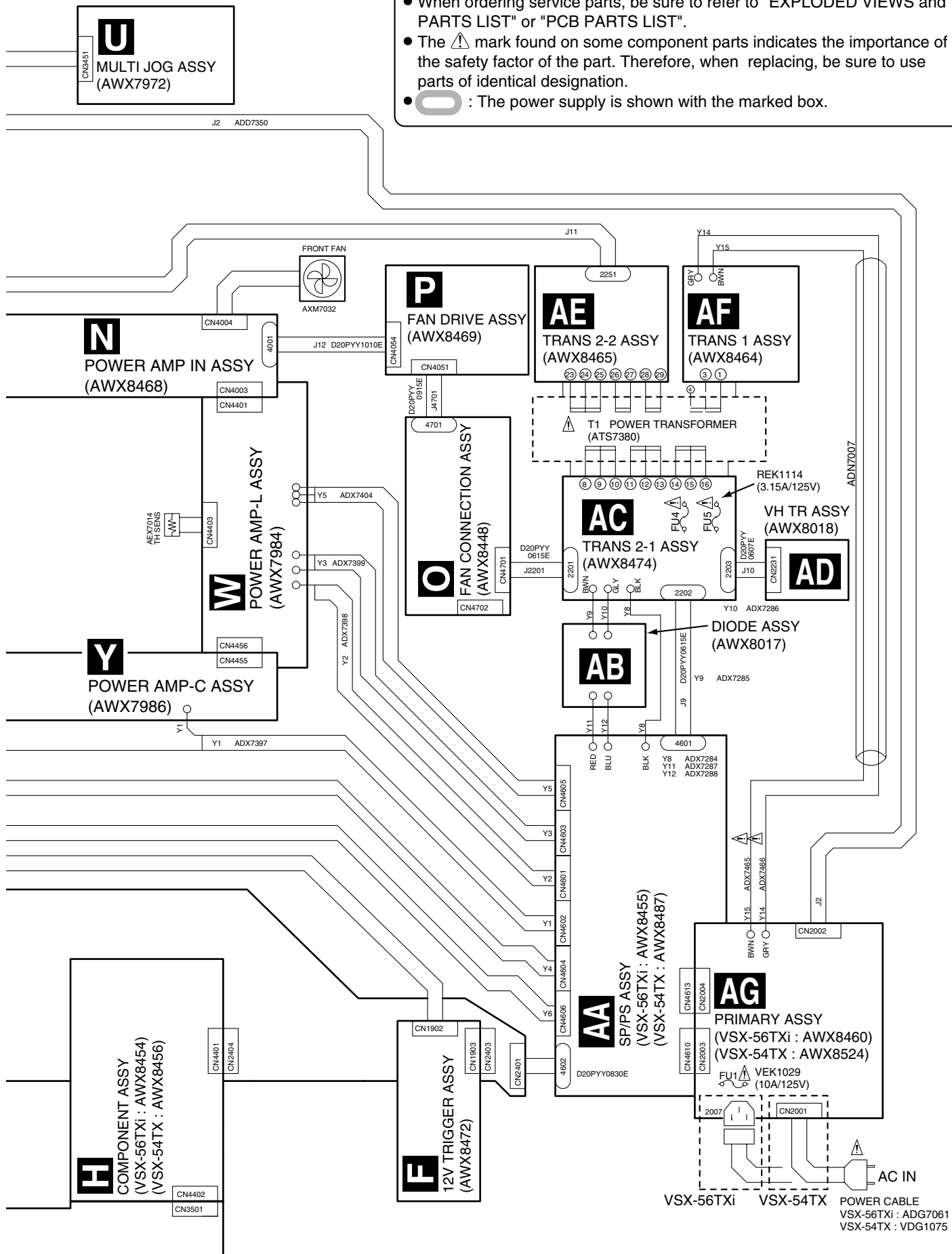




# 3.2 OVERALL WIRING DIAGRAM



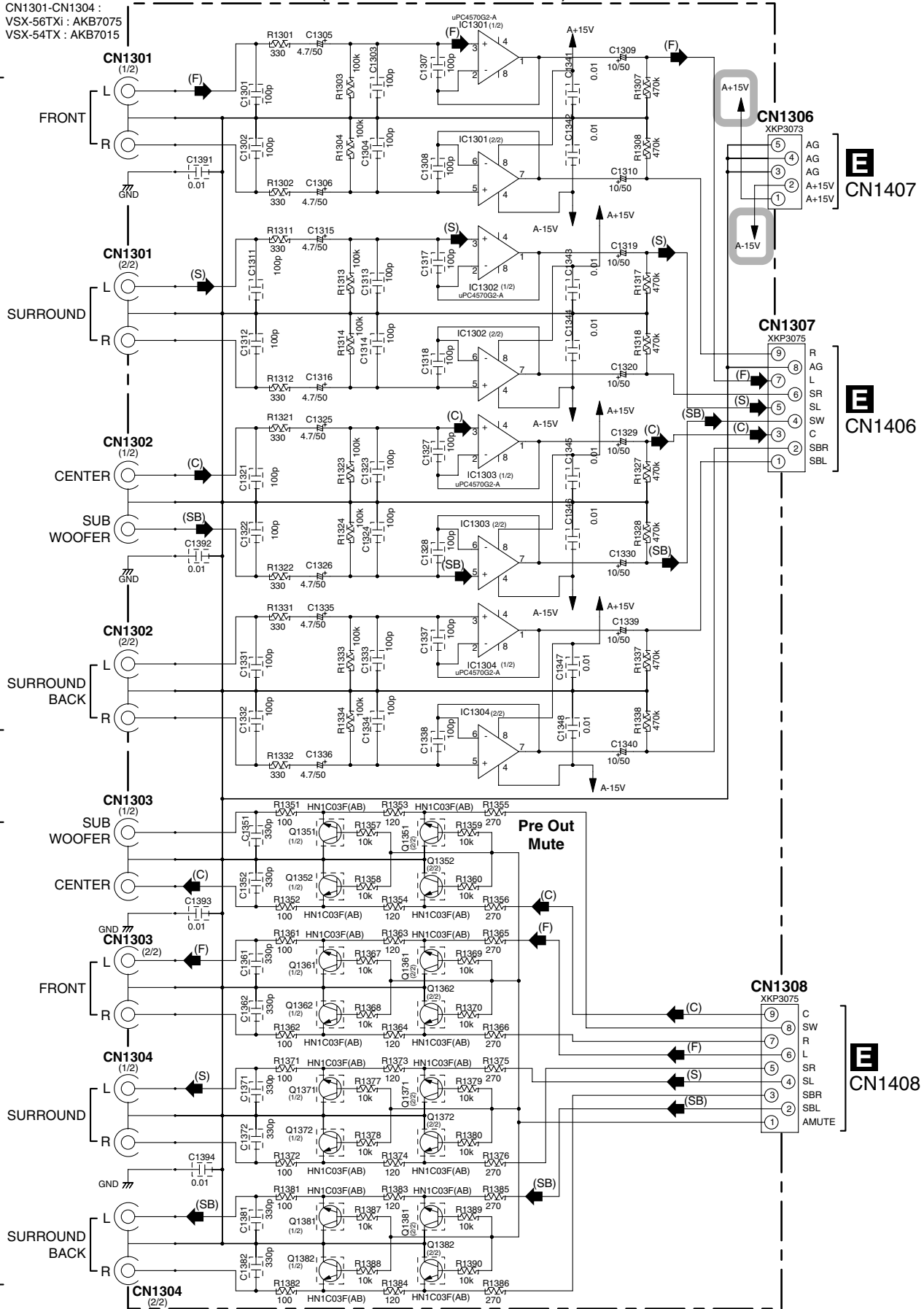
- When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
-  : The power supply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

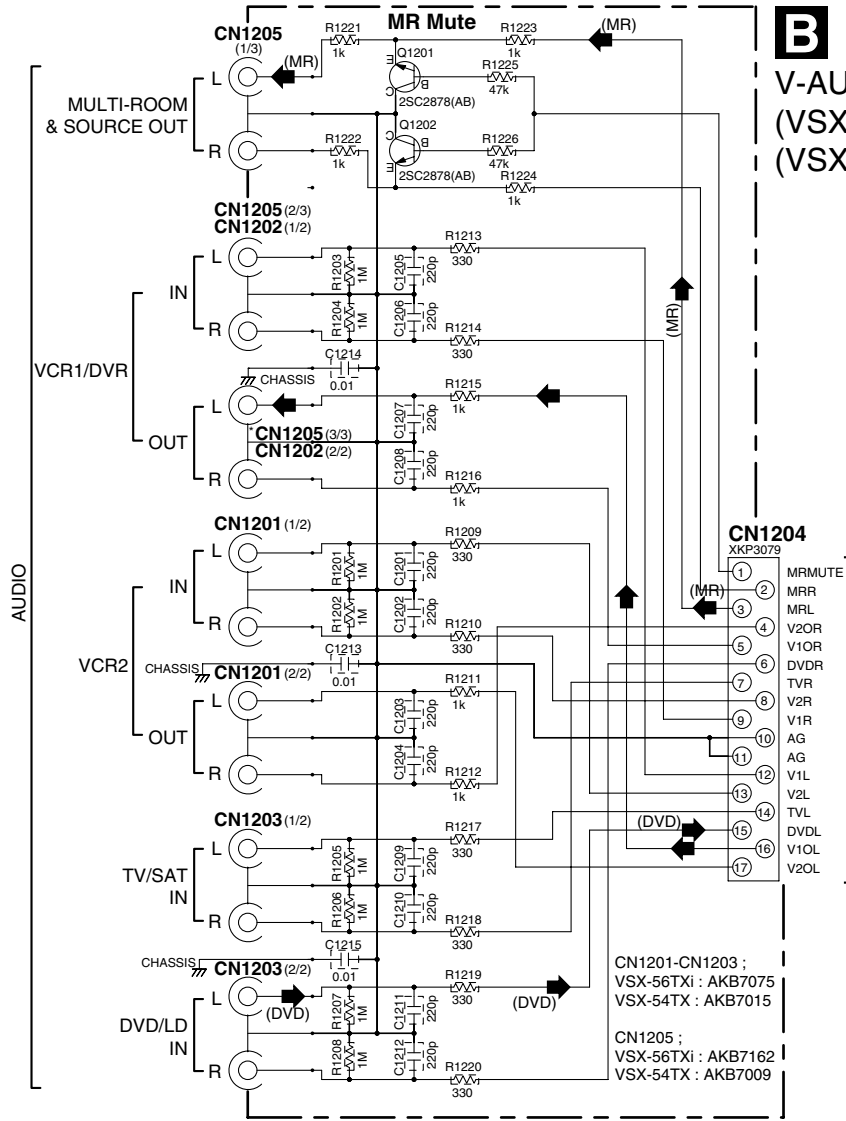


A  
B  
C  
D  
E  
F

# 3.3 7.1 CH I/O, V-AUDIO IN, FRONT IN and OPTICAL IN ASSYS

## A 7.1CH ASSY (VSX-56TXi : AWX8466) (VSX-54TX : AWX8467)



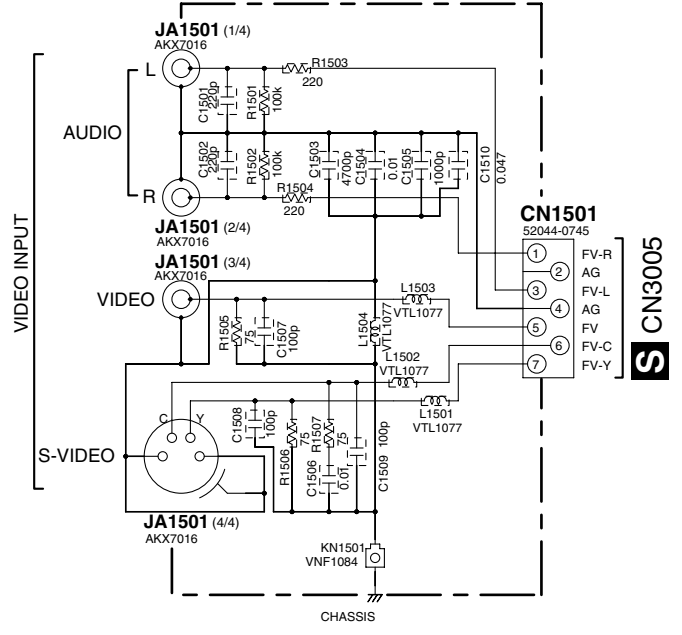


**B**  
**V-AUDIO IN ASSY**  
 (VSX-56TXi : AWX8313)  
 (VSX-54TX : AWX7964)

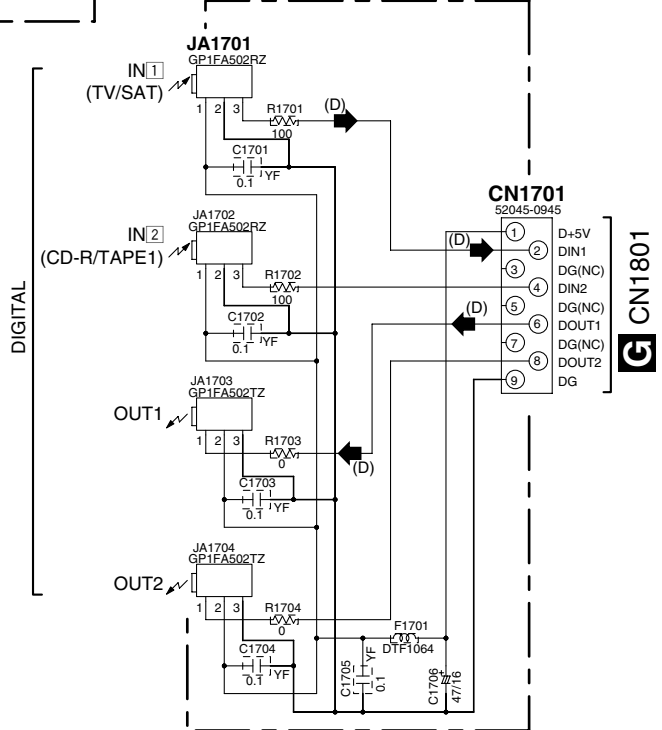
- ➡ : AUDIO SIGNAL ROUTE (Lch)
- (MR) ➡ : AUDIO SIGNAL ROUTE (MULTI-ROOM Lch)
- (DVD) ➡ : AUDIO SIGNAL ROUTE (DVD Lch)
- (F) ➡ : AUDIO SIGNAL ROUTE (FRONT Lch)
- (S) ➡ : AUDIO SIGNAL ROUTE (SURROUND Lch)
- (SB) ➡ : AUDIO SIGNAL ROUTE (SURROUND BACK Lch)
- (C) ➡ : AUDIO SIGNAL ROUTE (CENTER ch)
- (D) ➡ : AUDIO SIGNAL ROUTE (DIGITAL)

**E**  
**CN1405**

**C** **FRONT IN ASSY (AWX7977)**



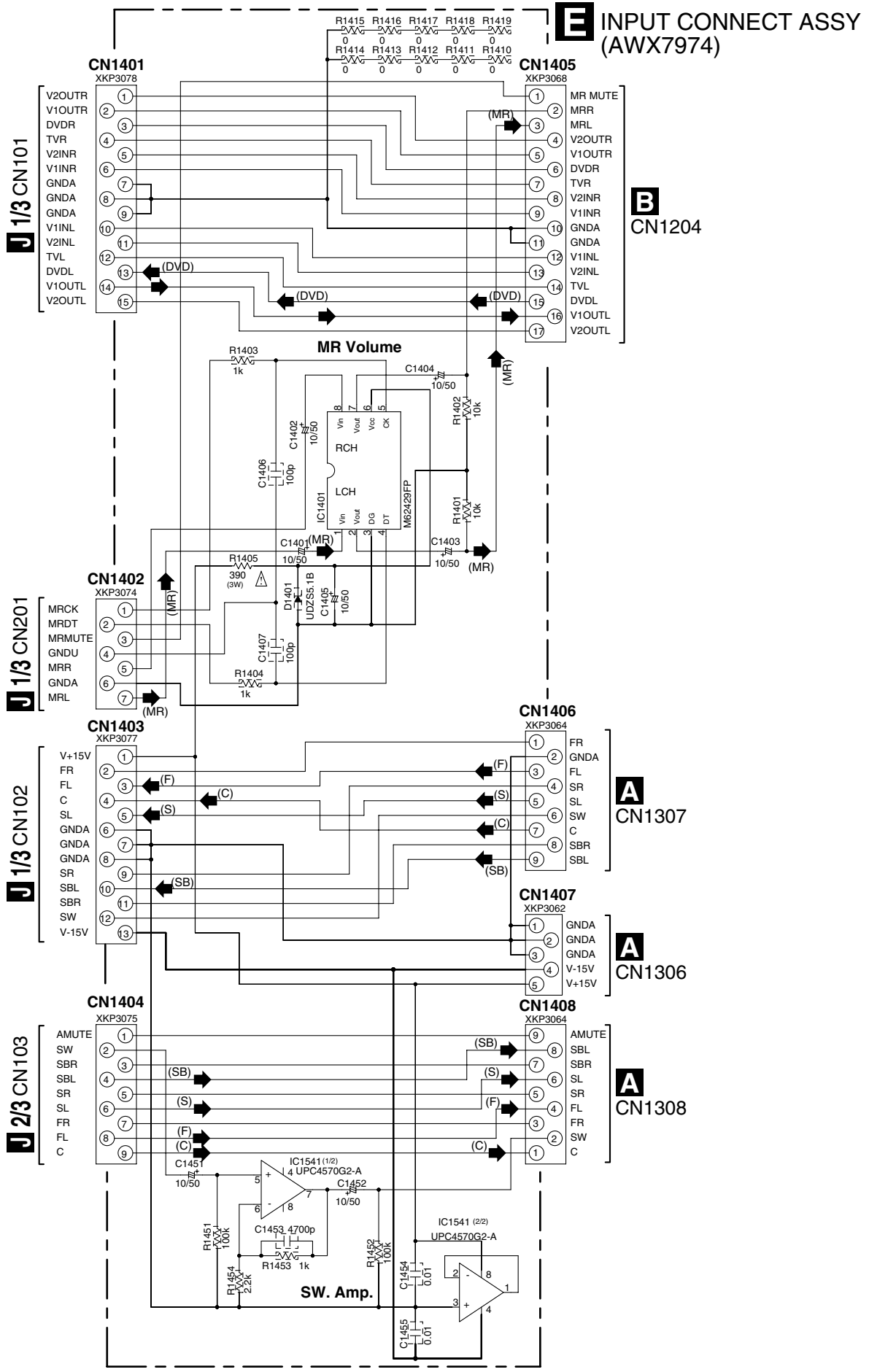
**D** **OPTICAL IN ASSY (AWX7978)**



**B** **C** **D**

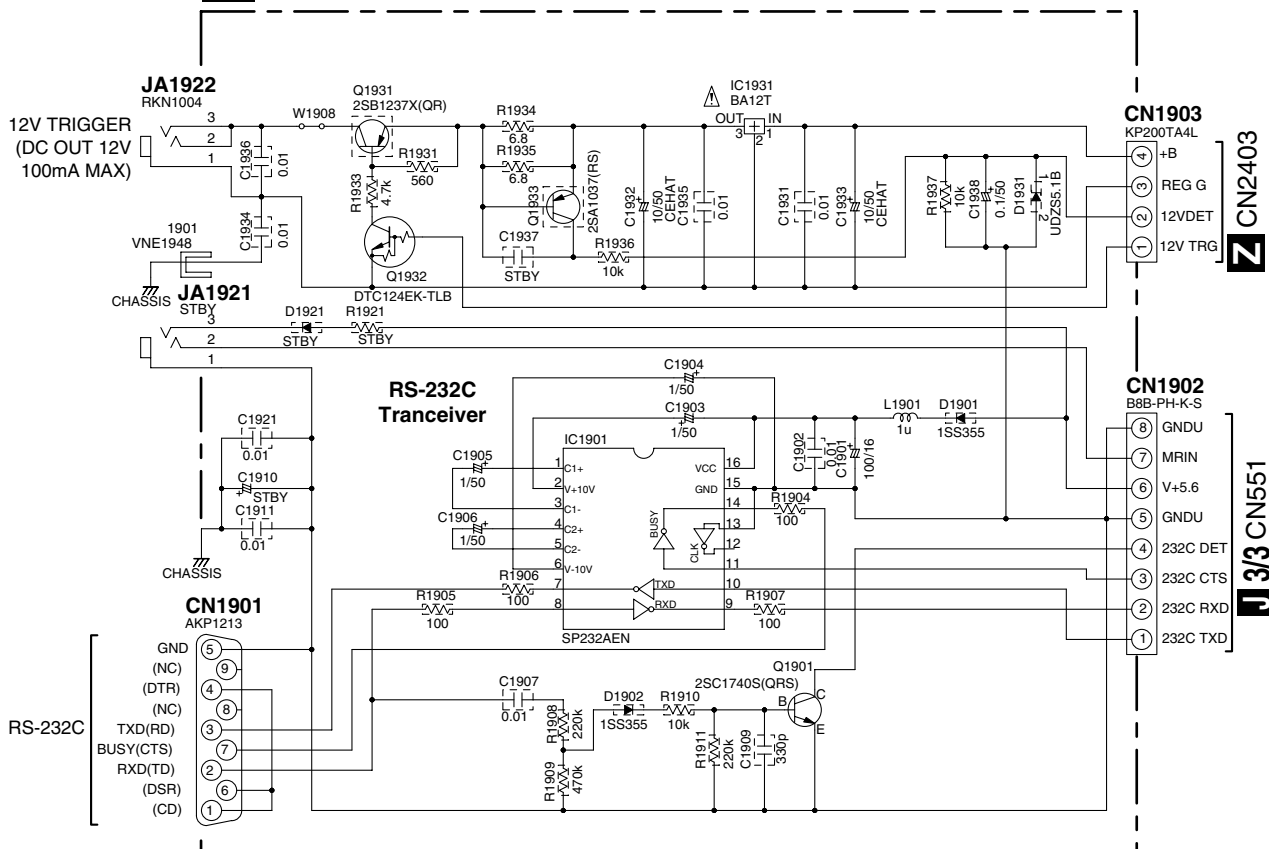
### 3.4 INPUT CONNECT and 12V TRIGGER ASSYS

A  
B  
C  
D  
E  
F





# F 12V TRIGGER ASSY (AWX8472)

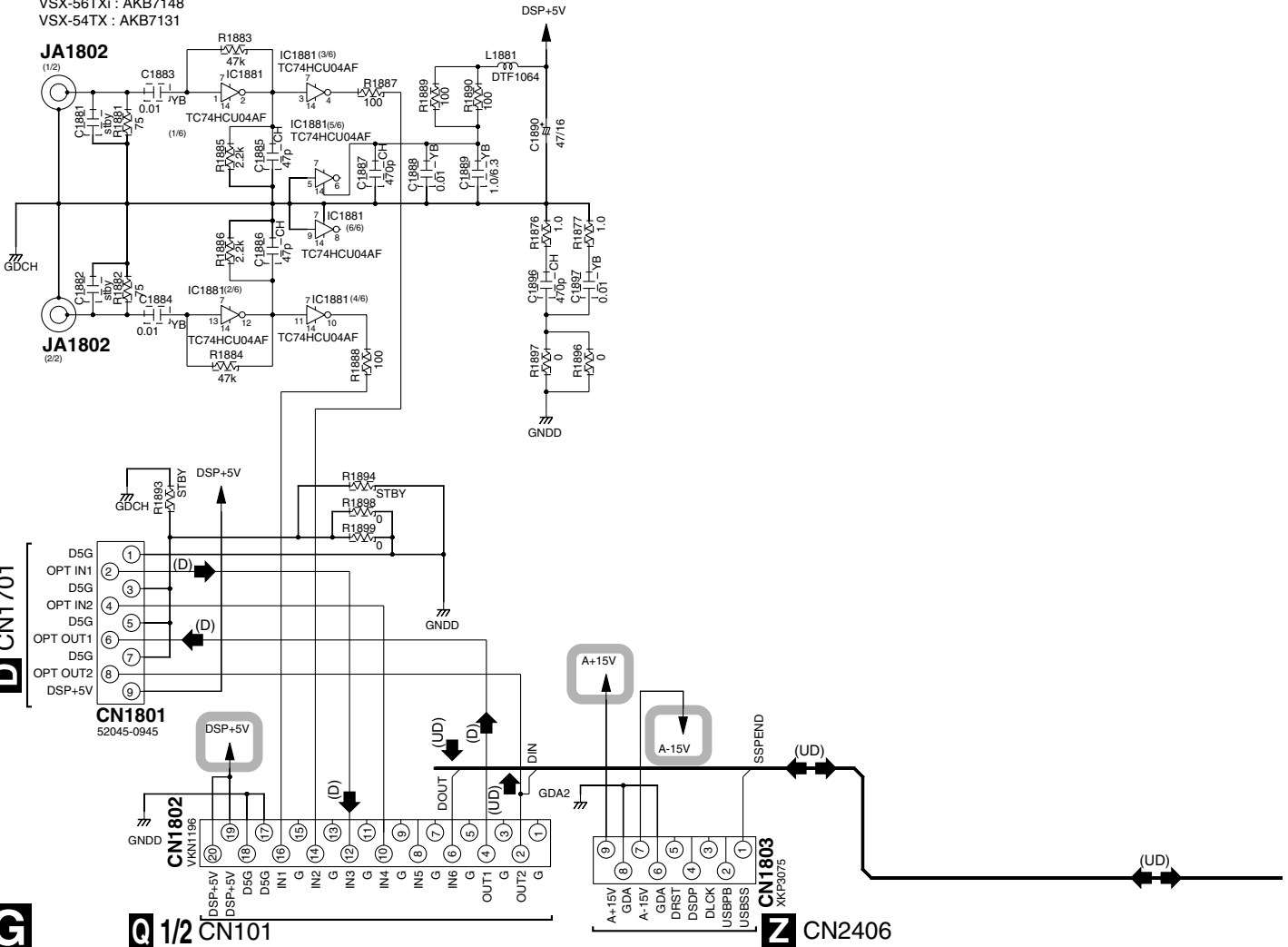


- : AUDIO SIGNAL ROUTE (Lch)
- (MR) ■ : AUDIO SIGNAL ROUTE (MULTI-ROOM Lch)
- (DVD) ■ : AUDIO SIGNAL ROUTE (DVD Lch)
- (F) ■ : AUDIO SIGNAL ROUTE (FRONT Lch)
- (S) ■ : AUDIO SIGNAL ROUTE (SURROUND Lch)
- (SB) ■ : AUDIO SIGNAL ROUTE (SURROUND BACK Lch)
- (C) ■ : AUDIO SIGNAL ROUTE (CENTER ch)

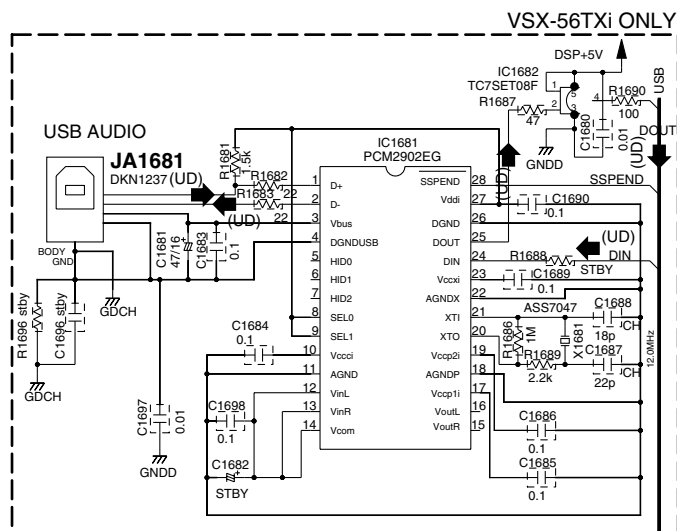
# 3.5 COAXIAL IN ASSY

**G** COAXIAL IN ASSY (VSX-56TXi : AWX8443)  
 (VSX-54TX : AWX8445)

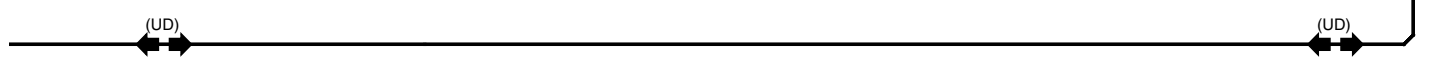
JA1802 ;  
 VSX-56TXi : AKB7148  
 VSX-54TX : AKB7131



(D) : AUDIO SIGNAL ROUTE (DIGITAL)  
 (UD) : AUDIO SIGNAL ROUTE (USB DIGITAL)

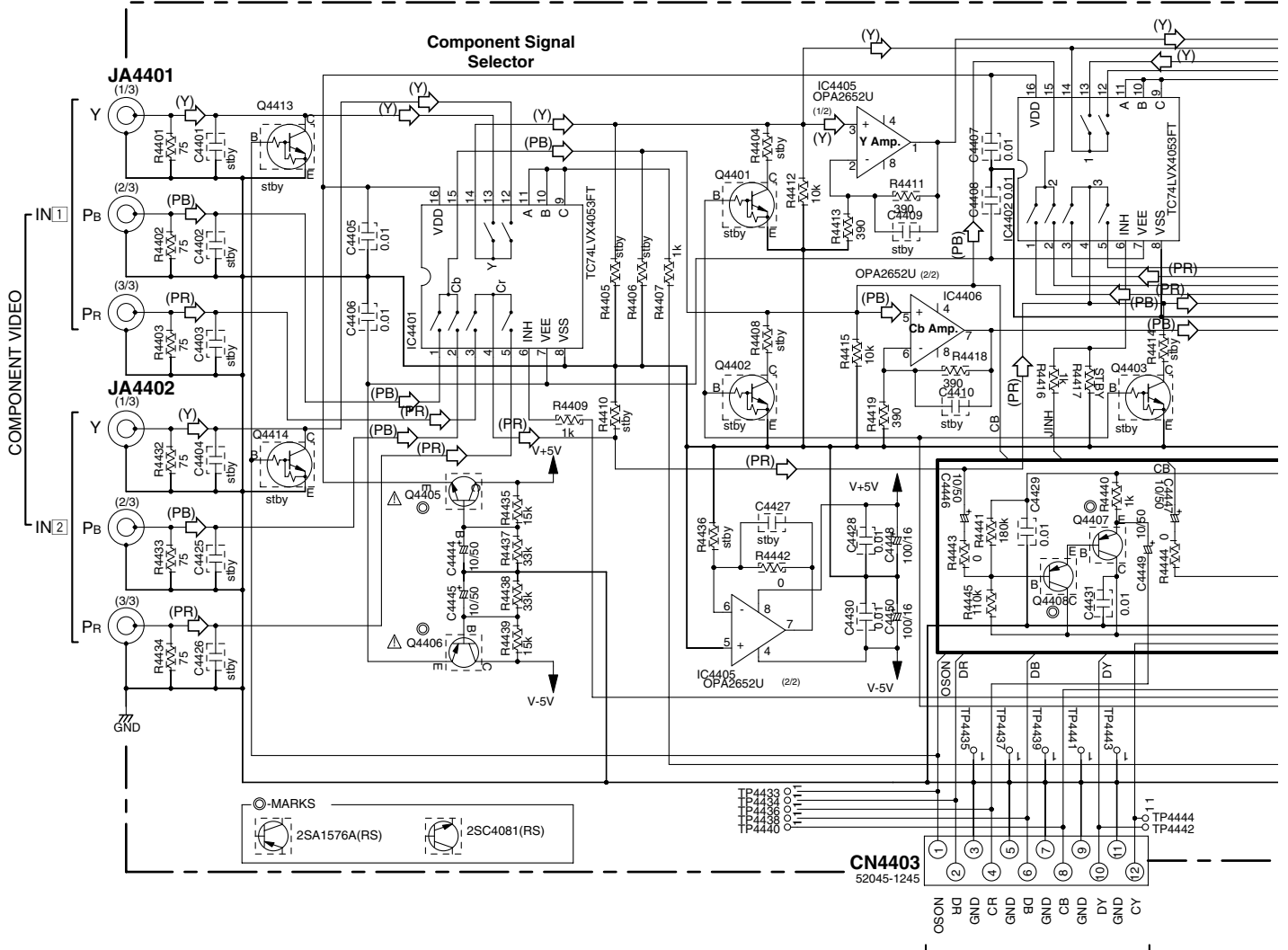


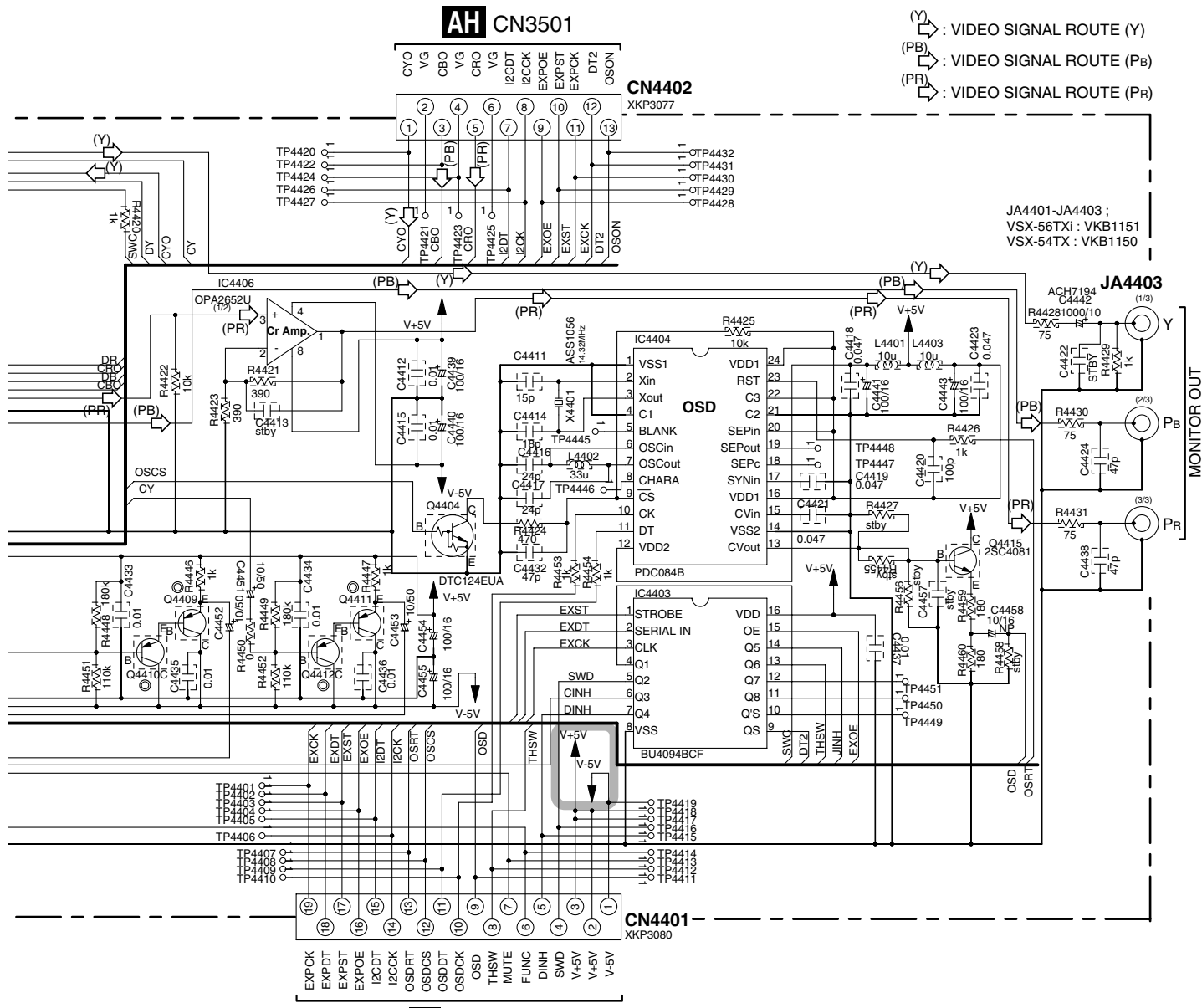
A  
B  
C  
D  
E  
F



# 3.6 COMPONENT ASSY

**COMPONENT ASSY**  
 (VSX-56TXi : AWX8454)  
 (VSX-54TX : AWX8456)





**AH** CN3501

**CN4402**  
KXP3077

JA4401-JA4403 ;  
VSX-56TXi : VKB1151  
VSX-54TX : VKB1150

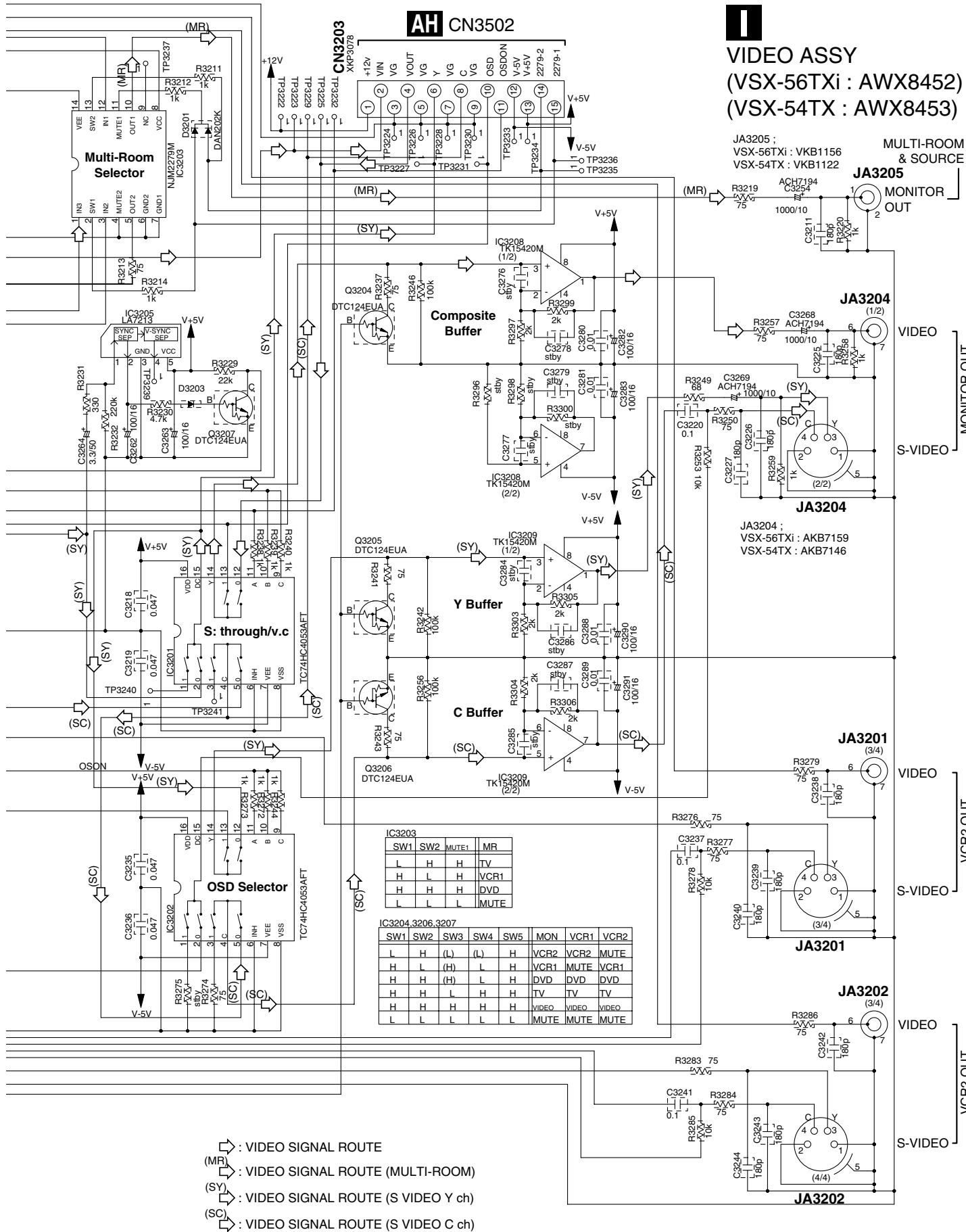
**JA4403**  
ACH7194  
C4442

**OSD**

**CN4401**  
KXP3080

**Z** CN2404

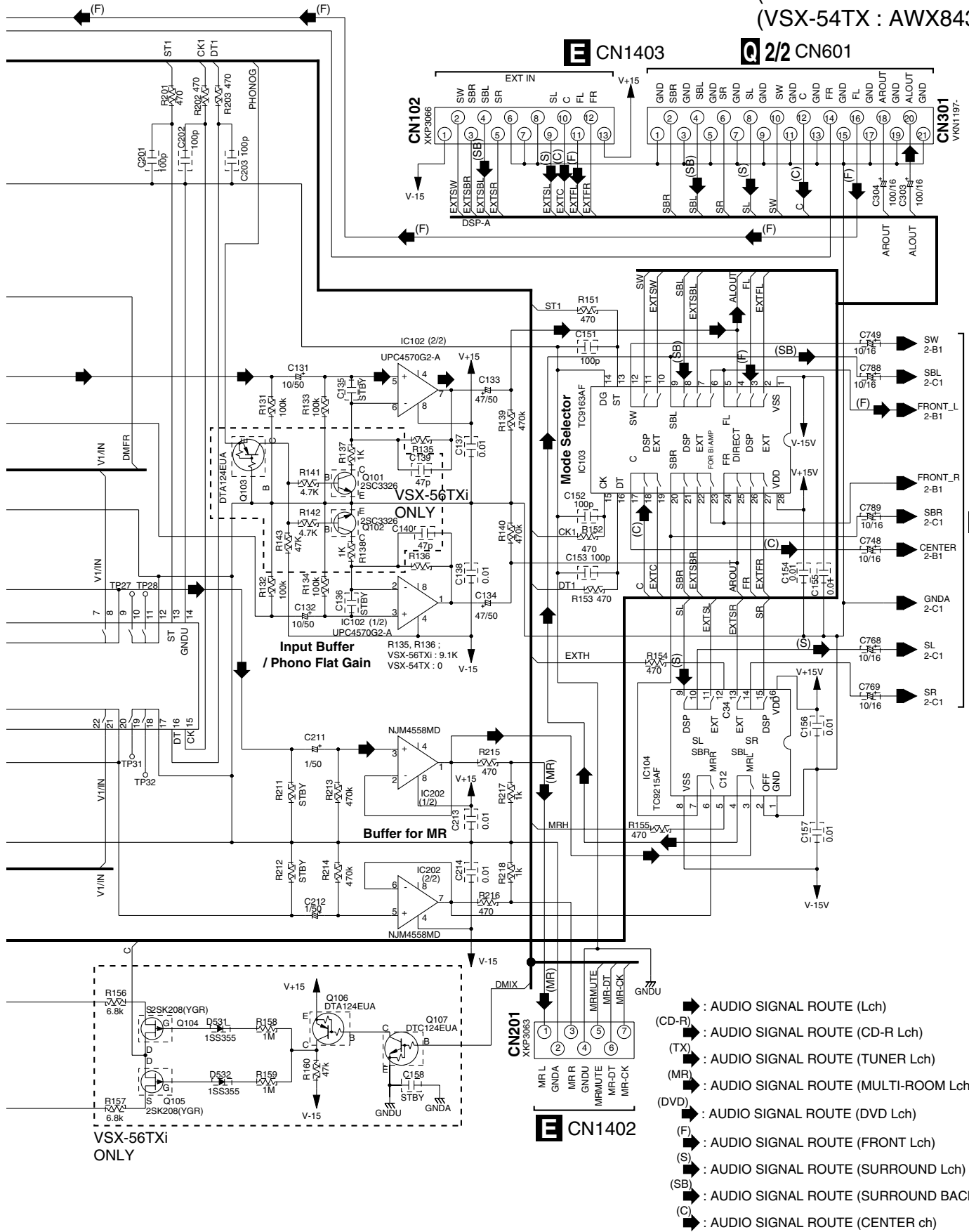








**J 1/3** MAIN CONTROL ASSY  
 (VSX-56TXi : AWX8434)  
 (VSX-54TX : AWX8439)



VSX-56TXi  
 ONLY

**J 2/3**

- (Lch) : AUDIO SIGNAL ROUTE (Lch)
- (CD-R) : AUDIO SIGNAL ROUTE (CD-R Lch)
- (TX) : AUDIO SIGNAL ROUTE (TUNER Lch)
- (MR) : AUDIO SIGNAL ROUTE (MULTI-ROOM Lch)
- (DVD) : AUDIO SIGNAL ROUTE (DVD Lch)
- (F) : AUDIO SIGNAL ROUTE (FRONT Lch)
- (S) : AUDIO SIGNAL ROUTE (SURROUND Lch)
- (SB) : AUDIO SIGNAL ROUTE (SURROUND BACK Lch)
- (C) : AUDIO SIGNAL ROUTE (CENTER ch)

# 3.9 MAIN CONTROL ASSY (2/3)

A  
B  
C  
D  
E  
F

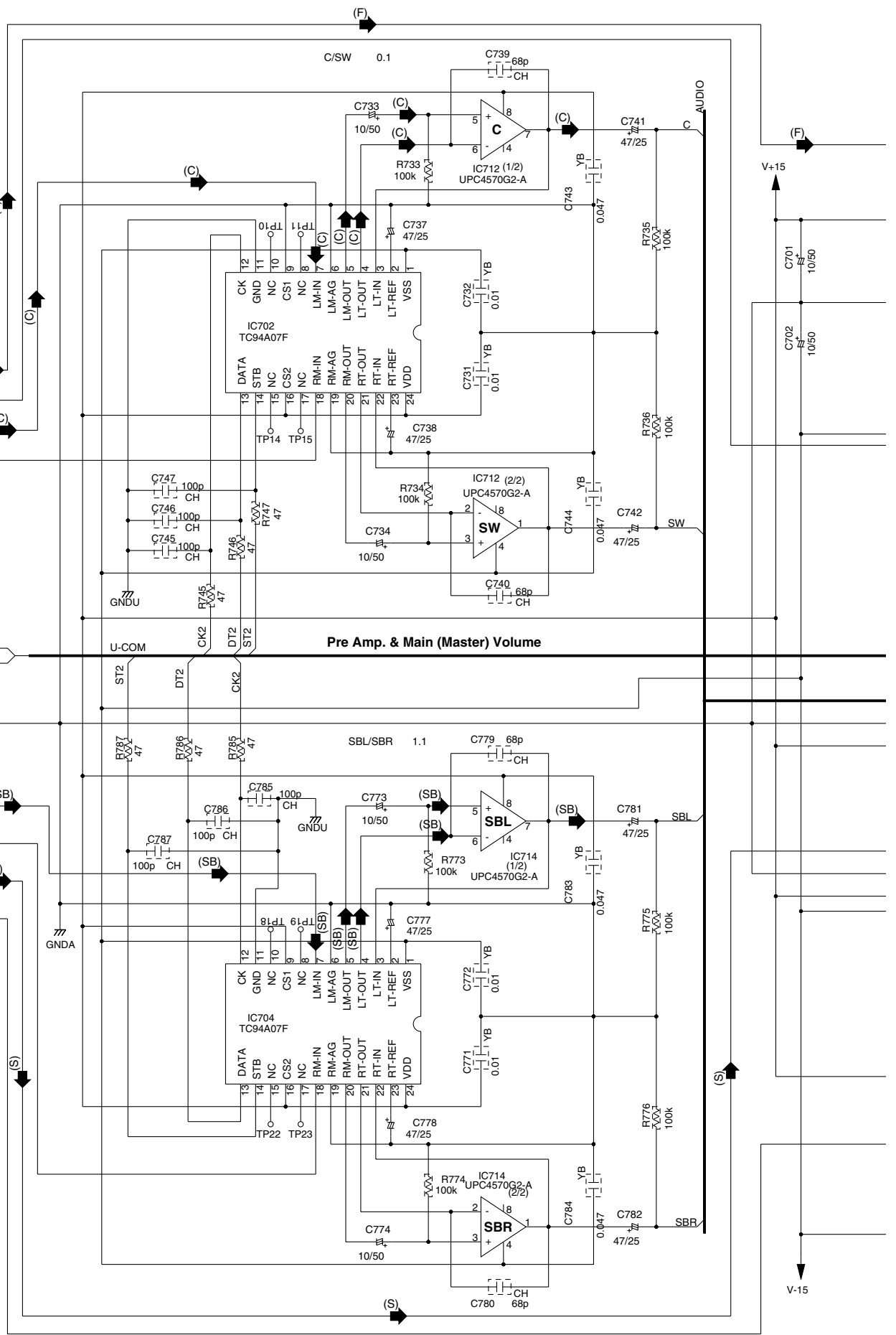
1 2 3 4

J 1/3

J 1/3, 3/3  
1-A3,3-D4  
U-COM

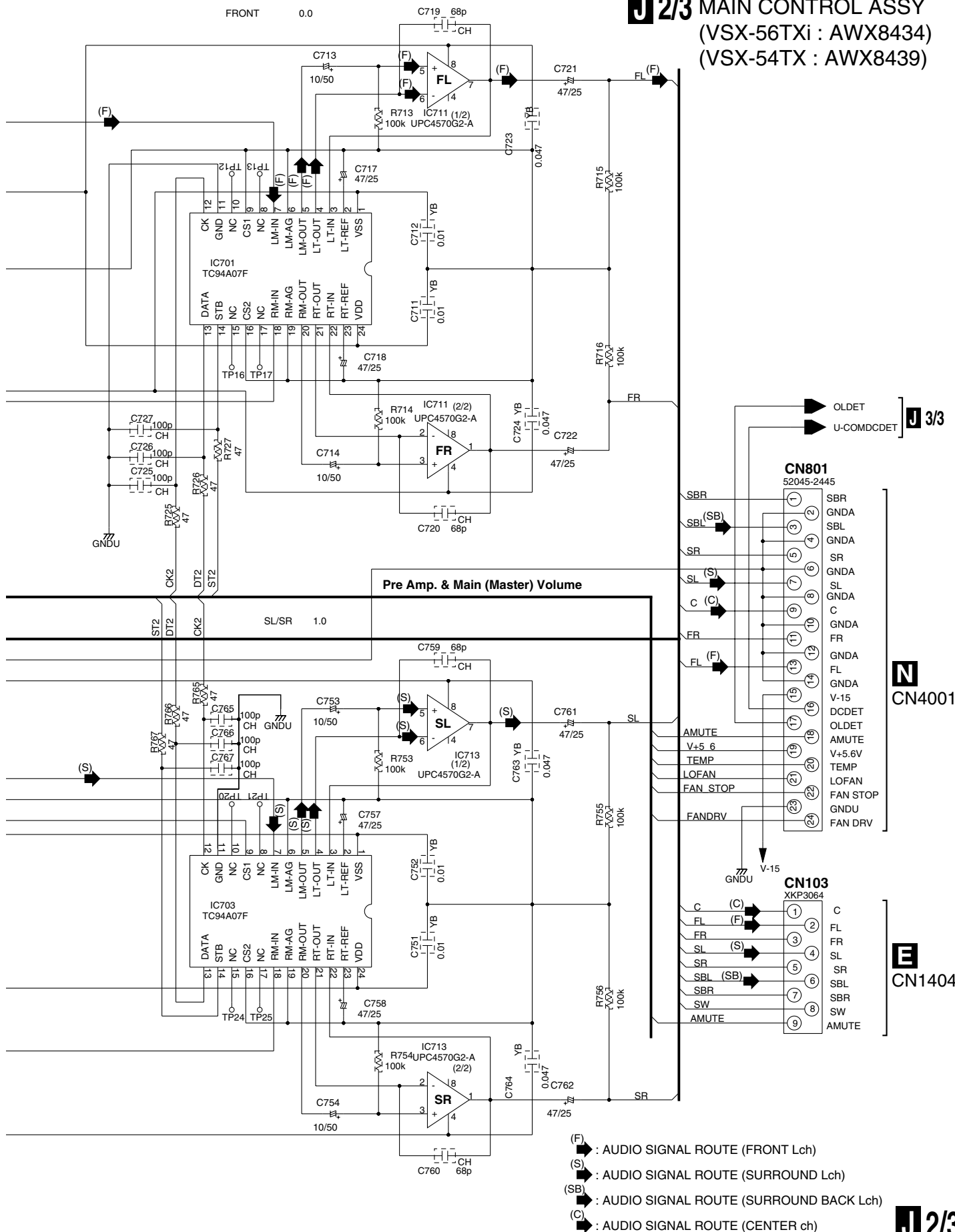
J 1/3

J 2/3

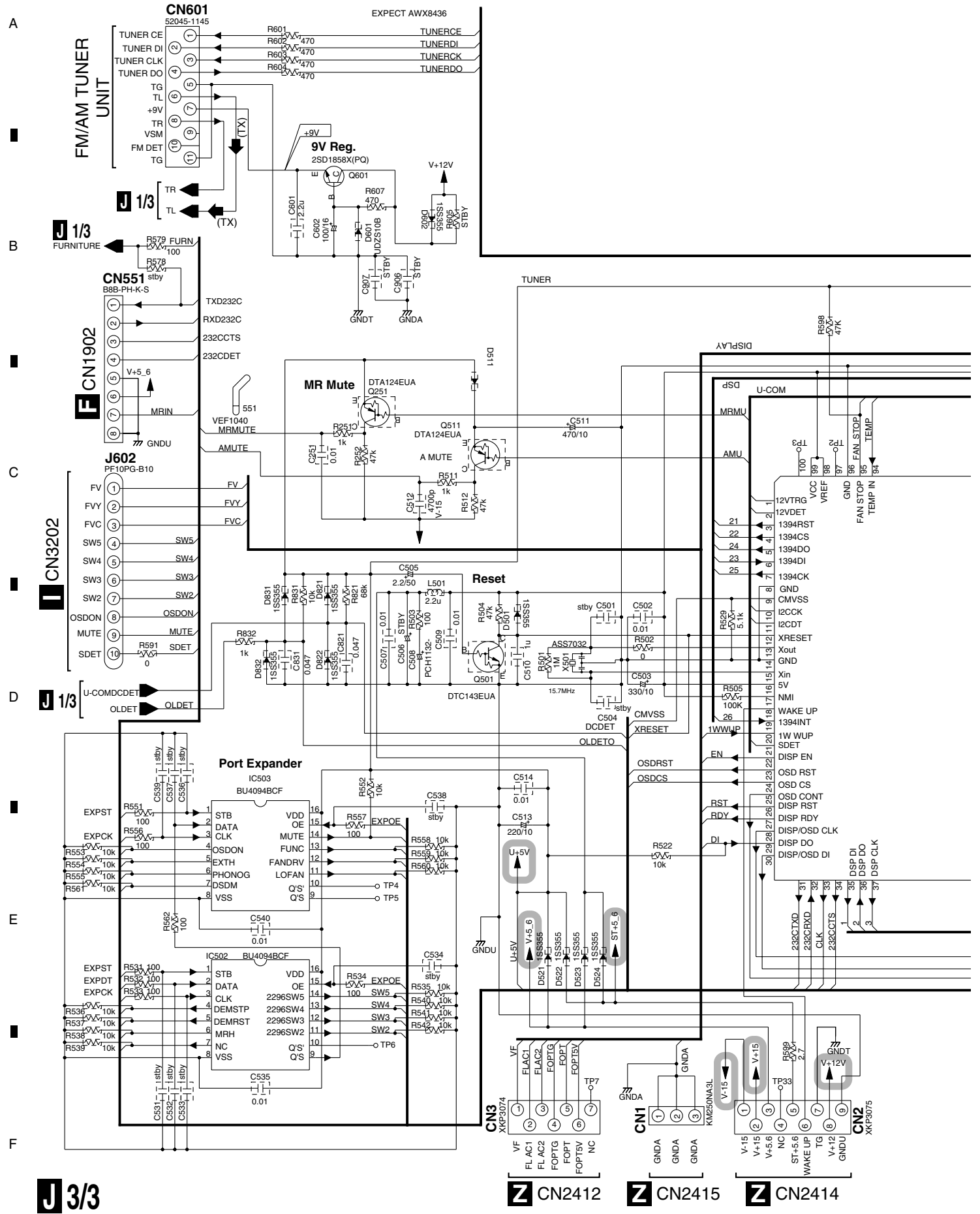


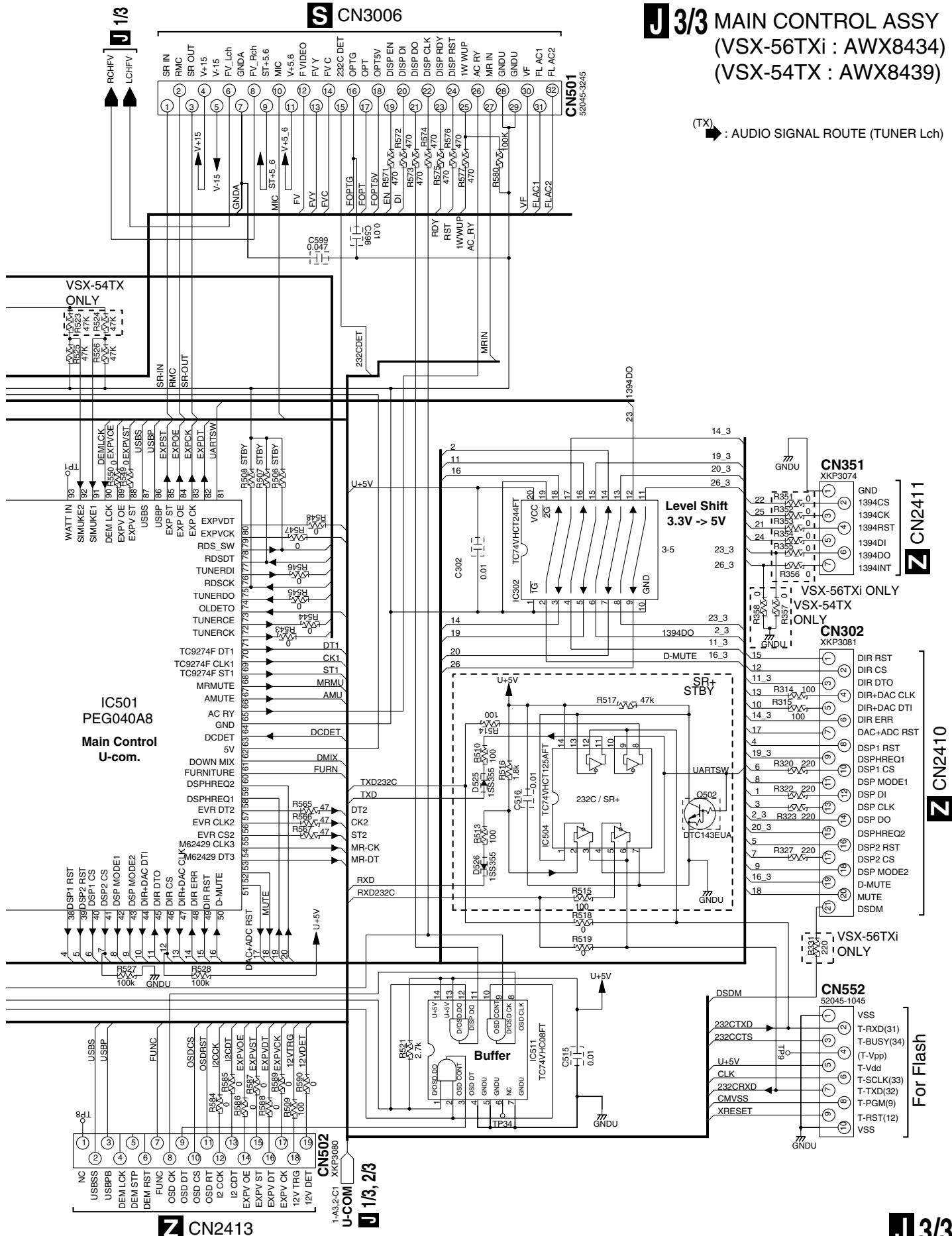
1 2 3 4

**J 2/3** MAIN CONTROL ASSY  
 (VSX-56TXi : AWX8434)  
 (VSX-54TX : AWX8439)



# 3.10 MAIN CONTROL ASSY (3/3)





**J 3/3** MAIN CONTROL ASSY  
 (VSX-56TXi : AWX8434)  
 (VSX-54TX : AWX8439)

(TX) : AUDIO SIGNAL ROUTE (TUNER Lch)

**J 1/3** CN2413

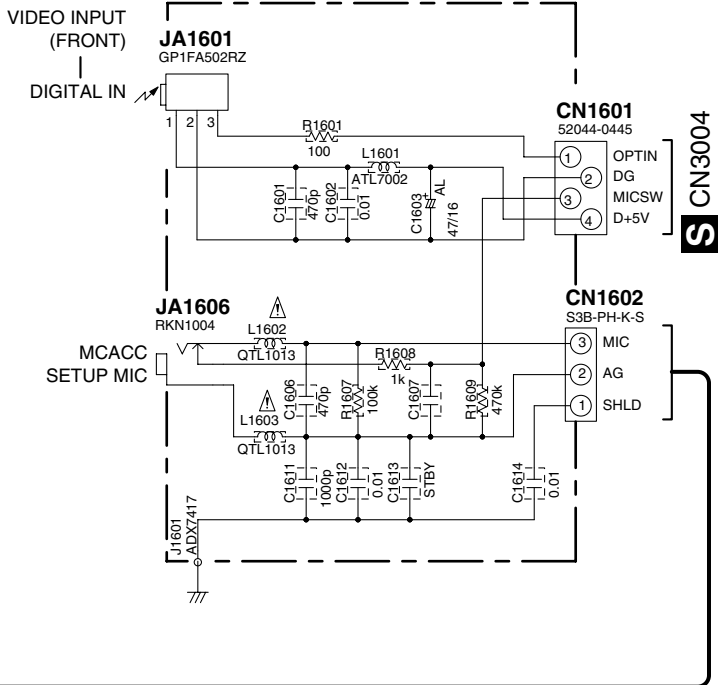
**S** CN3006

**J 3/3**

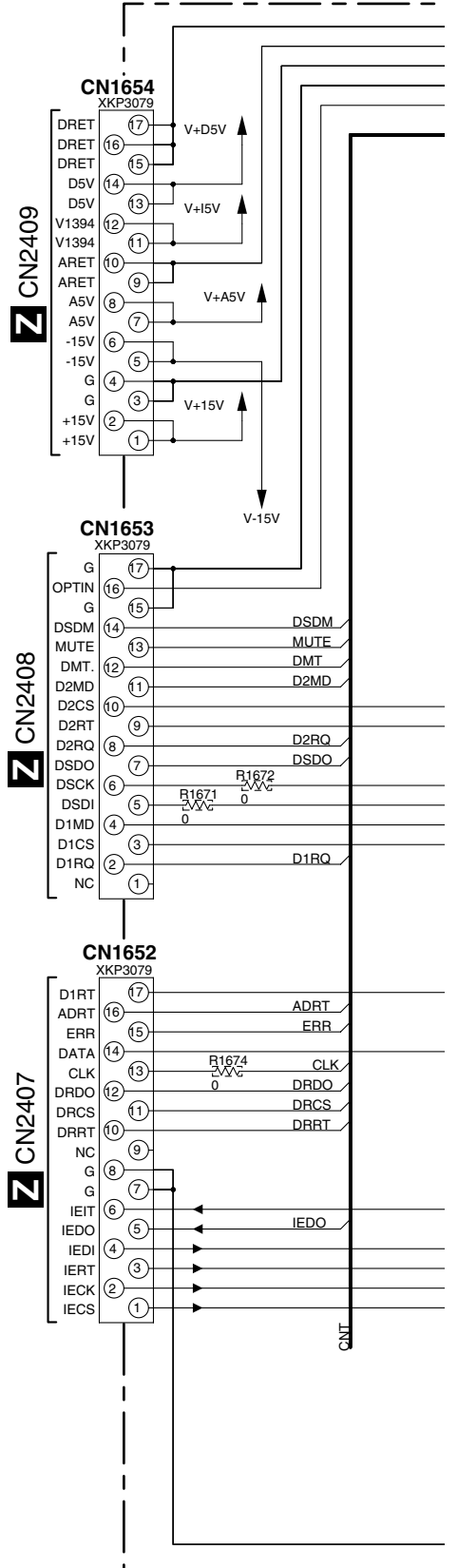
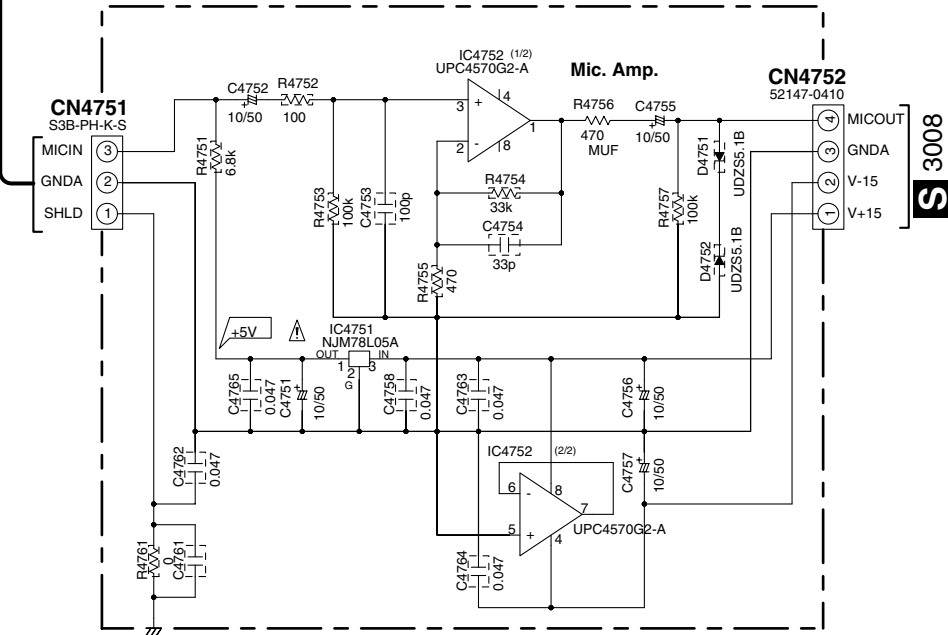
VSX-56TXi

# 3.11 MIC & F.OPT IN, MIC AMP and DSP CONNECTION ASSYS

## K MIC & F. OPT IN ASSY (AWX8446)

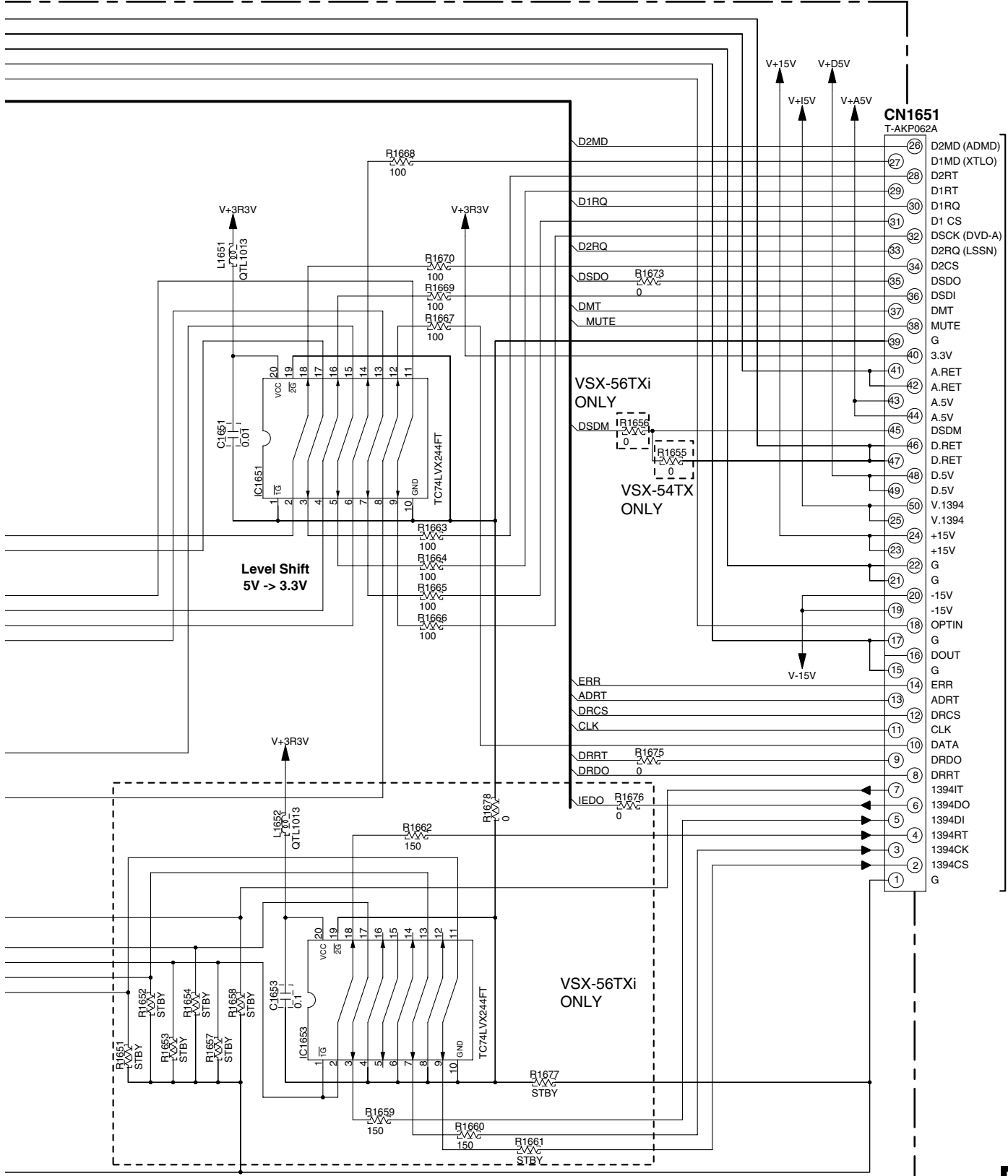


## L MIC AMP ASSY (AWX8447)



**K L M**

**M** DSP CONNECTION ASSY  
 (VSX-56TXi : AWX8441)  
 (VSX-54TX : AWX8442)



**Q** 1/2 CN102

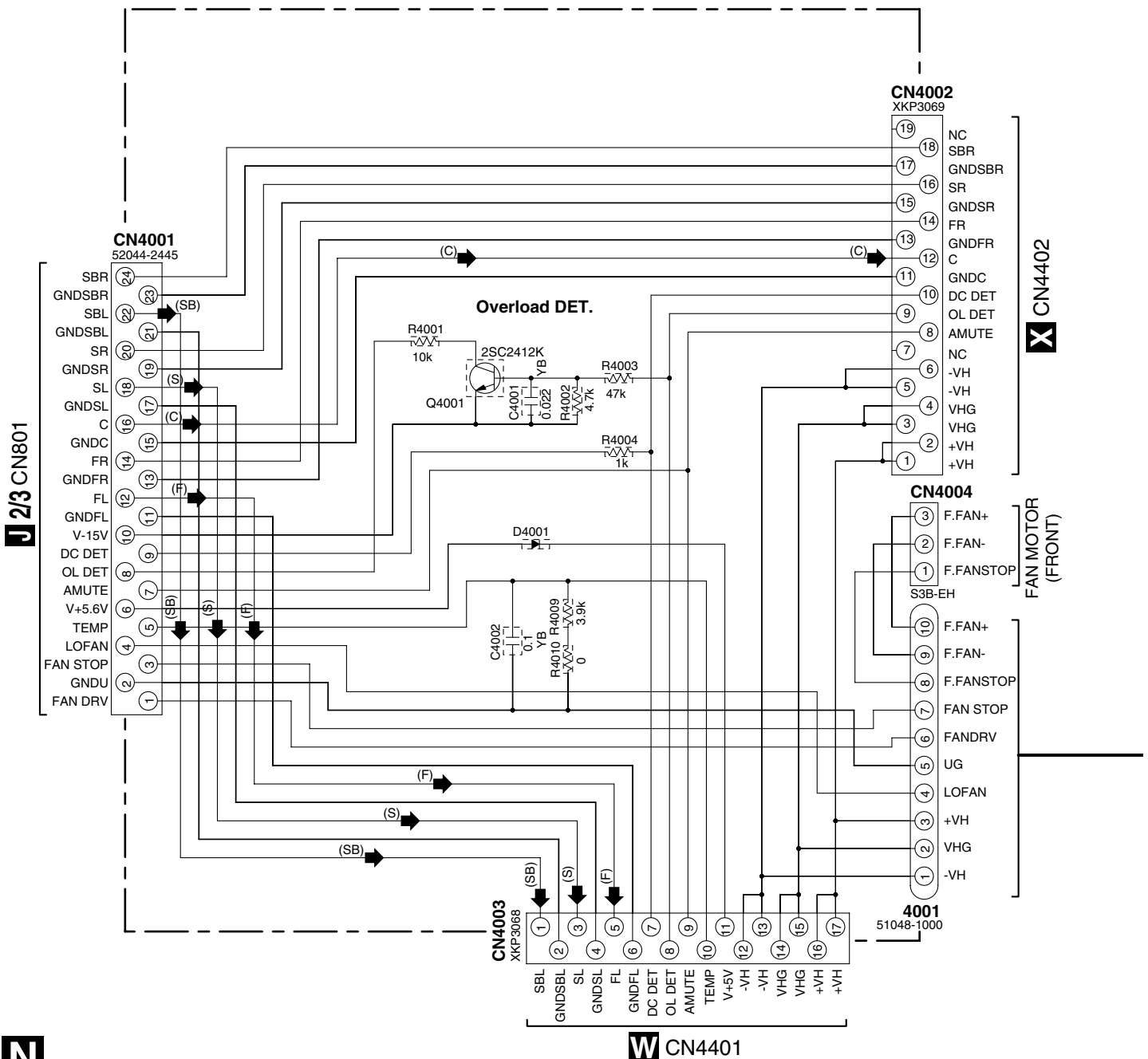
VSX-56TXi



# 3.12 POWER AMP IN, FAN CONNECTION and FAN DRIVE ASSYS

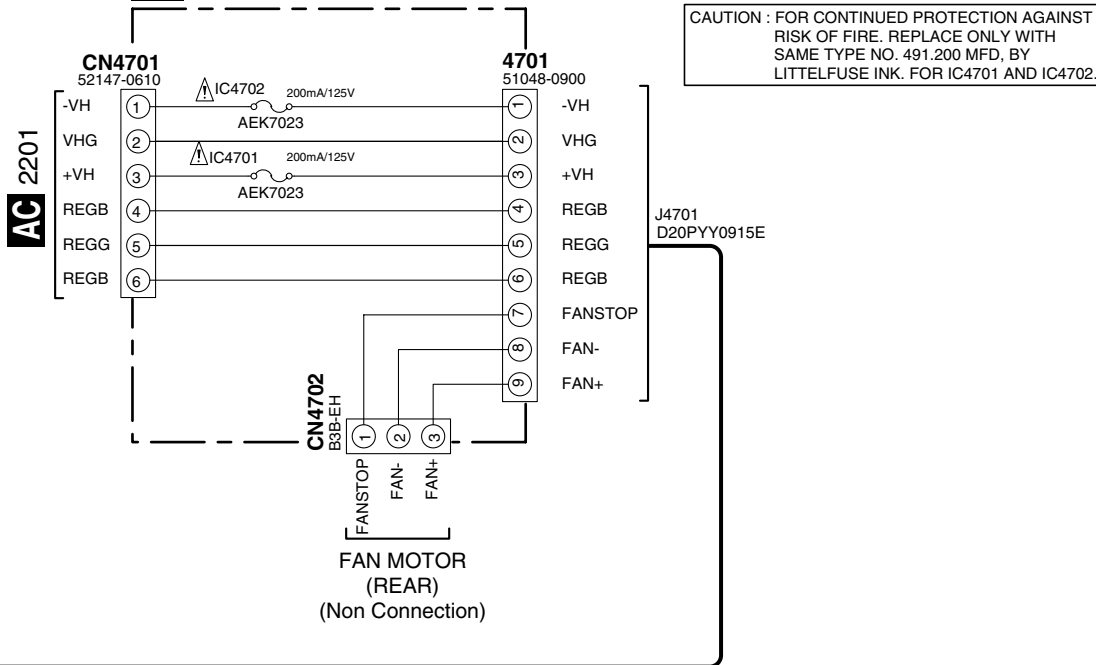
- (F) : AUDIO SIGNAL ROUTE (FRONT Lch)
- (S) : AUDIO SIGNAL ROUTE (SURROUND Lch)
- (SB) : AUDIO SIGNAL ROUTE (SURROUND BACK Lch)
- (C) : AUDIO SIGNAL ROUTE (CENTER ch)

## POWER AMP IN ASSY (AWX8468)

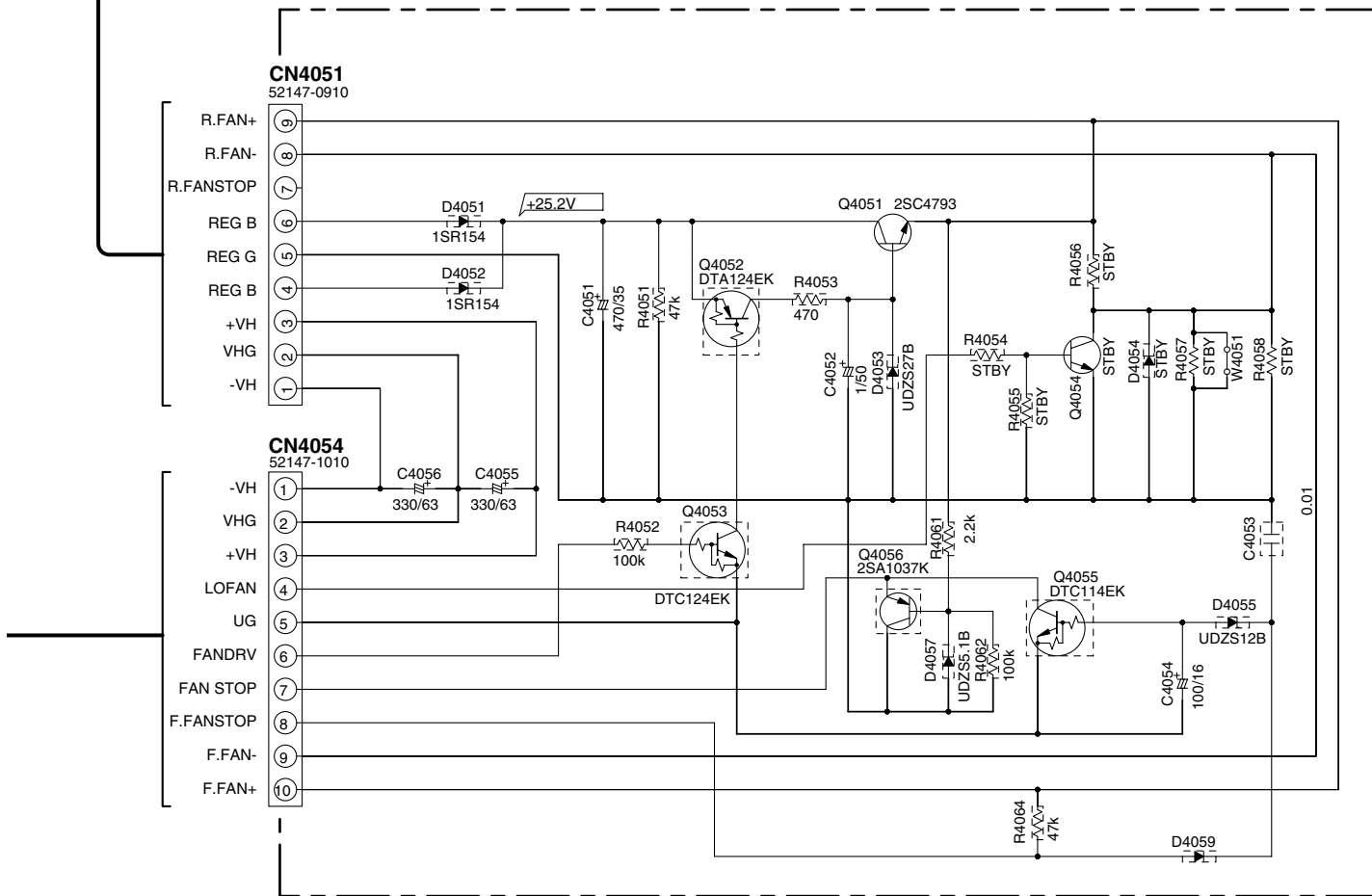




# O FAN CONNECTION ASSY (AWX8448)

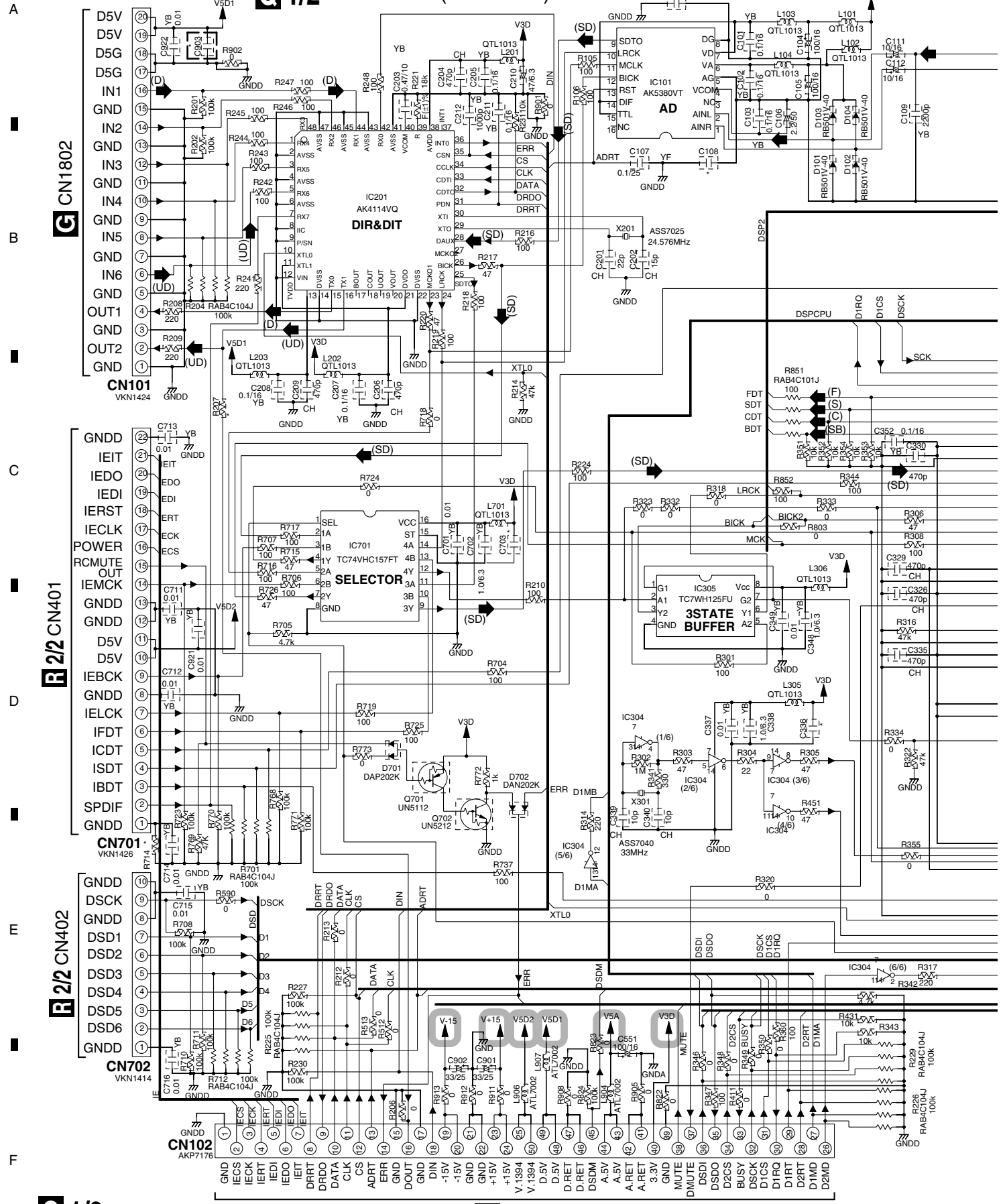


# P FAN DRIVE ASSY (AWX8469)



# 3.13 DSP ASSY (1/2)

## Q 1/2 DSP ASSY (AWX8489)



## Q 1/2

## M CN1651

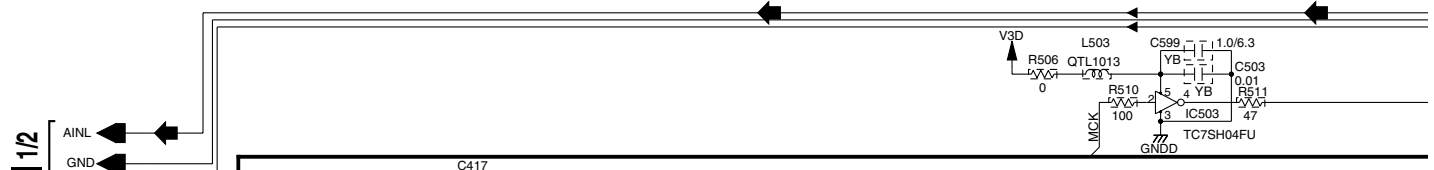
VSX-56TXI



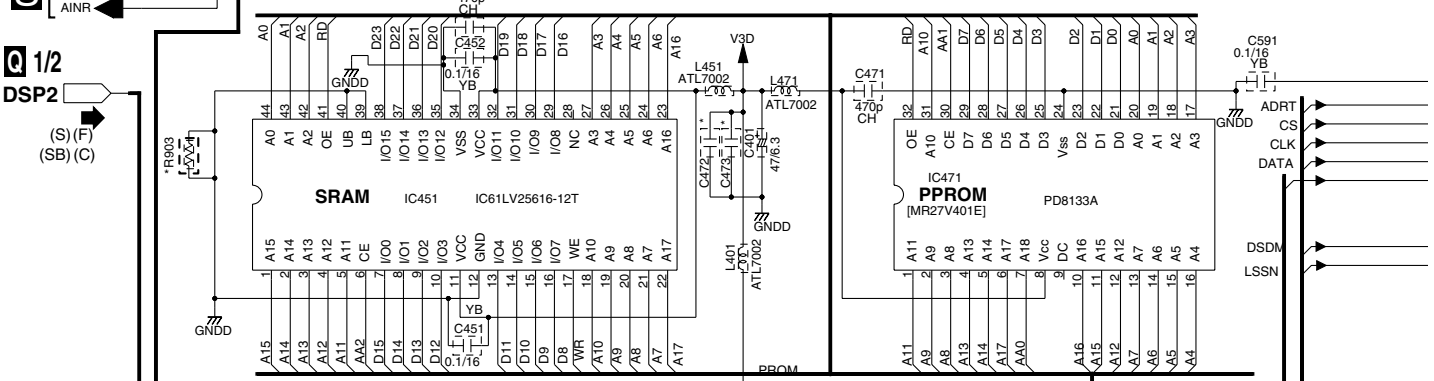
# 3.14 DSP ASSY (2/2)

## Q 2/2 DSP ASSY (AWX8489)

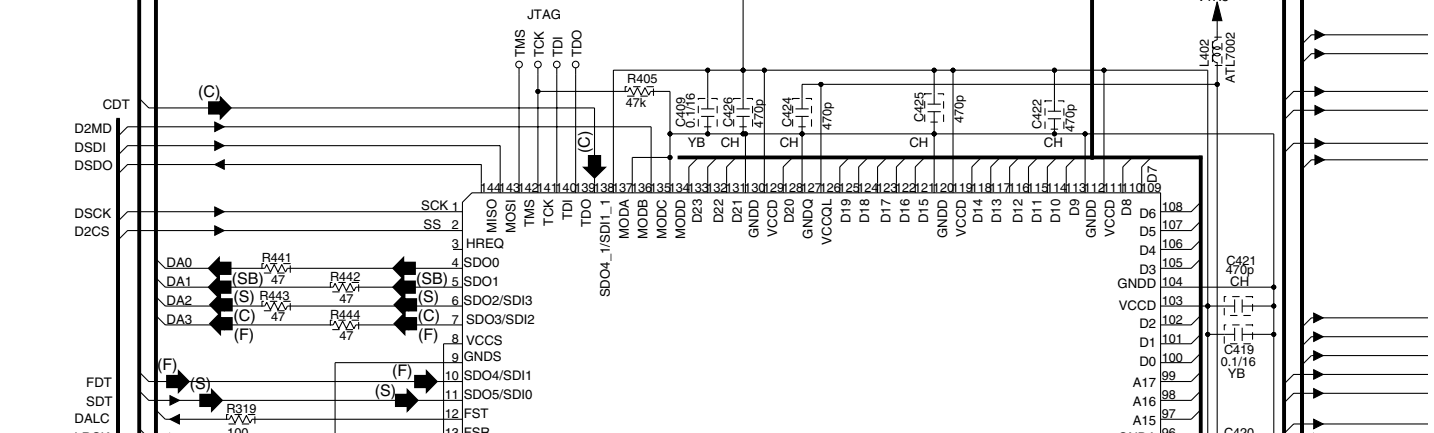
A



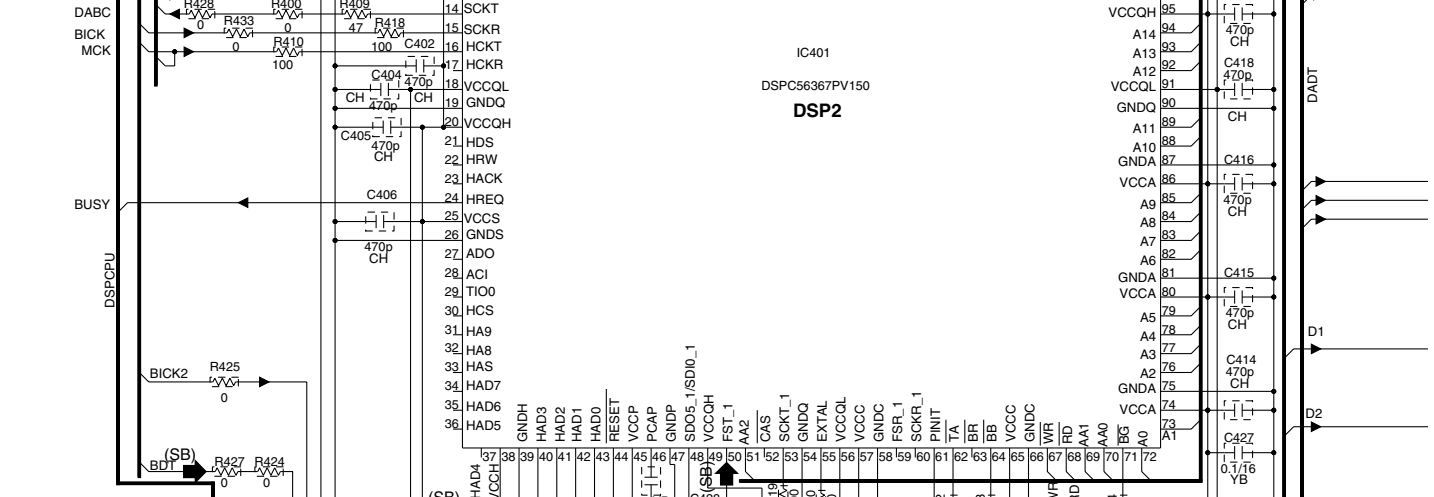
B



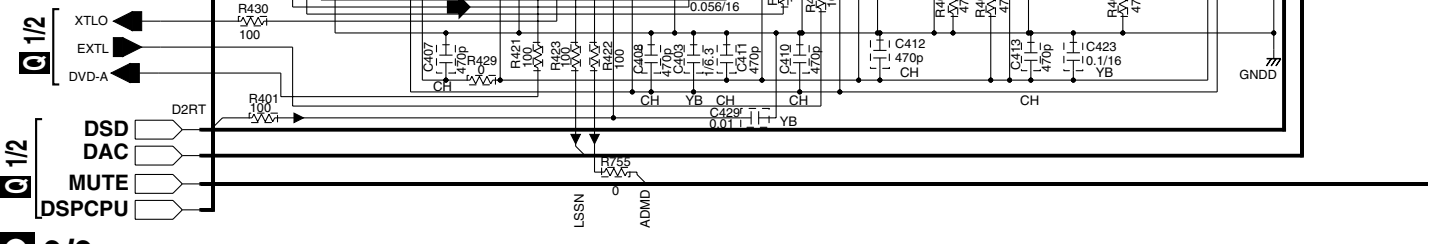
C



D



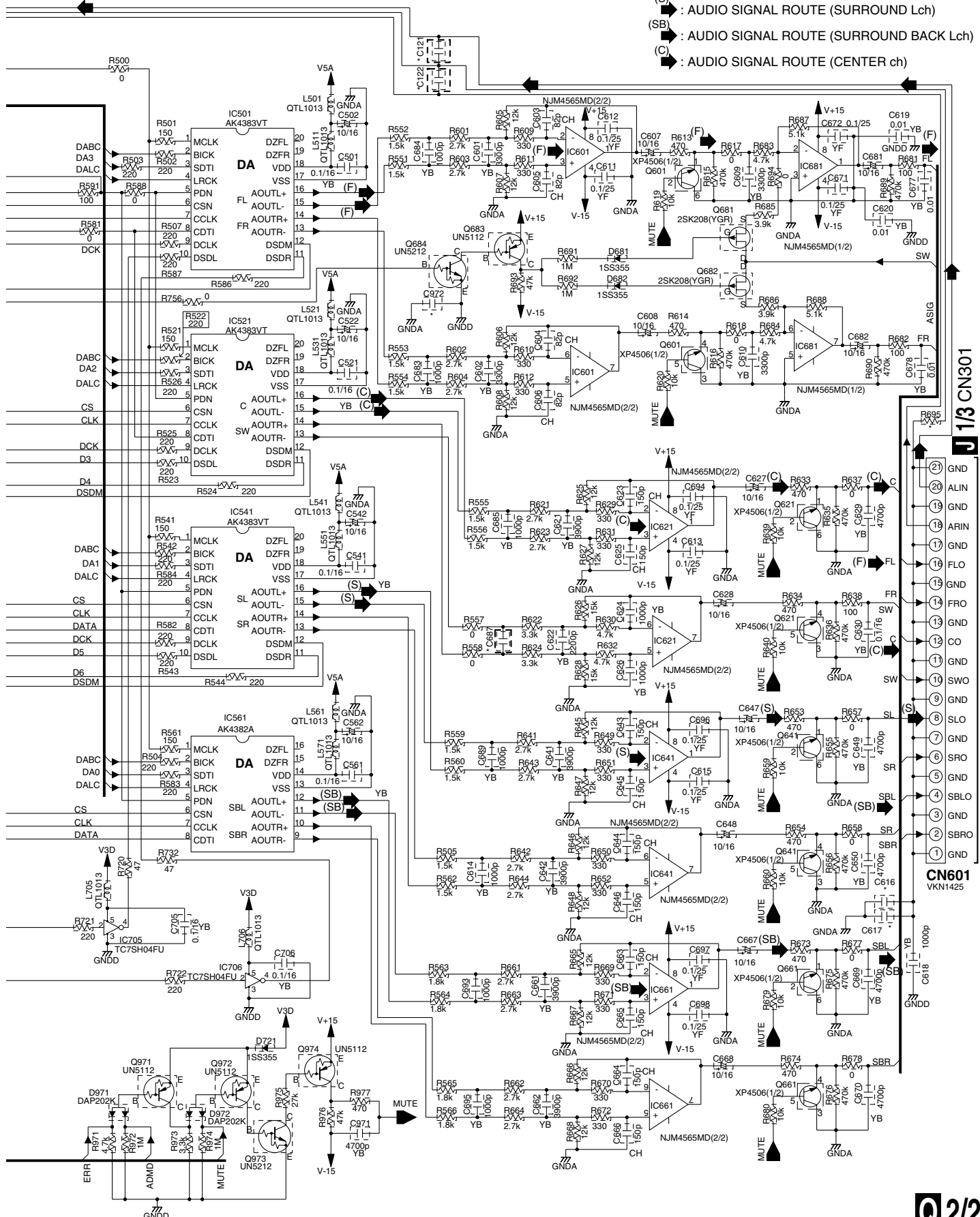
E



F



- ▶ : AUDIO SIGNAL ROUTE (Lch)
- (F) ▶ : AUDIO SIGNAL ROUTE (FRONT Lch)
- (S) ▶ : AUDIO SIGNAL ROUTE (SURROUND Lch)
- (SB) ▶ : AUDIO SIGNAL ROUTE (SURROUND BACK Lch)
- (C) ▶ : AUDIO SIGNAL ROUTE (CENTER ch)



A  
B  
C  
D  
E  
F

J 1/3 CN301

CN601  
VKN1425

# 3.15 1394 ASSY (1/2) (VSX-56TXi ONLY)

1

2

3

4

A

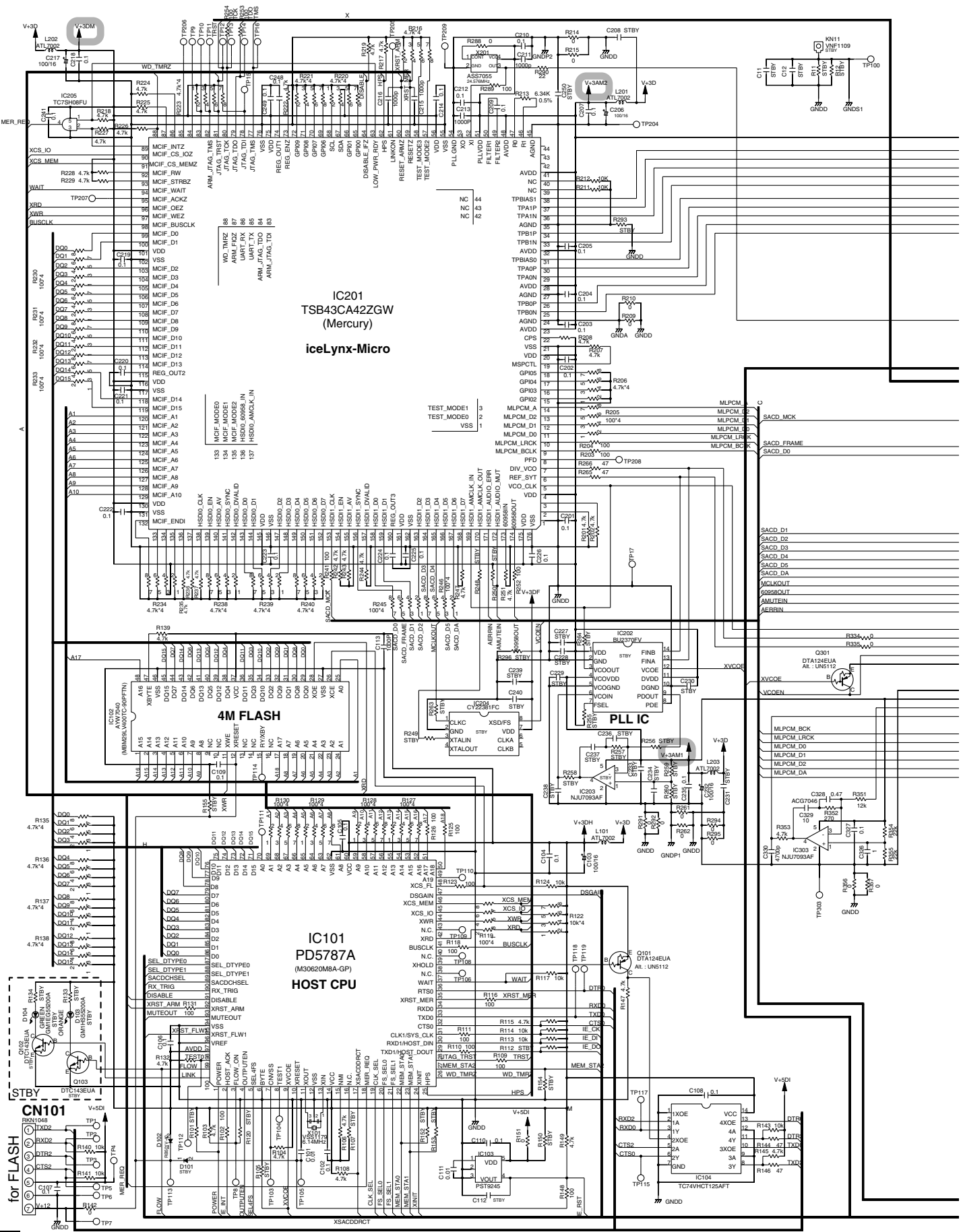
B

C

D

E

F



R 1/2

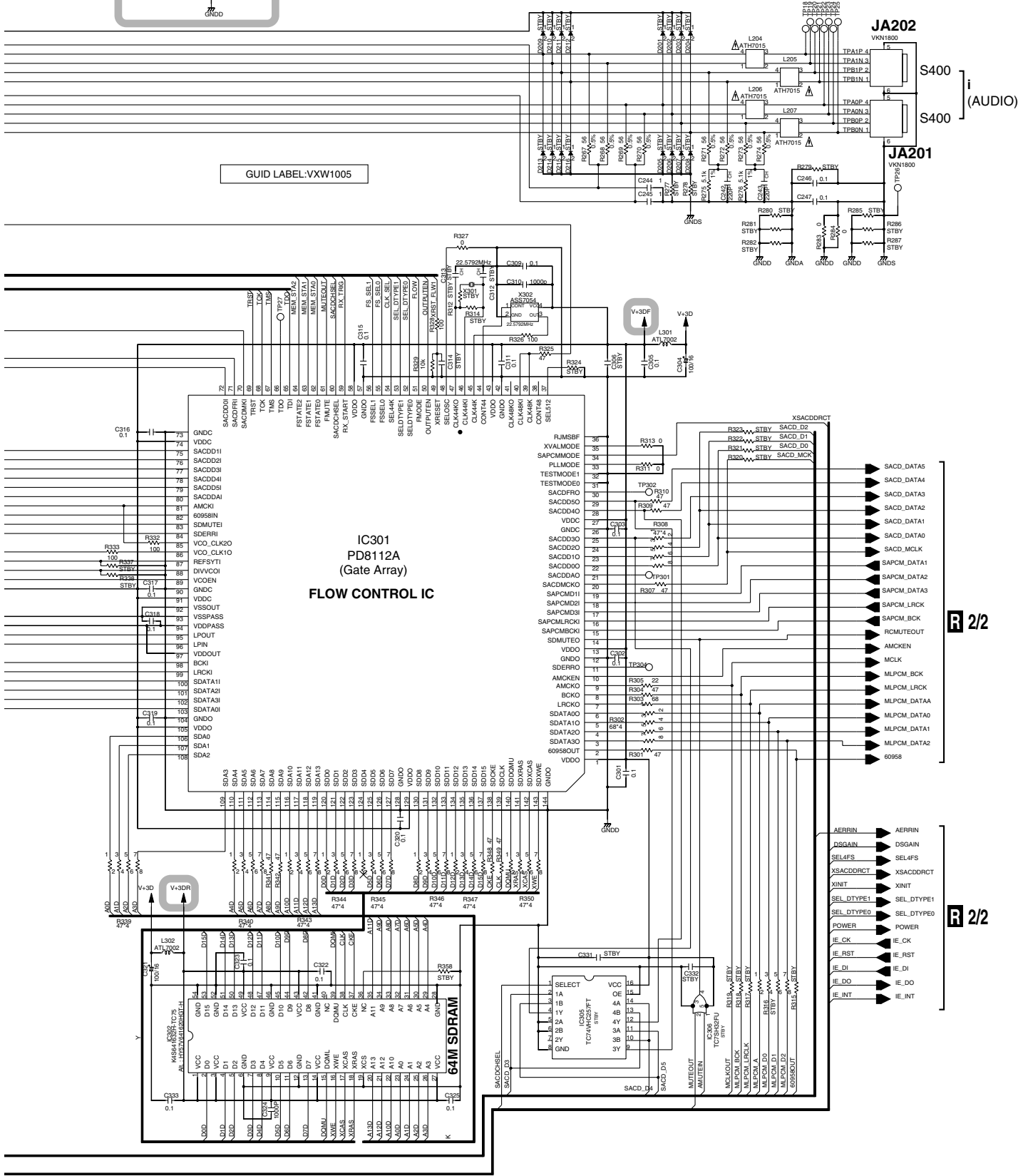
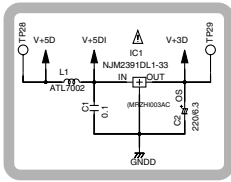
1

2

3

4

# R 1/2 1394 ASSY (AWK7834)



GUID LABEL:VXW1005

**IC301**  
**PD8112A**  
 (Gate Array)  
**FLOW CONTROL IC**

**64M SDRAM**

**JA202**  
 VKN1800  
 S400  
 S400  
 (AUDIO)

**JA201**  
 VKN1800

R 2/2

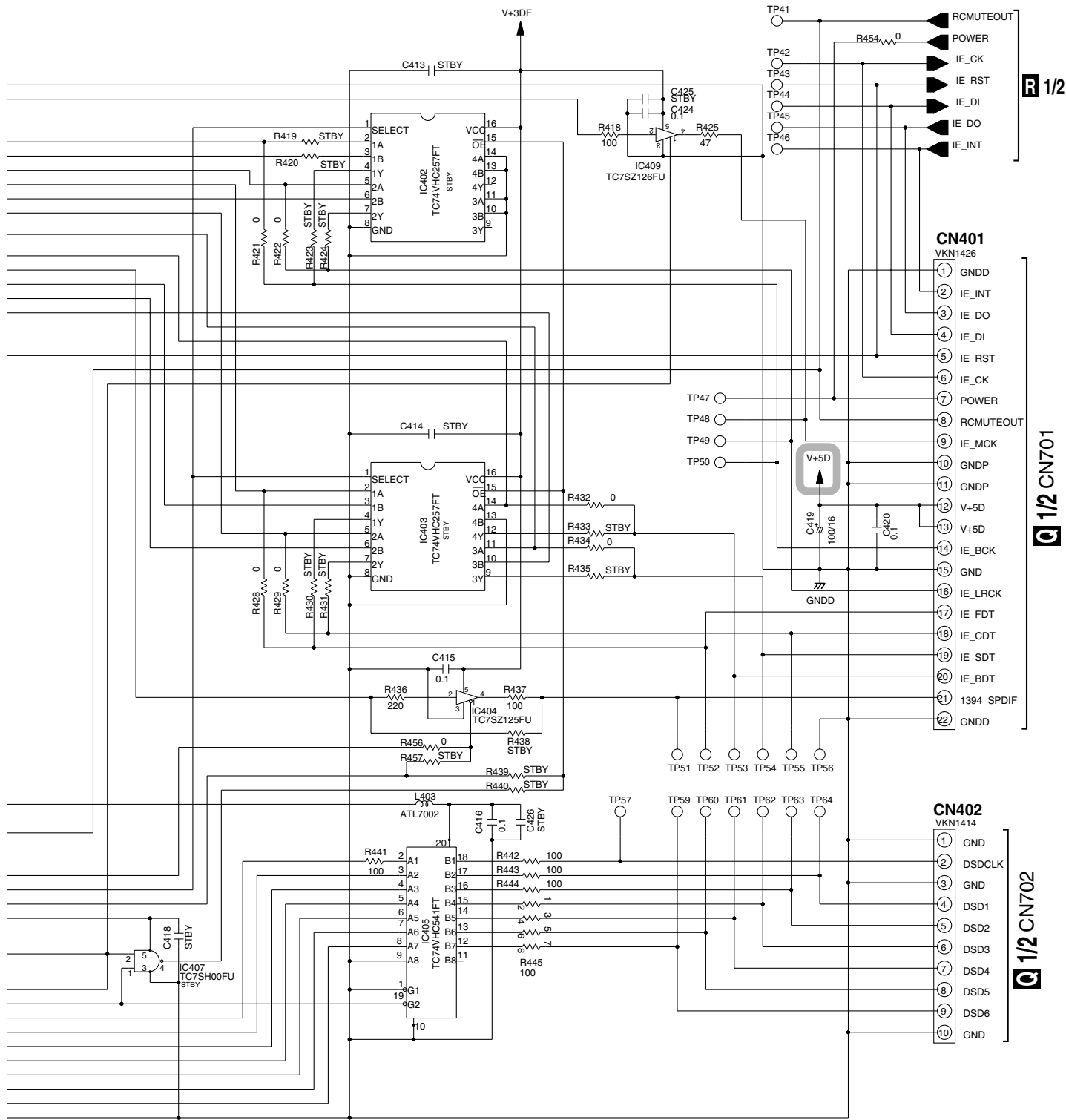
R 2/2

R 1/2

VSX-56TXi







R 1/2

C 1/2 CN701

C 1/2 CN702

R 2/2

# 3.17 DISPLAY ASSY

1

2

3

4

A

## Switches

- 1-1 SB CH MODE
- 1-2 HI-BIT/  
HI-SAMPLING
- 1-3 SIGNAL SELECT
- 1-4 MULTI JOG  
CONT.RETURN
- 1-5 MULTI JOG  
CONT.SETUP
- 1-6 SPEAKER
- 2-1 CLASS
- 2-2 BAND
- 2-3 TONE +
- 2-4 TONE -
- 2-5 BASS/  
TREBLE
- 2-6 TONE  
ON/OFF
- 3-1 TUNING  
SELECT
- 3-2 (ST.FREQ) -
- 3-3 (ST.FREQ) +
- 3-4 TUNER EDIT
- 3-5 MR&S  
CONTROL
- 3-6 MR&S  
ON/OFF

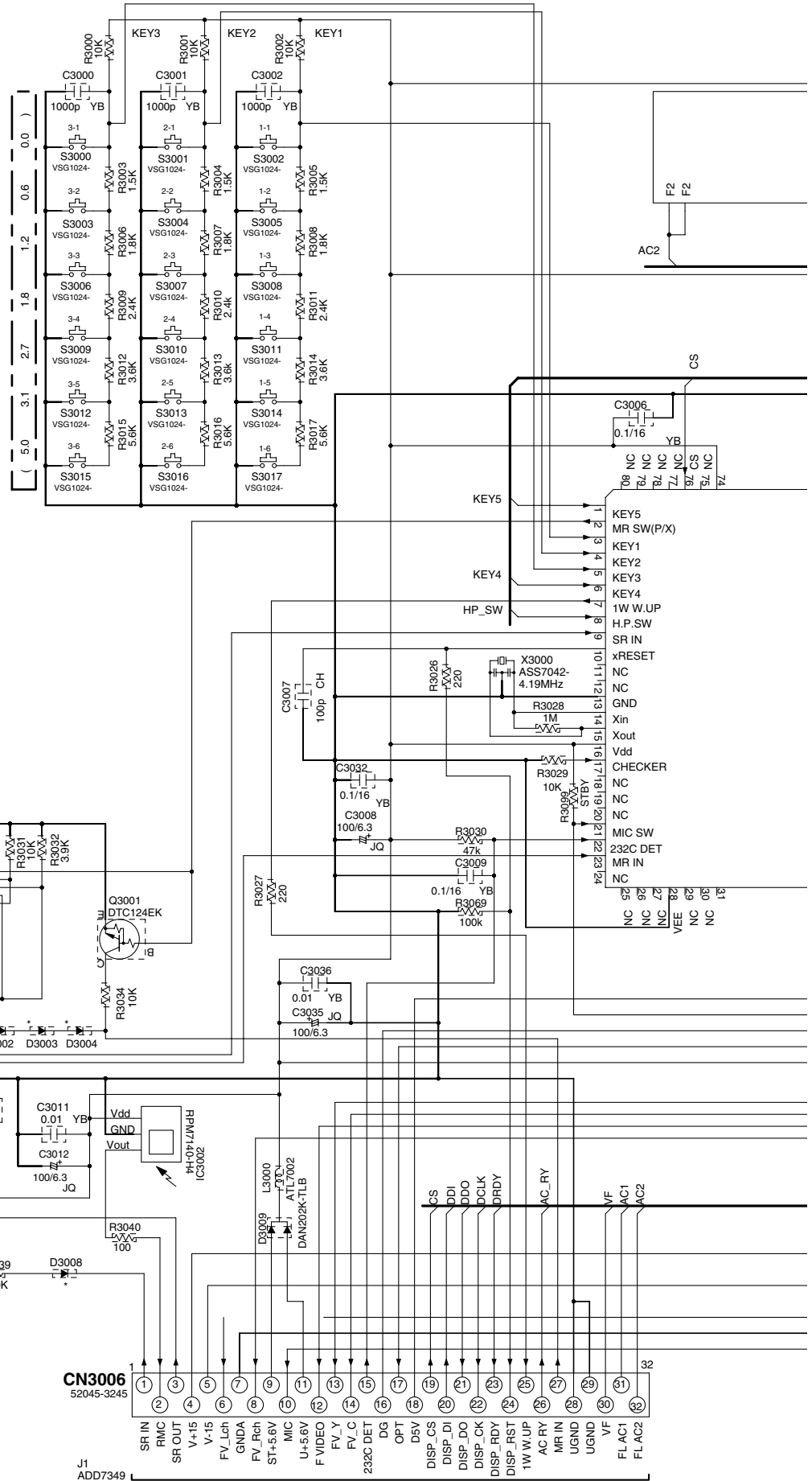
B

C

D

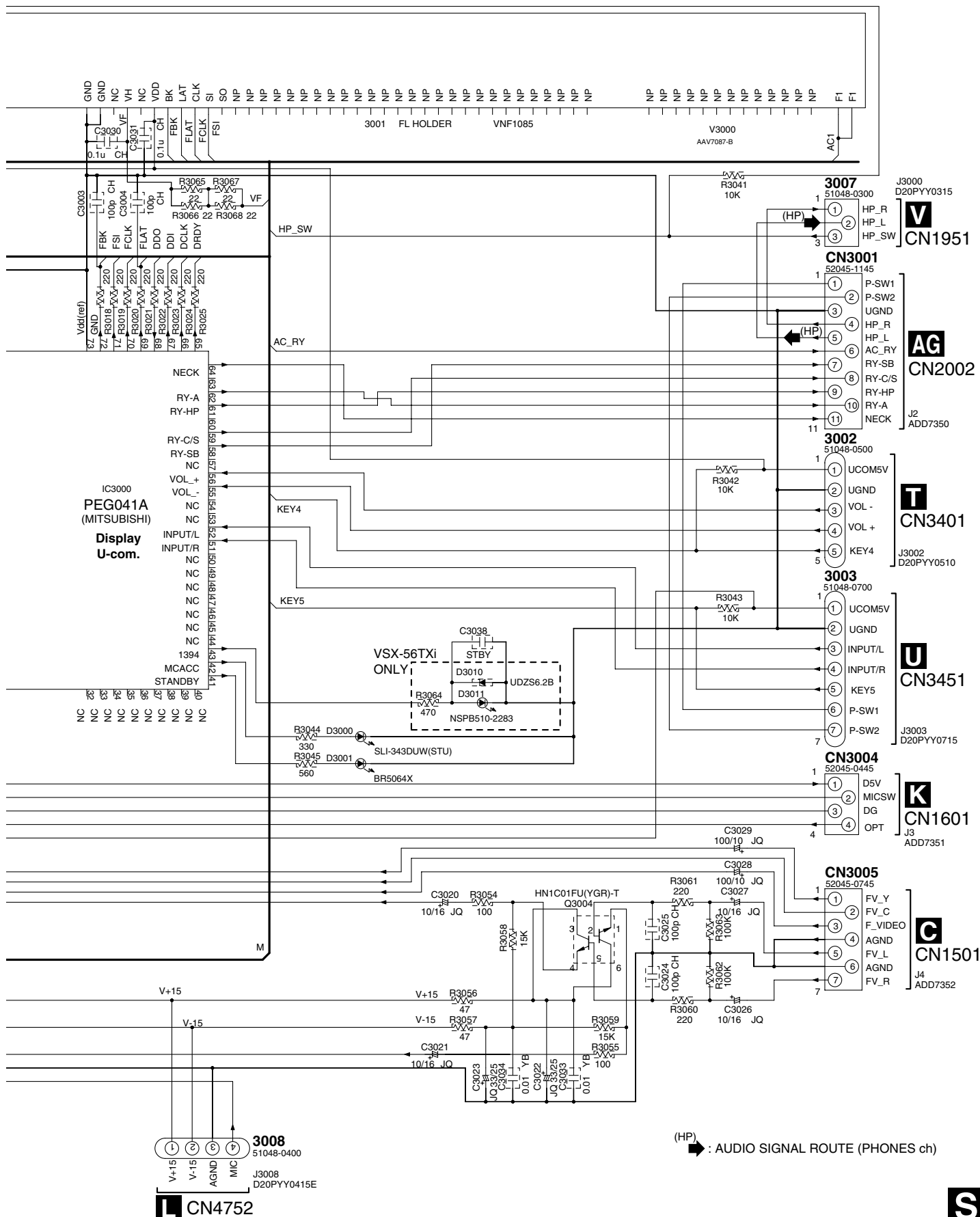
E

F



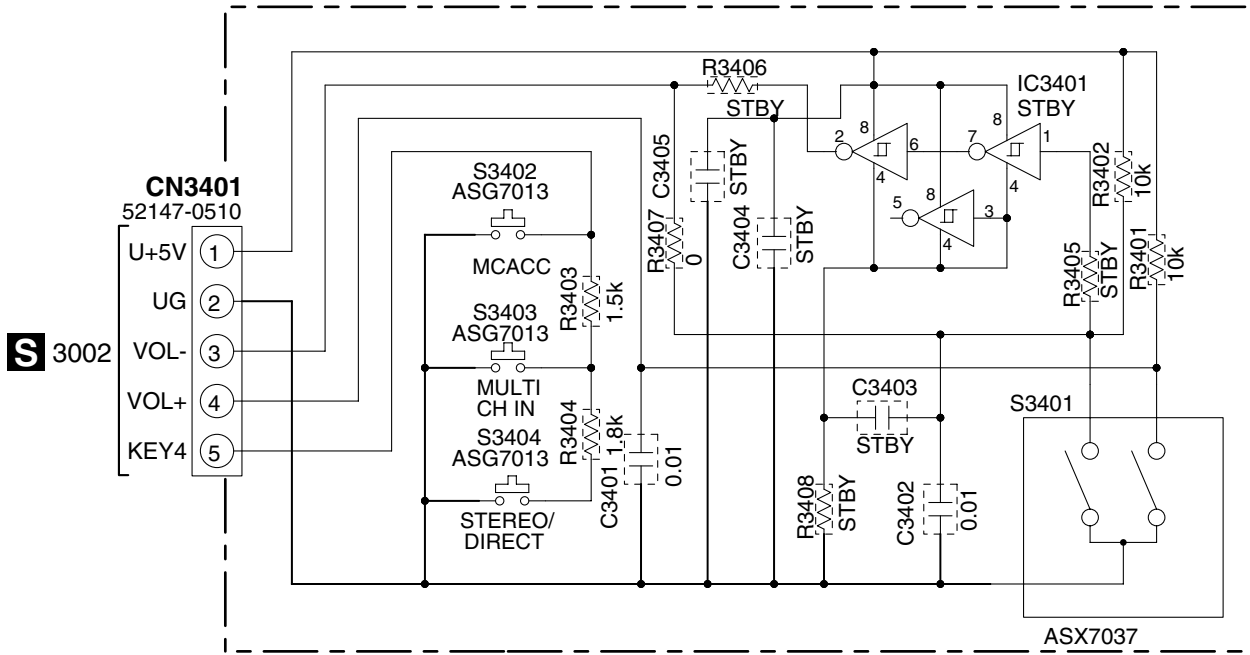
J 3/3 CN501

**S** DISPLAY ASSY (VSX-56TXi : AWX8473)  
(VSX-54TX : AWX8483)



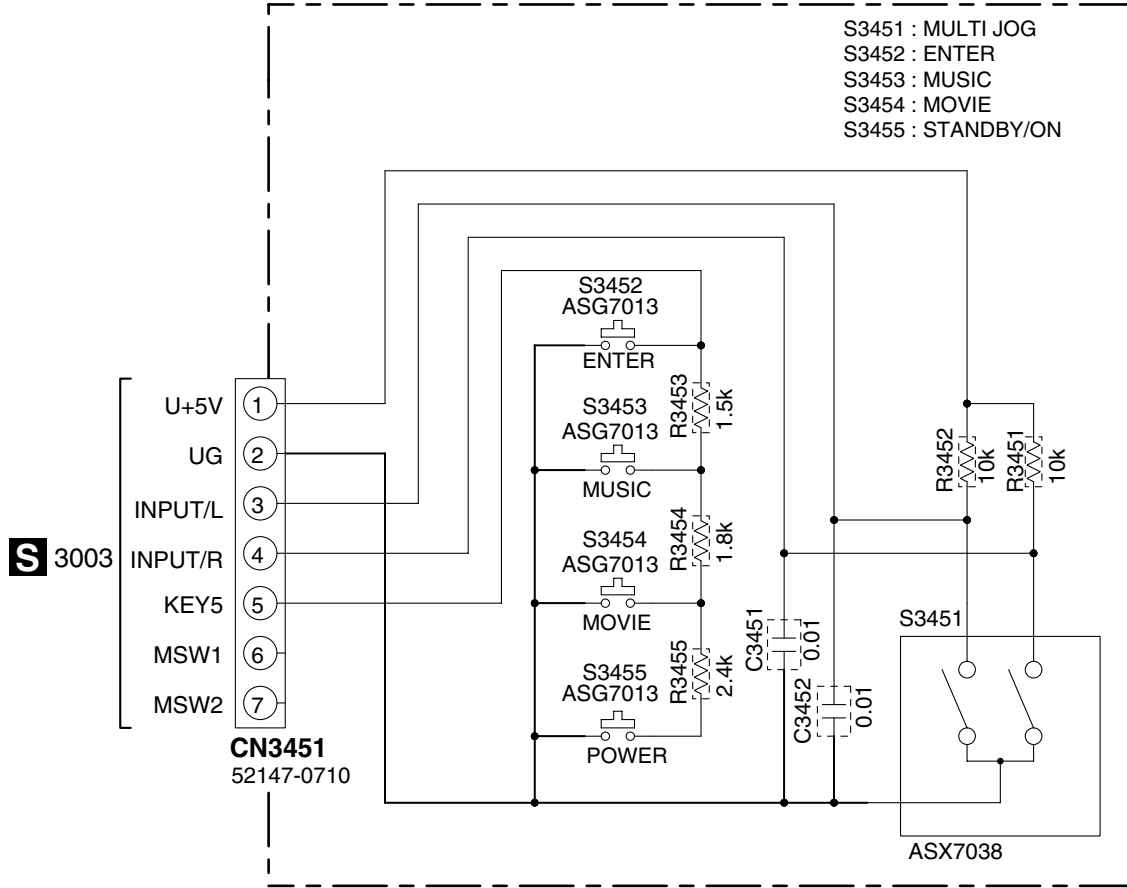
### 3.18 VOLUME, MULTI JOG and HEADPHONE ASSYS

#### T VOLUME ASSY (AWX7971)



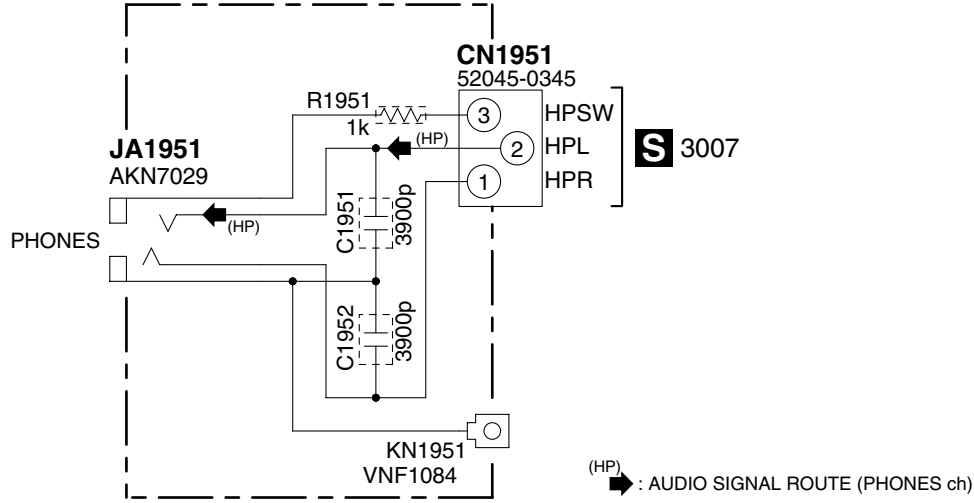
- S3401 : MASTER VOLUME
- S3402 : ACOUSTIC EQ
- S3403 : MULTI CH IN
- S3404 : STEREO / DIRECT

#### U MULTI JOG ASSY (AWX7972)



- S3451 : MULTI JOG
- S3452 : ENTER
- S3453 : MUSIC
- S3454 : MOVIE
- S3455 : STANDBY/ON

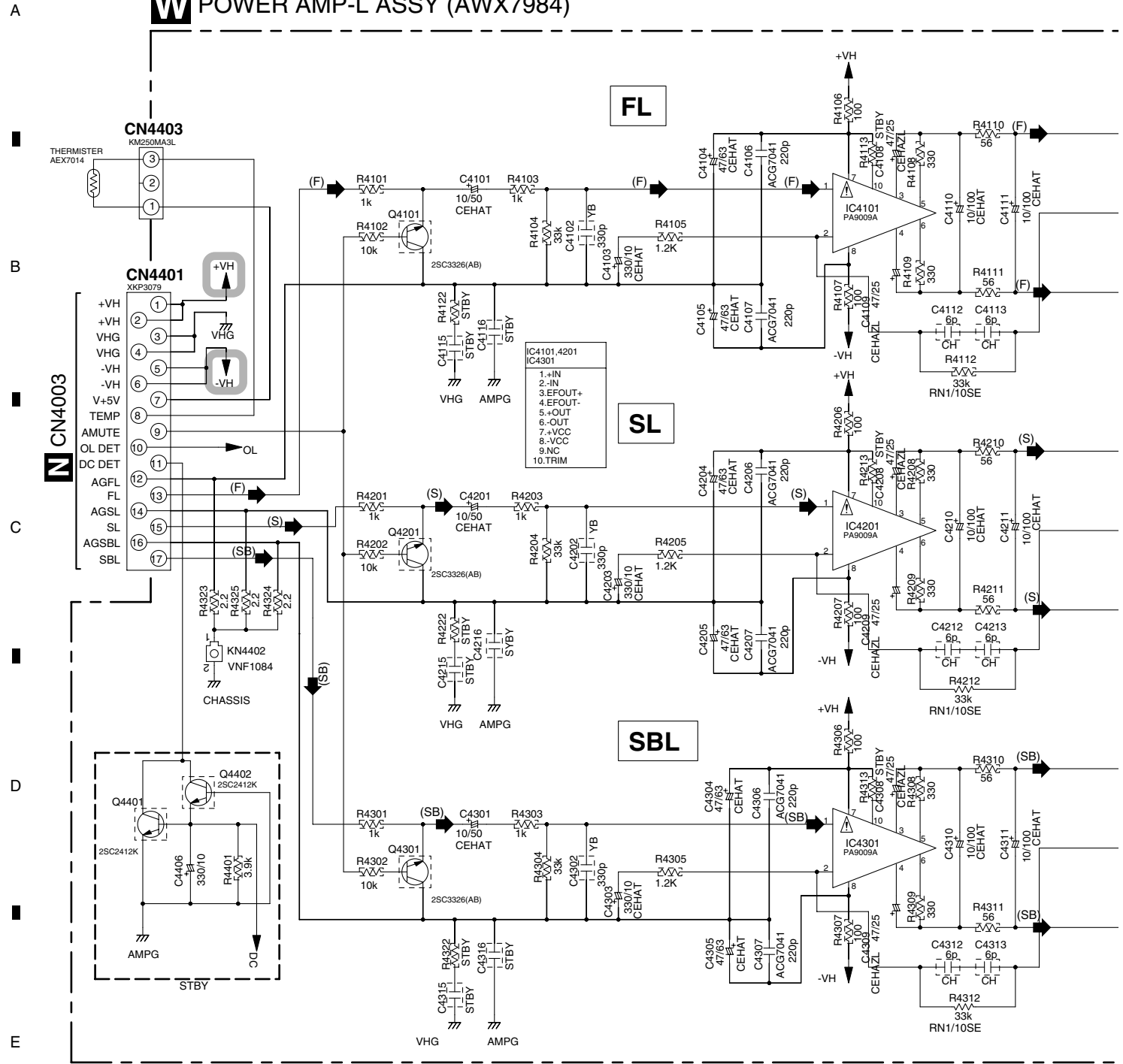
# V HEADPHONE ASSY (AWX7980)



A  
B  
C  
D  
E  
F

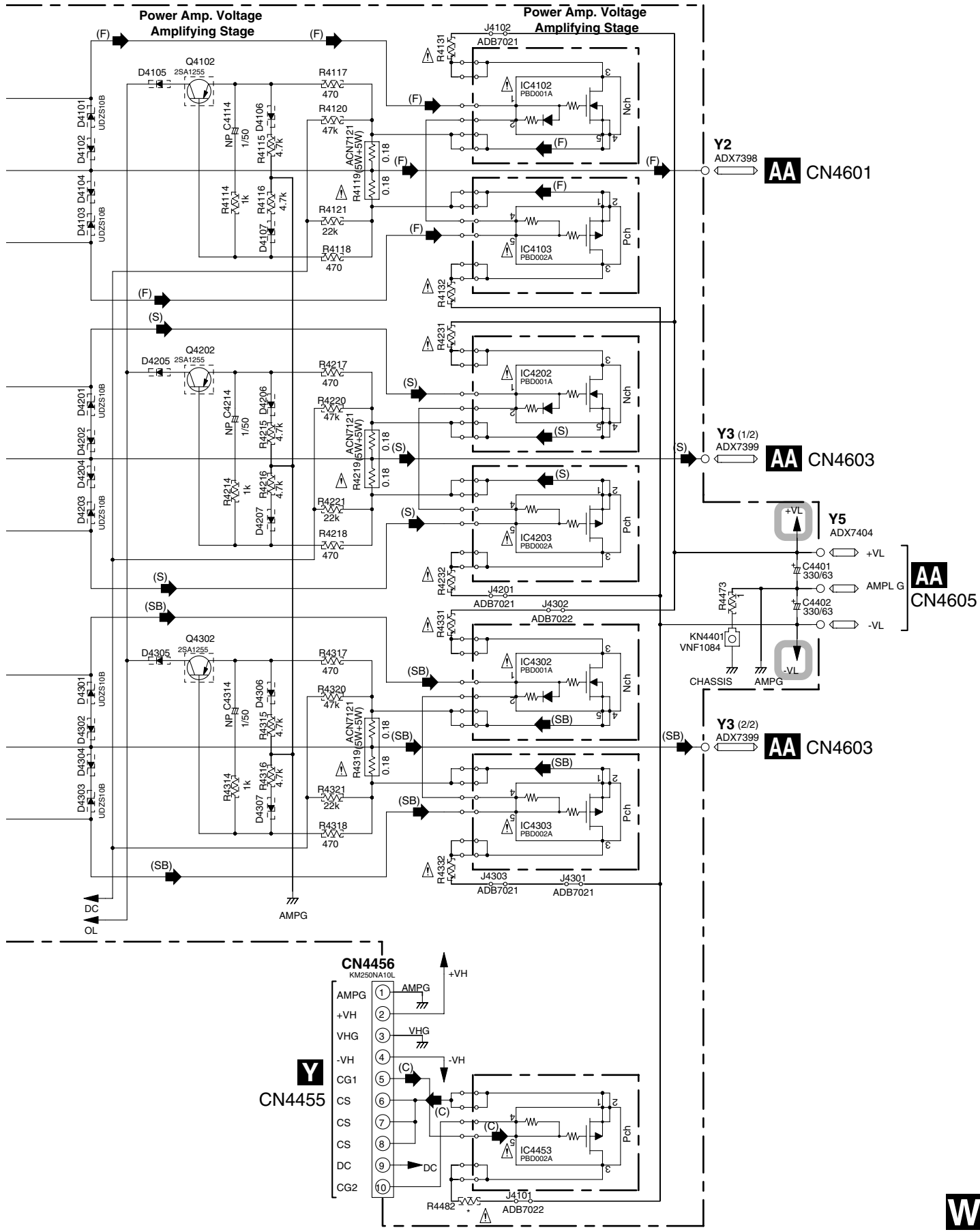
# 3.19 POWER AMP-L ASSY

## POWER AMP-L ASSY (AWX7984)



- (F) : AUDIO SIGNAL ROUTE (FRONT Lch)
- (S) : AUDIO SIGNAL ROUTE (SURROUND Lch)
- (SB) : AUDIO SIGNAL ROUTE (SURROUND BACK Lch)
- (C) : AUDIO SIGNAL ROUTE (CENTER ch)

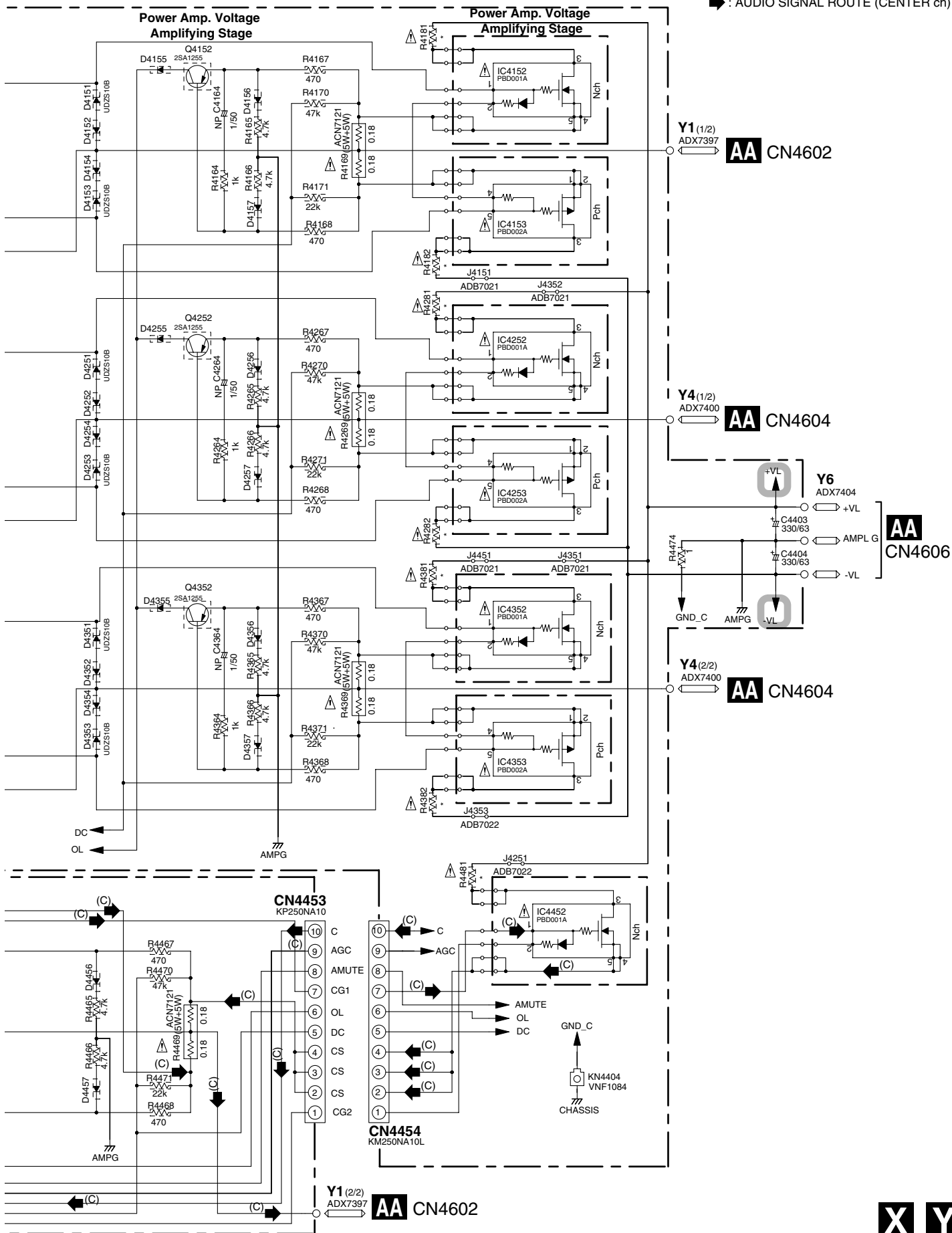








(C) : AUDIO SIGNAL ROUTE (CENTER ch)



A  
B  
C  
D  
E  
F







# 3.22 SP/PS, DIODE, TRANS 2-1 and VH TR ASSYS

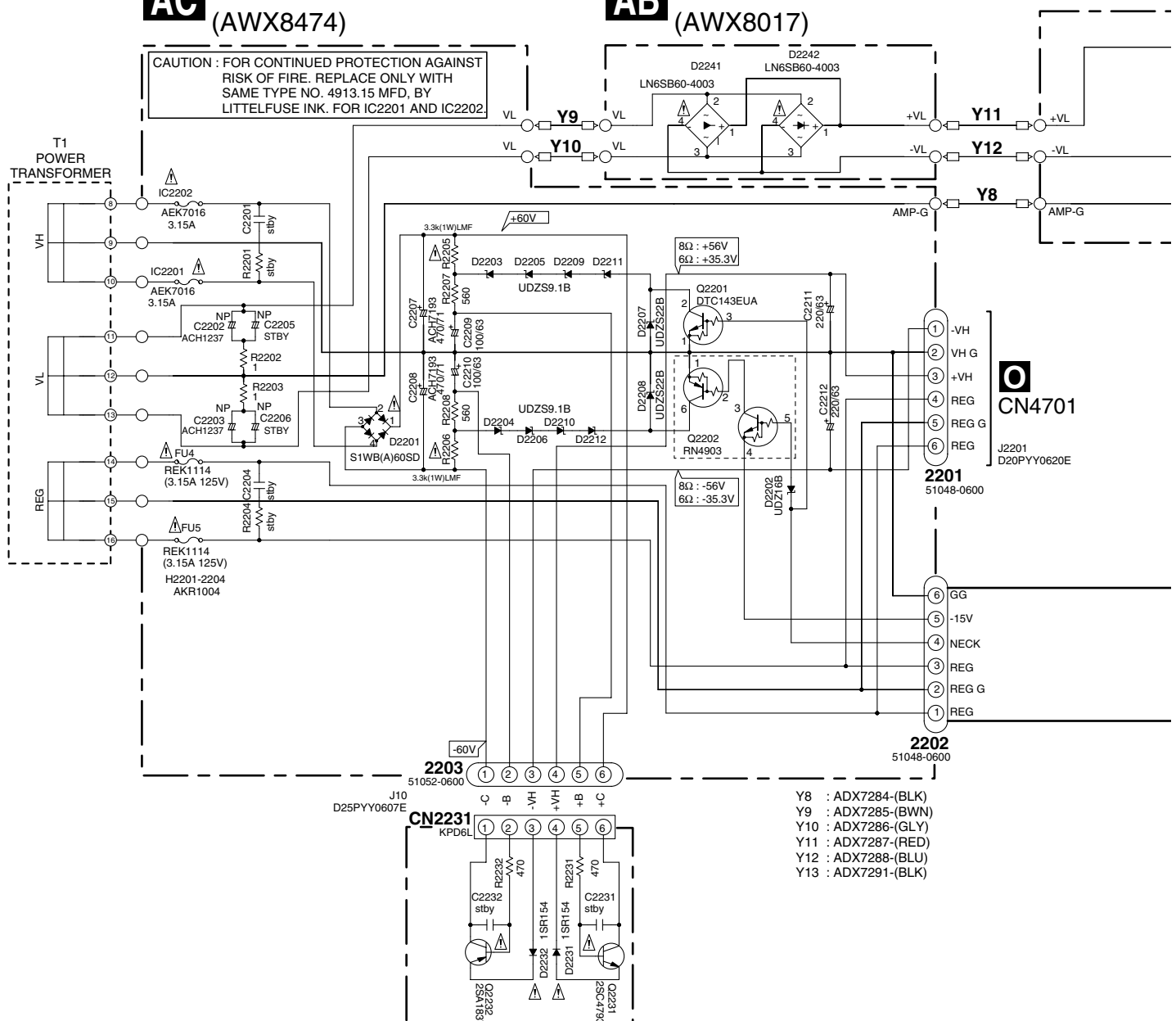
• NOTE FOR FUSE REPLACEMENT

**CAUTION** -FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE WITH SAME TYPE AND RATINGS ONLY.

## AC TRANS 2-1 ASSY (AWX8474)

## AB DIODE ASSY (AWX8017)

CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 4913.15 MFD. BY LITTELFUSE INK. FOR IC2201 AND IC2202.



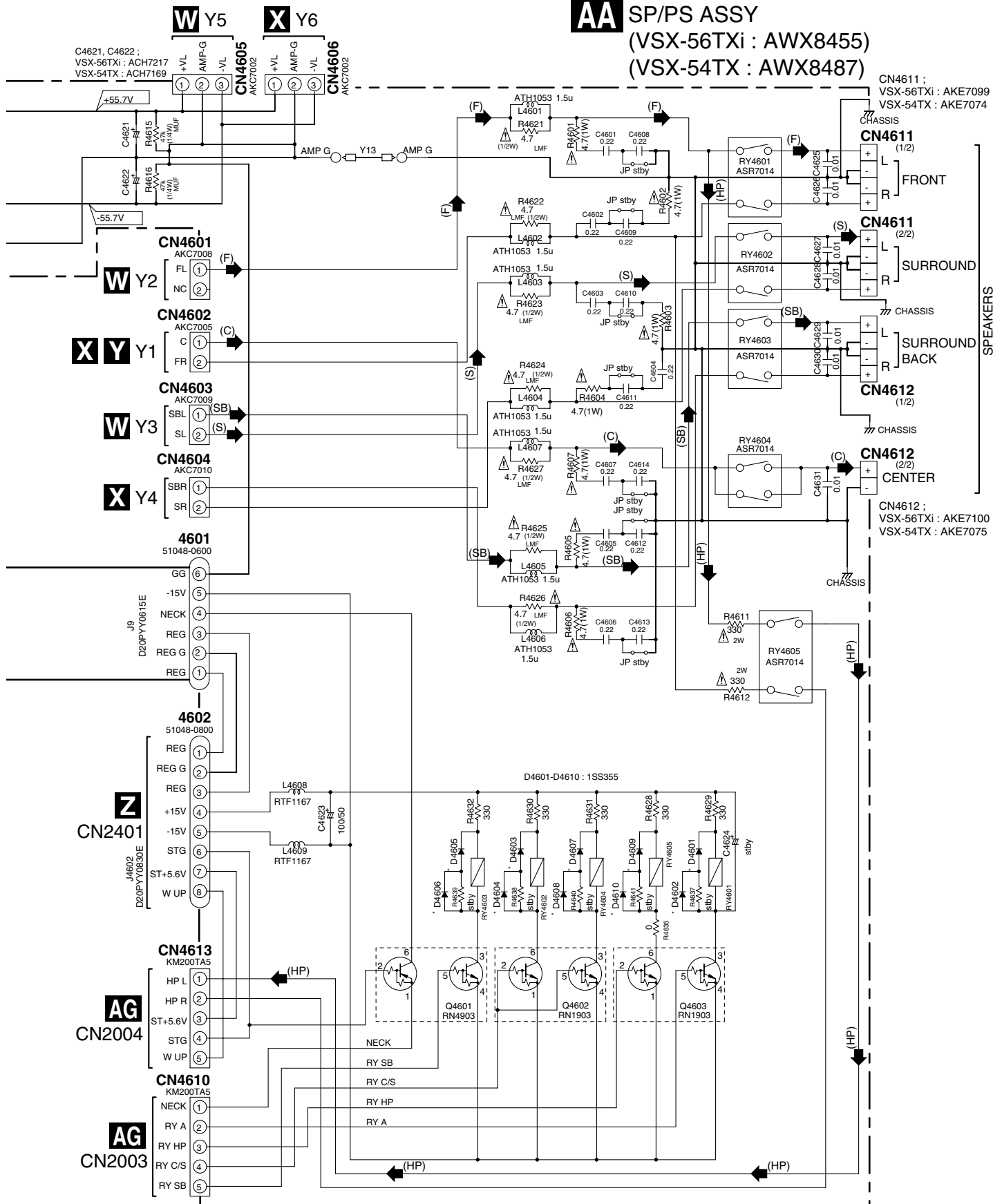
## AD VH TR ASSY (AWX8018)

- Y8 : ADX7284-(BLK)
- Y9 : ADX7285-(BWN)
- Y10 : ADX7286-(GLY)
- Y11 : ADX7287-(RED)
- Y12 : ADX7288-(BLU)
- Y13 : ADX7291-(BLK)

- (F) : AUDIO SIGNAL ROUTE (FRONT Lch)
- (S) : AUDIO SIGNAL ROUTE (SURROUND Lch)
- (SB) : AUDIO SIGNAL ROUTE (SURROUND BACK Lch)
- (C) : AUDIO SIGNAL ROUTE (CENTER ch)
- (HP) : AUDIO SIGNAL ROUTE (PHONES ch)

**AA AB AC AD**

**AA** SP/PS ASSY  
 (VSX-56TXi : AWX8455)  
 (VSX-54TX : AWX8487)



A  
B  
C  
D  
E  
F

C4621, C4622 :  
 VSX-56TXi : ACH7217  
 VSX-54TX : ACH7169

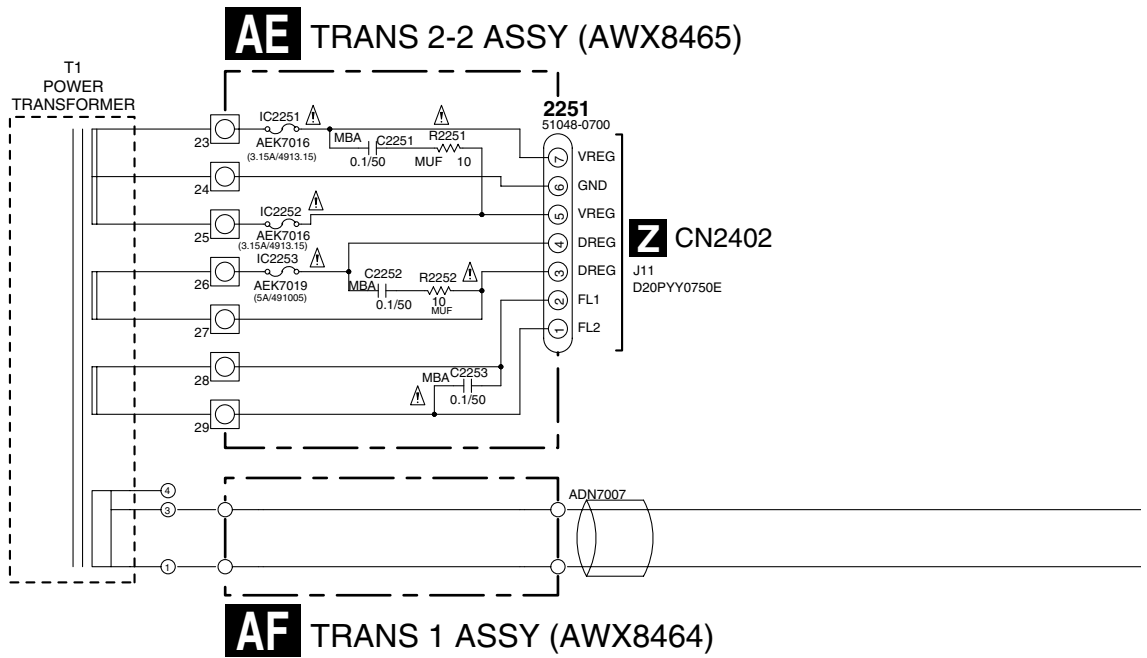
CN4611 ;  
 VSX-56TXi : AKE7099  
 VSX-54TX : AKE7074

CN4612 ;  
 VSX-56TXi : AKE7100  
 VSX-54TX : AKE7075

### 3.23 TRANS 2-2, TRANS 1 and PRIMARY ASSYS

CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 4913.15 MFD, BY LITTELFUSE INK. FOR IC2251 AND IC2252.

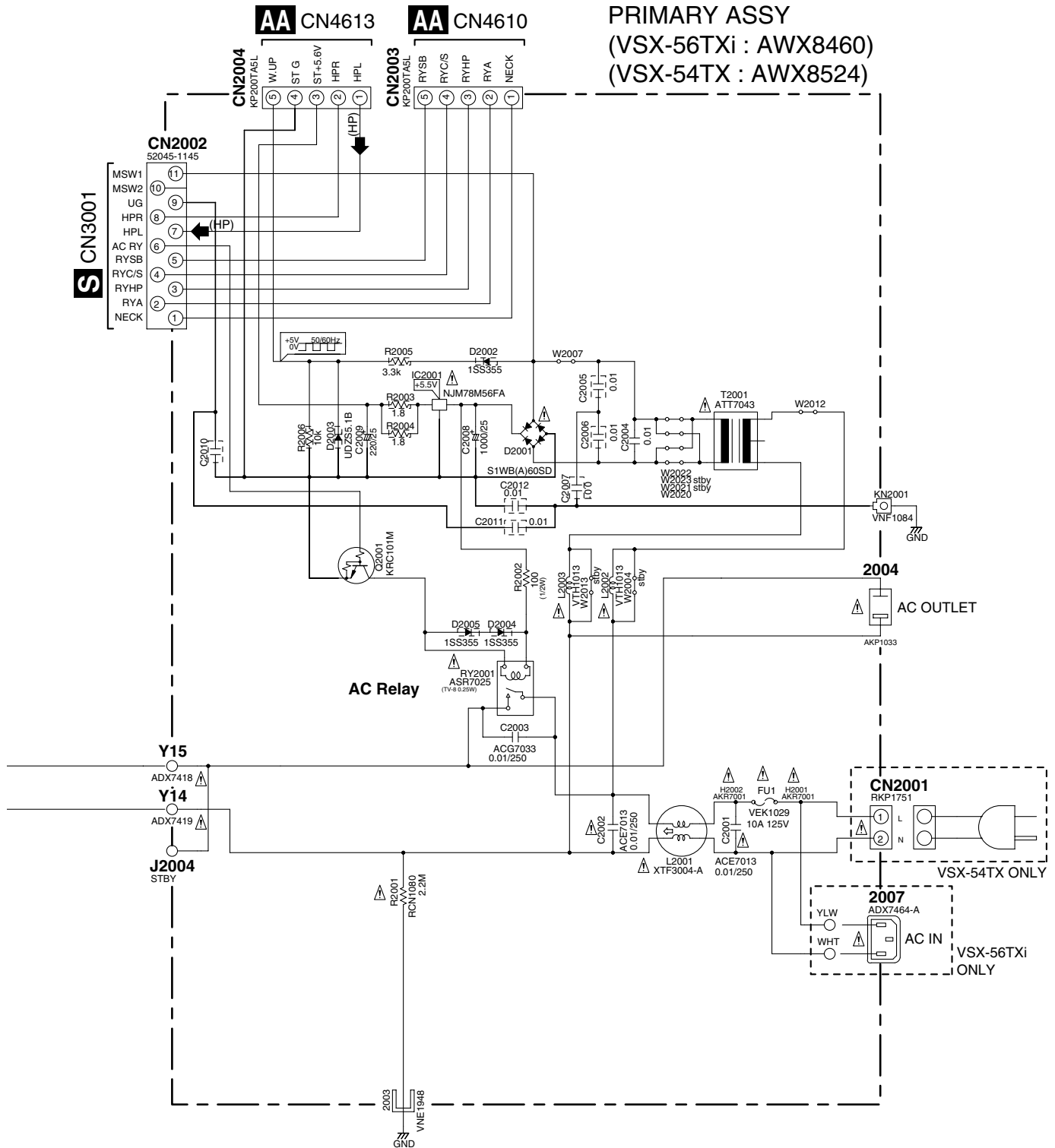
CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 491005 MFD, BY LITTELFUSE INK. FOR IC2253.



**AE AF**

(HP) → : AUDIO SIGNAL ROUTE (PHONES ch)

# AG PRIMARY ASSY (VSX-56TXi : AWX8460) (VSX-54TX : AWX8524)



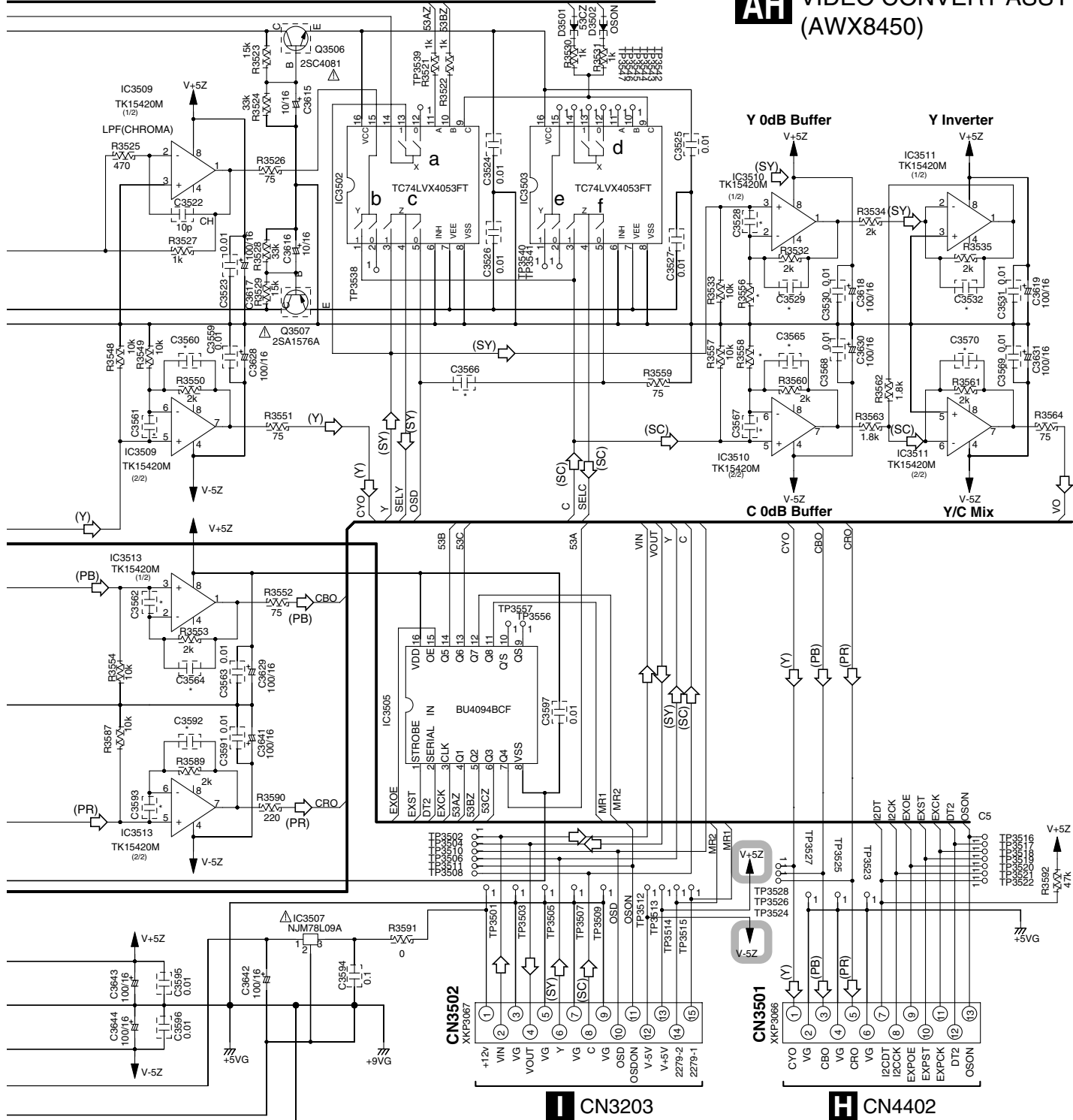
• NOTE FOR FUSE REPLACEMENT

**CAUTION** -FOR CONTINUED PROTECTION AGAINST RISK OF FIRE.  
REPLACE WITH SAME TYPE AND RATINGS ONLY.





# AH VIDEO CONVERT ASSY (AWX8450)


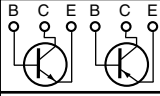

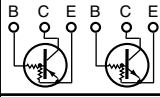

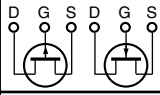

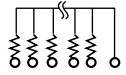




- : VIDEO SIGNAL ROUTE
- (SY) : VIDEO SIGNAL ROUTE (S VIDEO Y ch)
- (SC) : VIDEO SIGNAL ROUTE (S VIDEO C ch)
- (Y) : VIDEO SIGNAL ROUTE (Y)
- (PB) : VIDEO SIGNAL ROUTE (PB)
- (PR) : VIDEO SIGNAL ROUTE (PR)

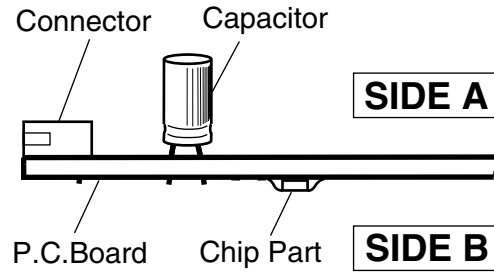
# 4. PCB CONNECTION DIAGRAM

## 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.

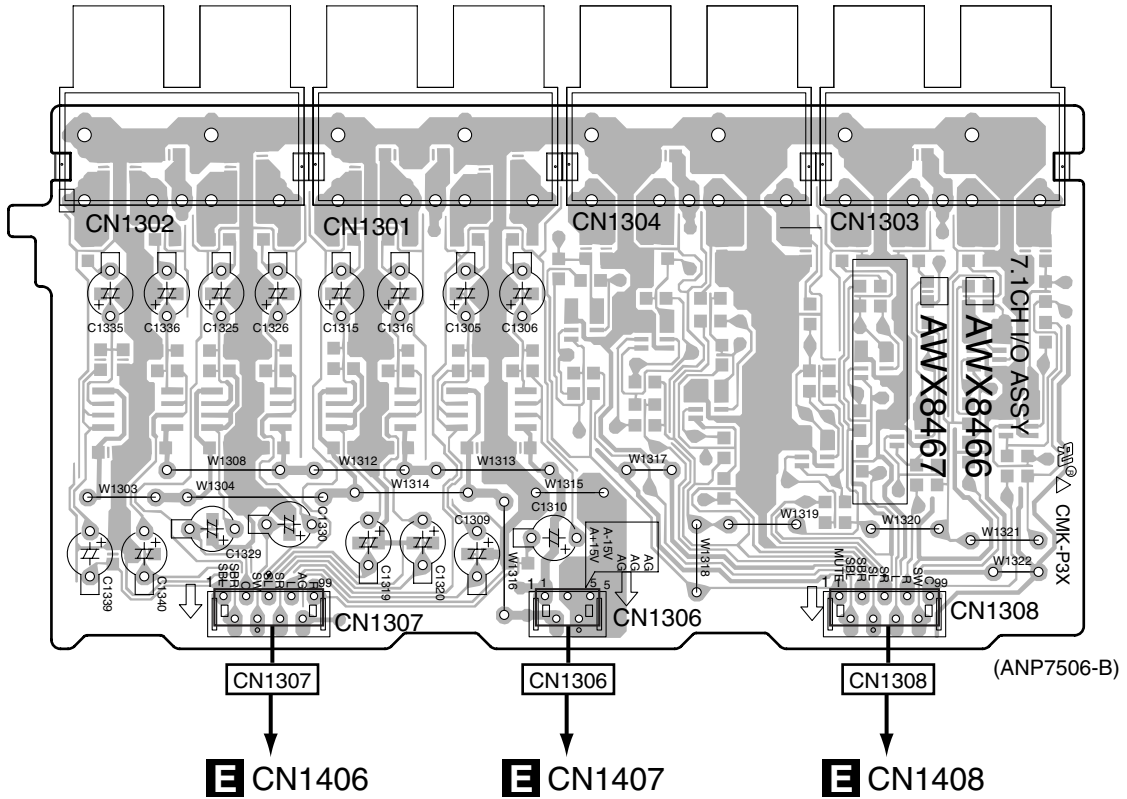


4.1 7.1CH I/O ASSY

SIDE A

SIDE A

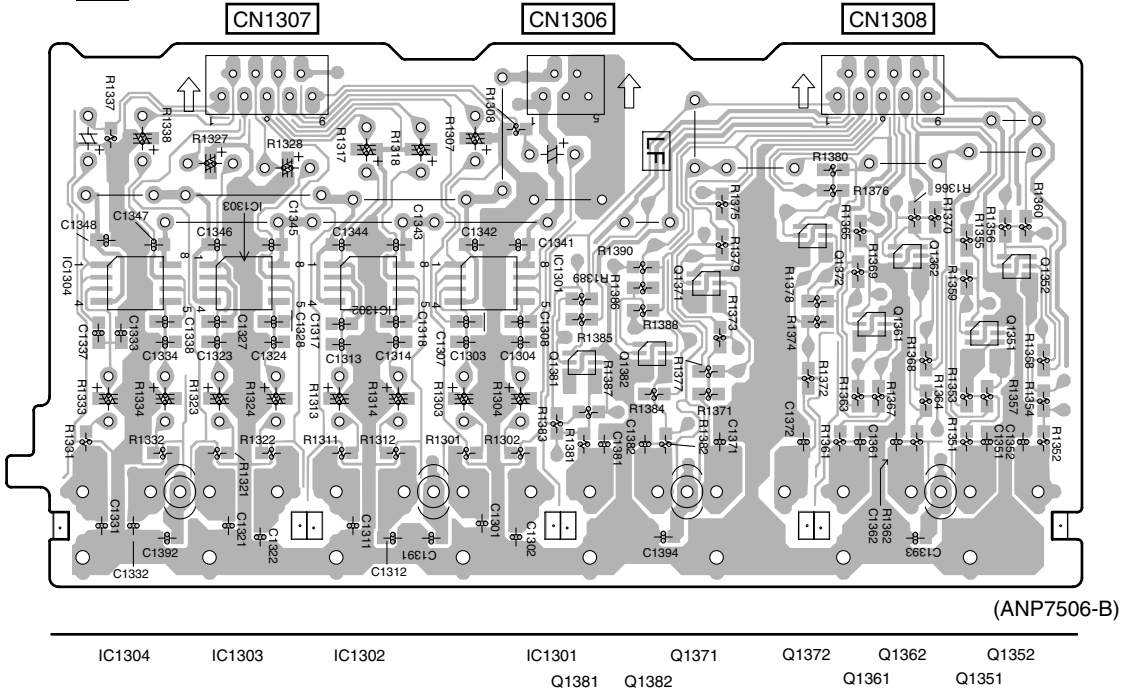
**A** 7.1CH I/O ASSY



SIDE B

SIDE B

**A** 7.1CH I/O ASSY



**A**

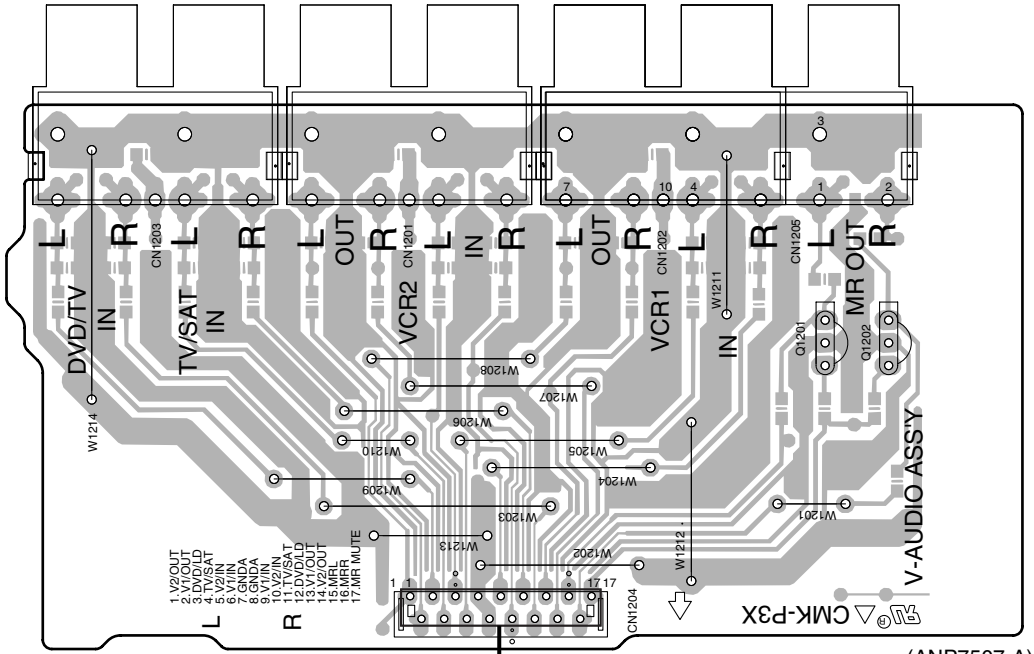
**A**

# 4.2 V-AUDIO IN ASSY

**SIDE A**

**SIDE A**

## **B** V-AUDIO ASSY



Q1201  
Q1202

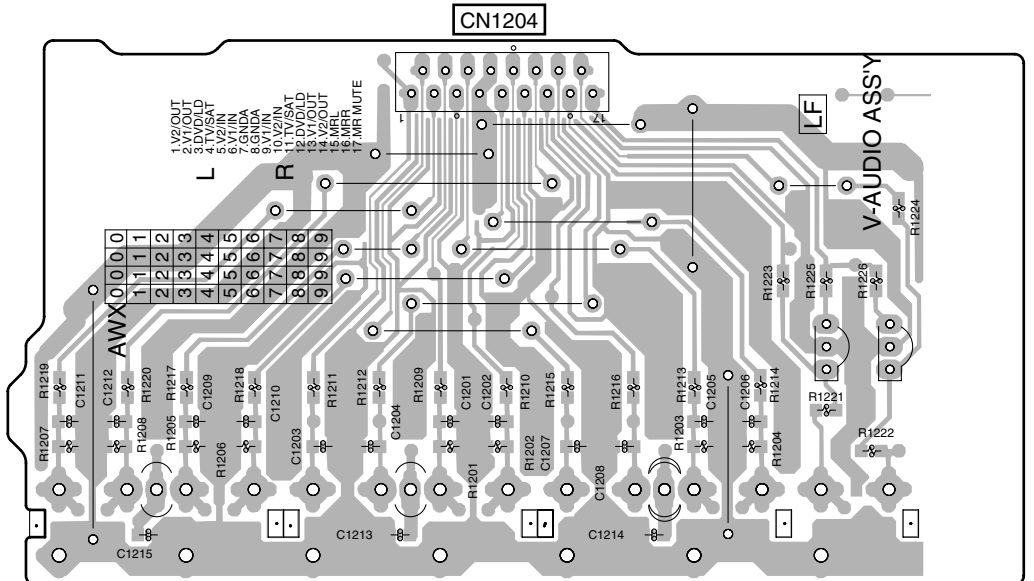
**CN1204**

**E** CN1405

**SIDE B**

**SIDE B**

## **B** V-AUDIO ASSY



**CN1204**

(ANP7507-A)

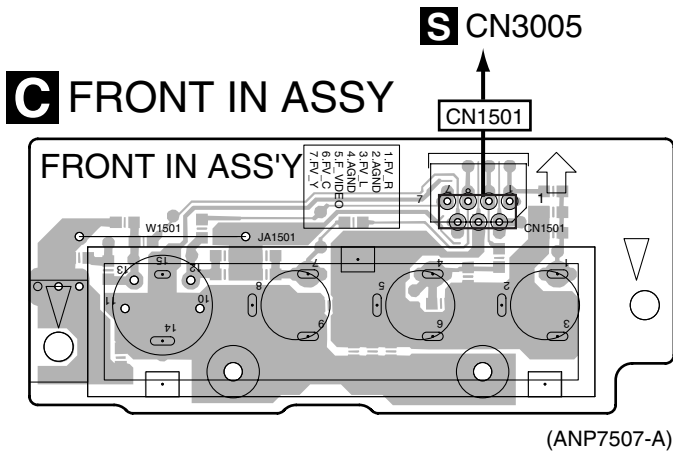
**B**

**B**

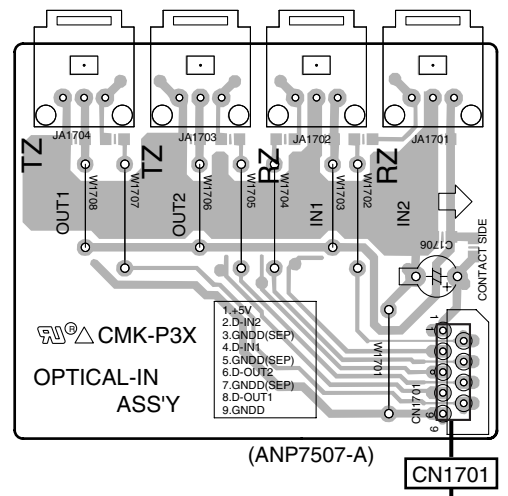
### 4.3 FRONT IN and OPTICAL IN ASSYS

**SIDE A**

**SIDE A**



**D OPTICAL IN ASSY**

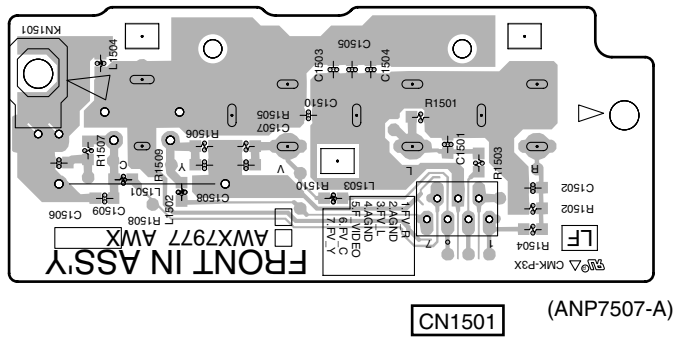


**G CN1801**

**SIDE B**

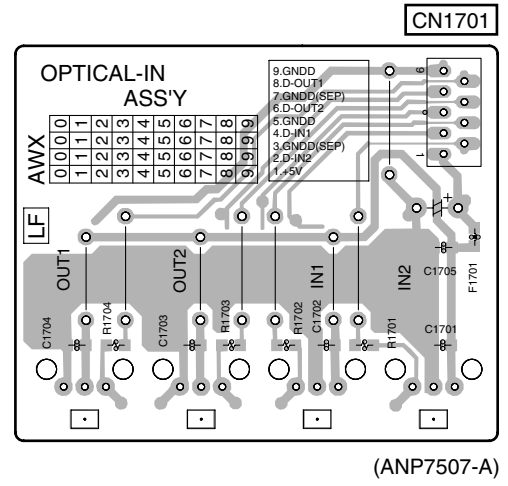
**SIDE B**

**C FRONT IN ASSY**



**CN1501**

**D OPTICAL IN ASSY**



**CN1701**

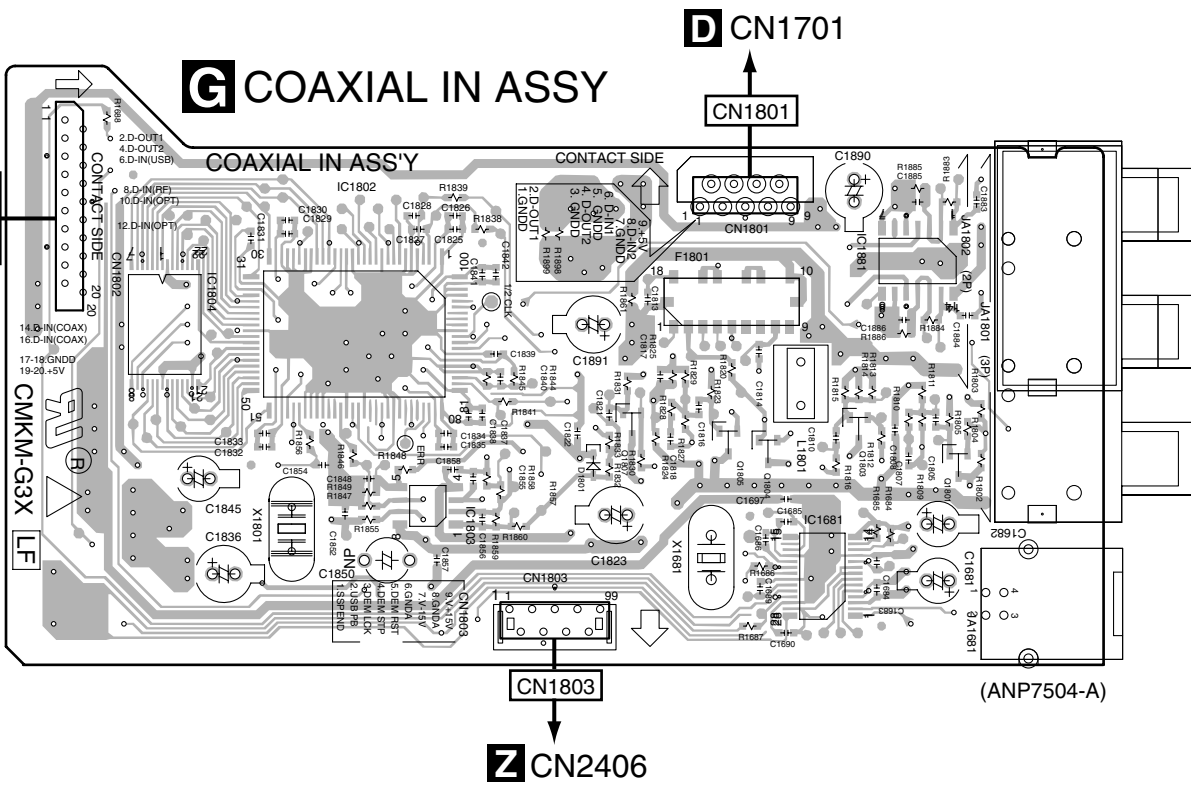
**CD**

**CD**

# 4.4 COAXIAL IN ASSY

**SIDE A**

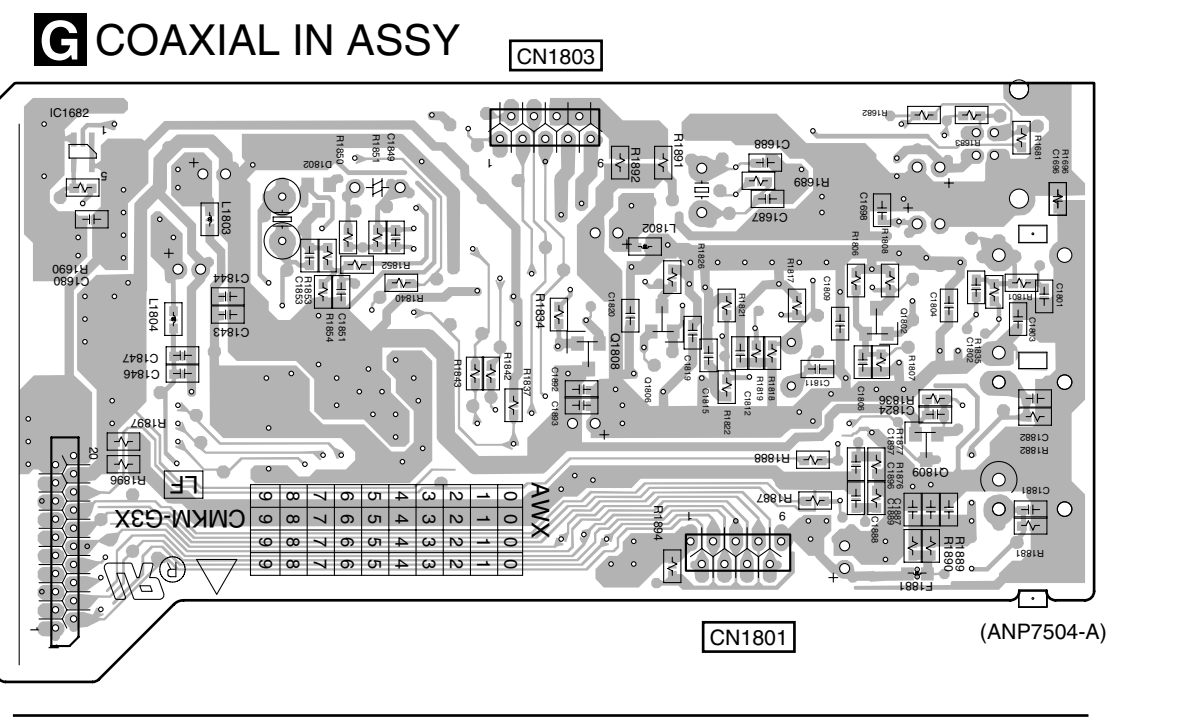
**SIDE A**



- IC1804
- IC1802
- IC1803
- Q1807
- Q1805
- Q1804
- Q1803
- IC1881
- Q1801
- IC1681

**SIDE B**

**SIDE B**



- IC1682
- Q1808
- Q1806
- Q1802
- Q1809

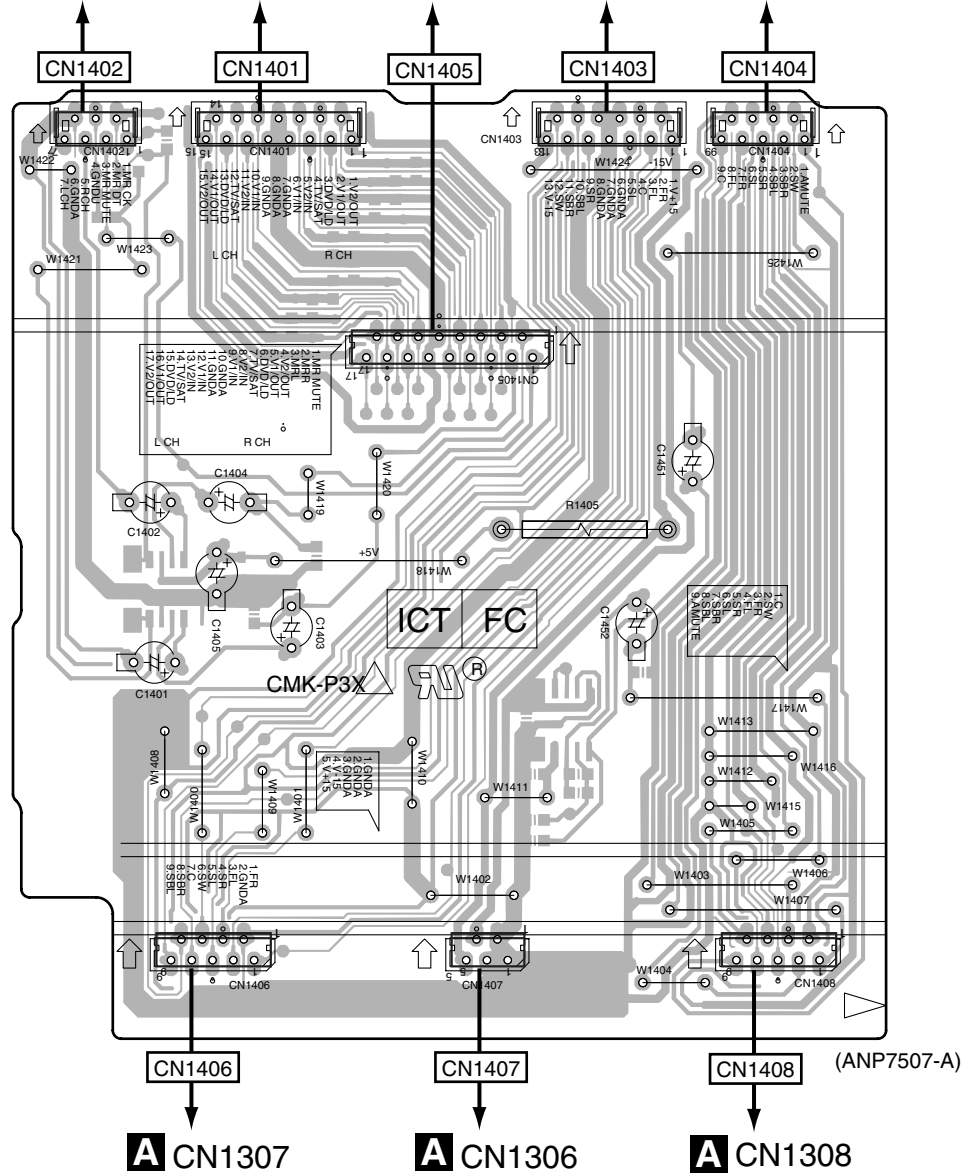
4.5 INPUT CONNECT and 12V TRIGGER ASSYS

**SIDE A**

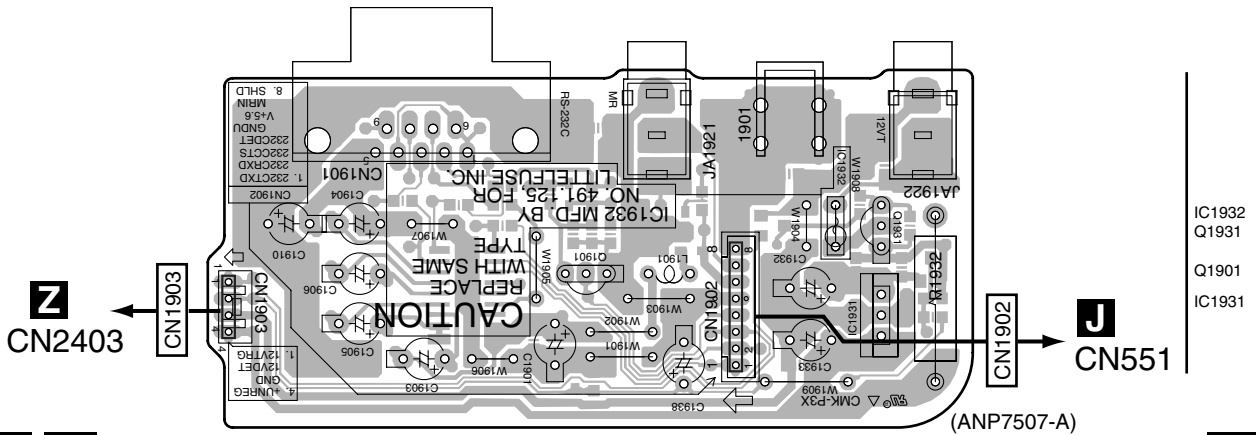
**E** INPUT CONNECT ASSY

**SIDE A**

**J** CN201   **J** CN101   **B** CN1204   **J** CN102   **J** CN103



**F** 12V TRIGGER ASSY



**E F**

**E F**

SIDE B

SIDE B

A

B

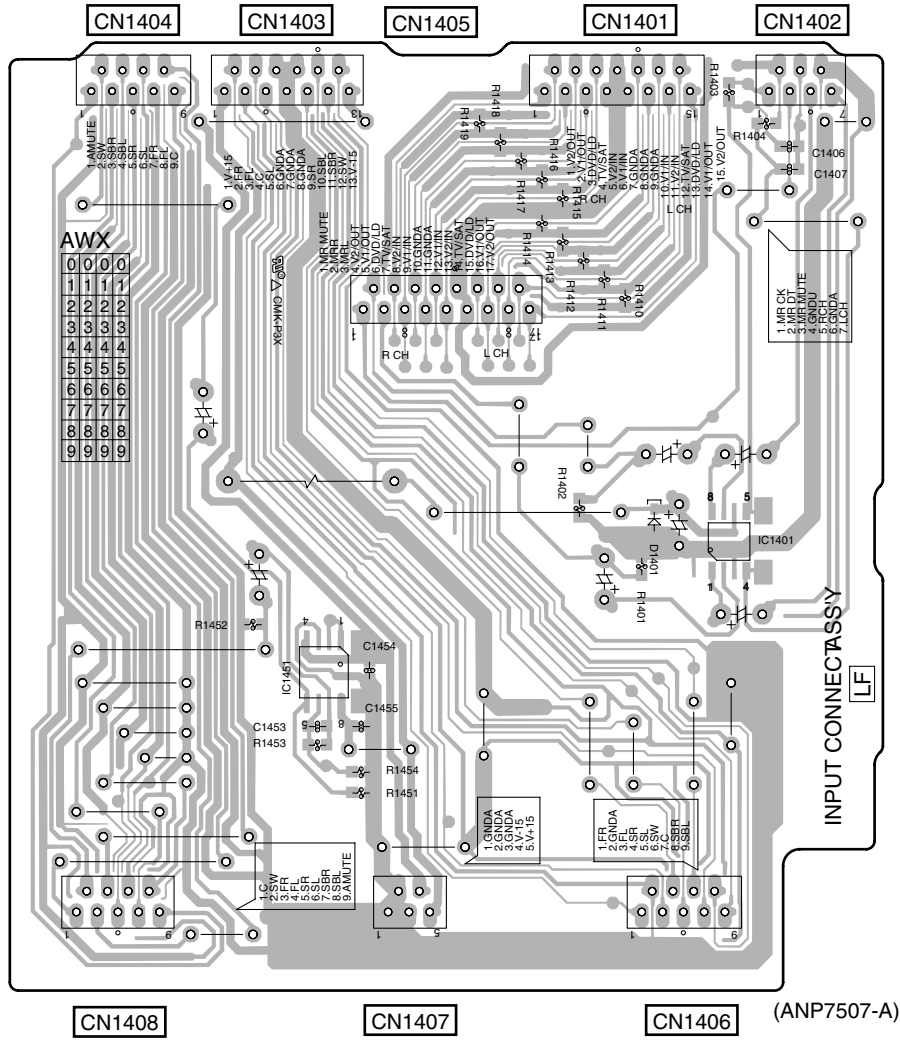
C

D

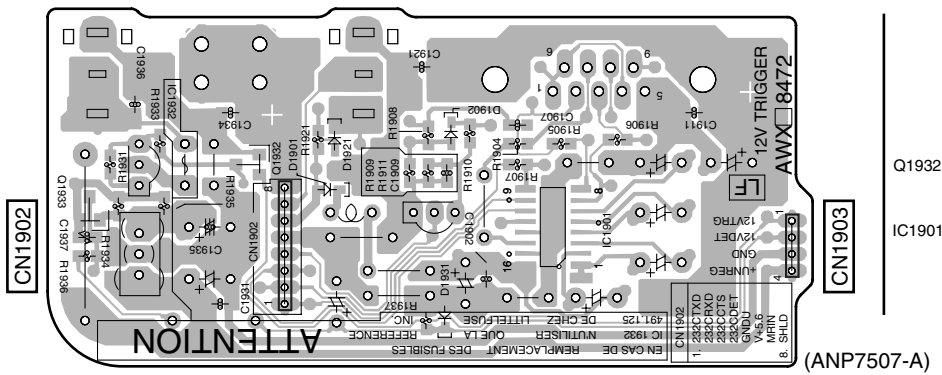
E

F

# E INPUT CONNECT ASSY



# F 12V TRIGGER ASSY



E F

E F

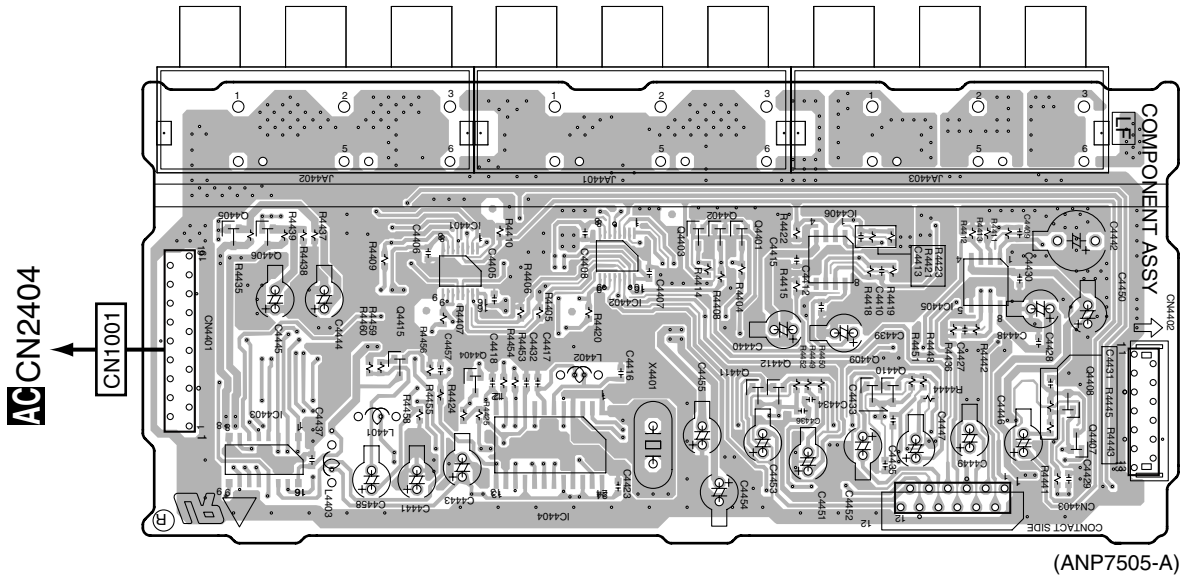


4.6 COMPONENT ASSY

SIDE A

SIDE A

COMPONENT ASSY



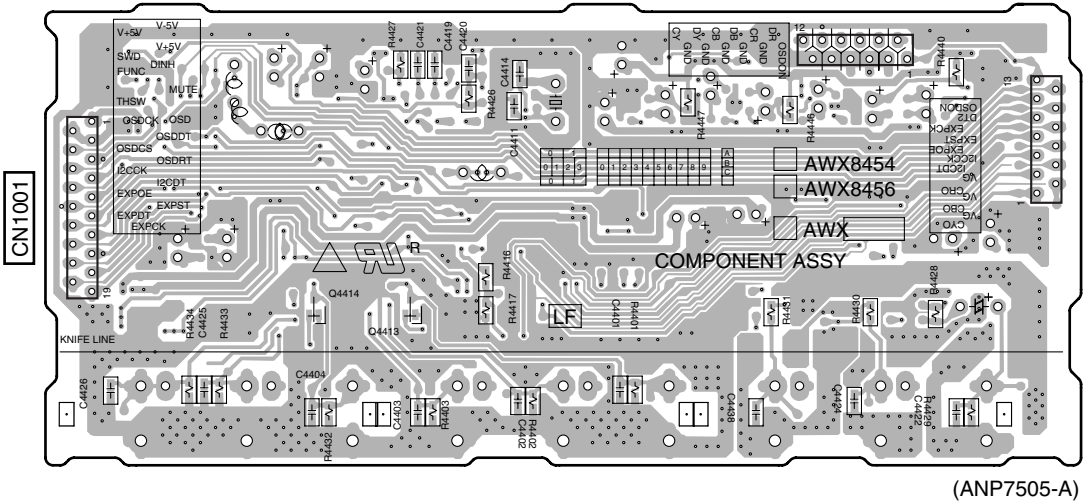
(ANP7505-A)

IC4403	IC4404	Q4402	Q4401	Q4409	IC4405	Q4407
Q4405	Q4406	IC4402	Q4413	Q4411	Q4410	Q4408
			Q4412	IC4406		

SIDE B

SIDE B

COMPONENT ASSY



(ANP7505-A)

Q4414 Q4413

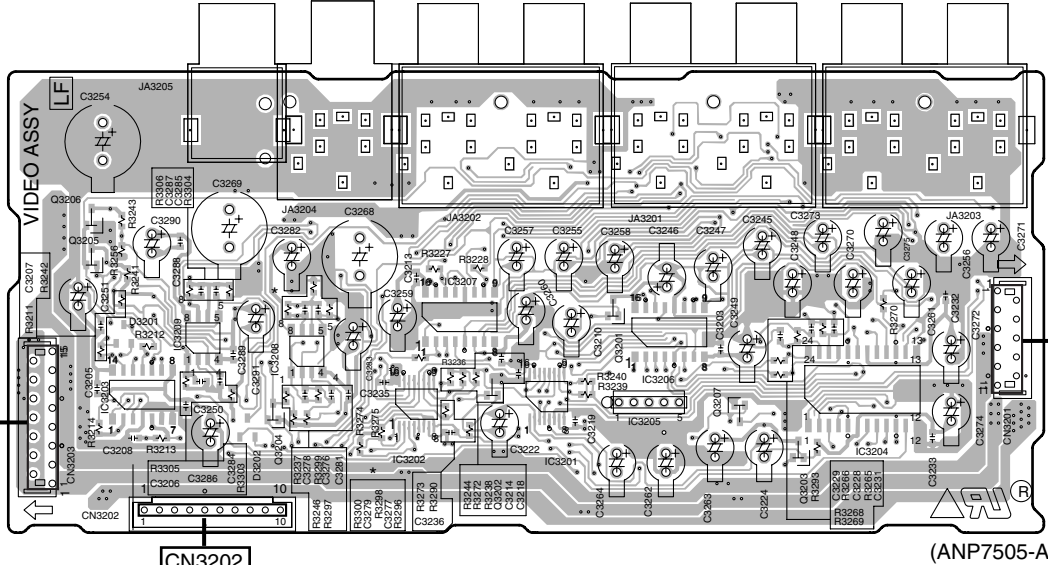


# 4.7 VIDEO ASSY

**SIDE A**

**SIDE A**

## VIDEO ASSY



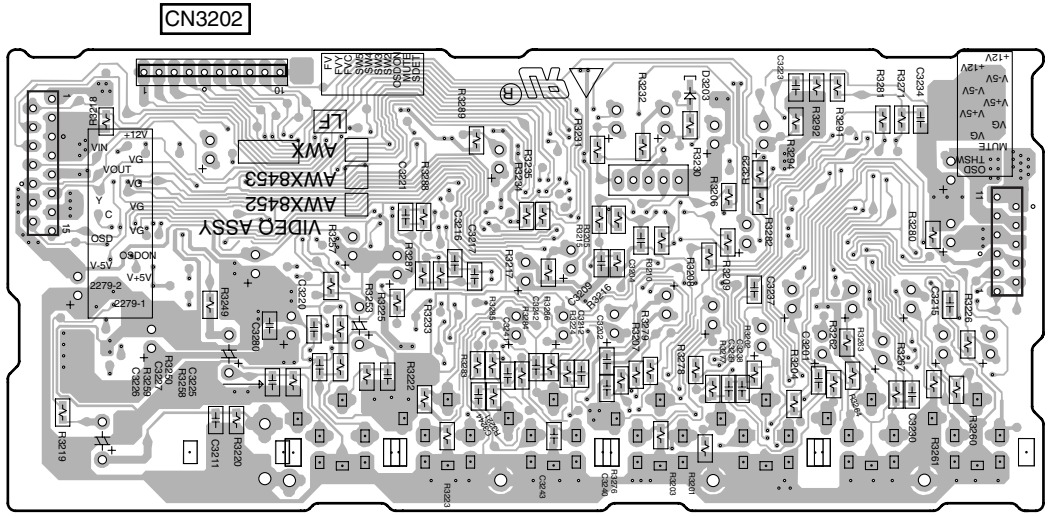
(ANP7505-A)

Q3205	IC3209	IC3208	IC3202	Q3202	IC3201	IC3205	Q3207
Q3206			IC3207			IC3206	

**SIDE B**

**SIDE B**

## VIDEO ASSY



(ANP7505-A)

■

5

■

6

■

7

■

8

■

A

■

B

■

C

■

D

■

E

■

F

■

5

■

6

VSX-56TXi

■

7

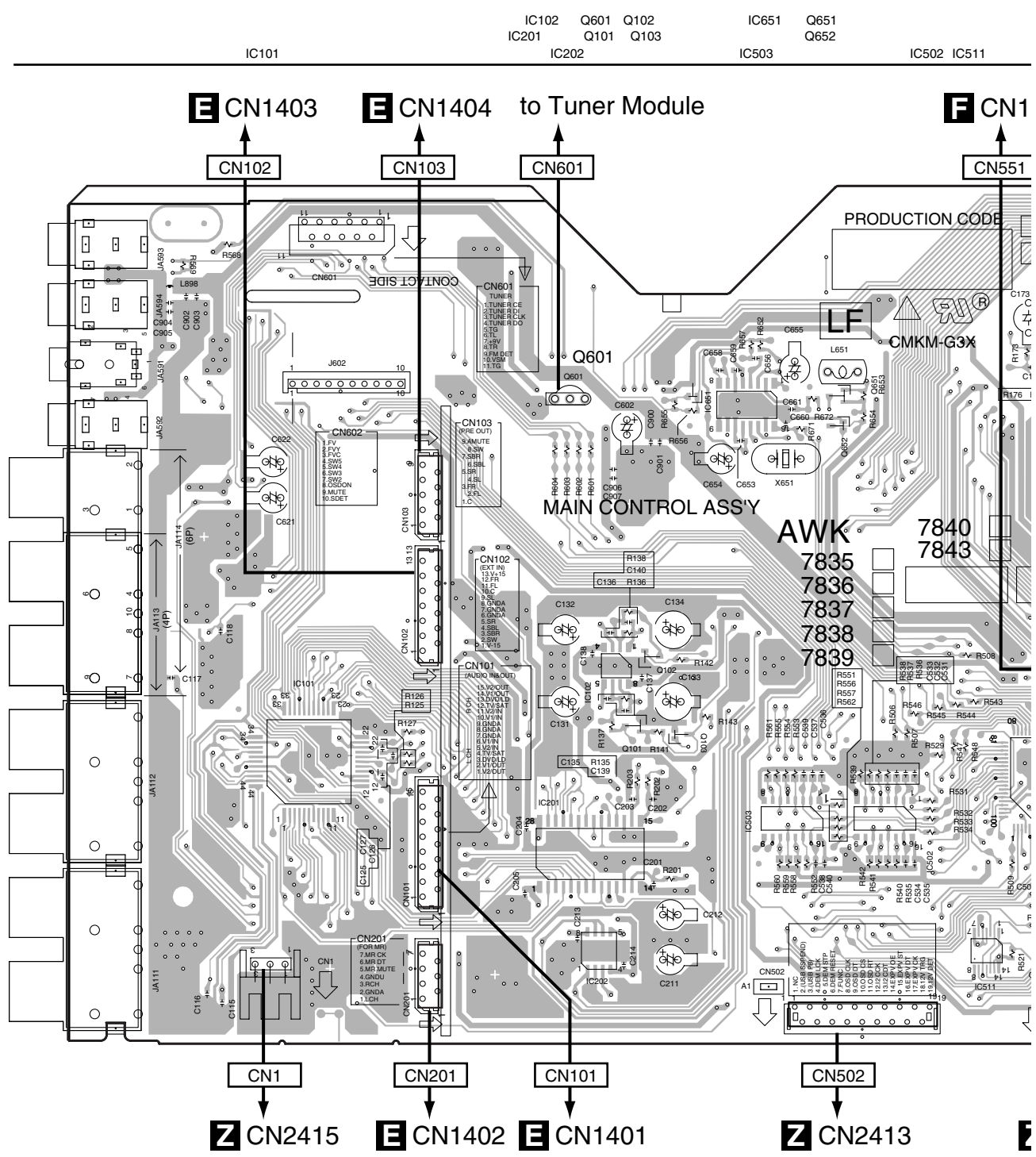
■

8

■

# 4.8 MAIN CONTROL ASSY

**SIDE A**





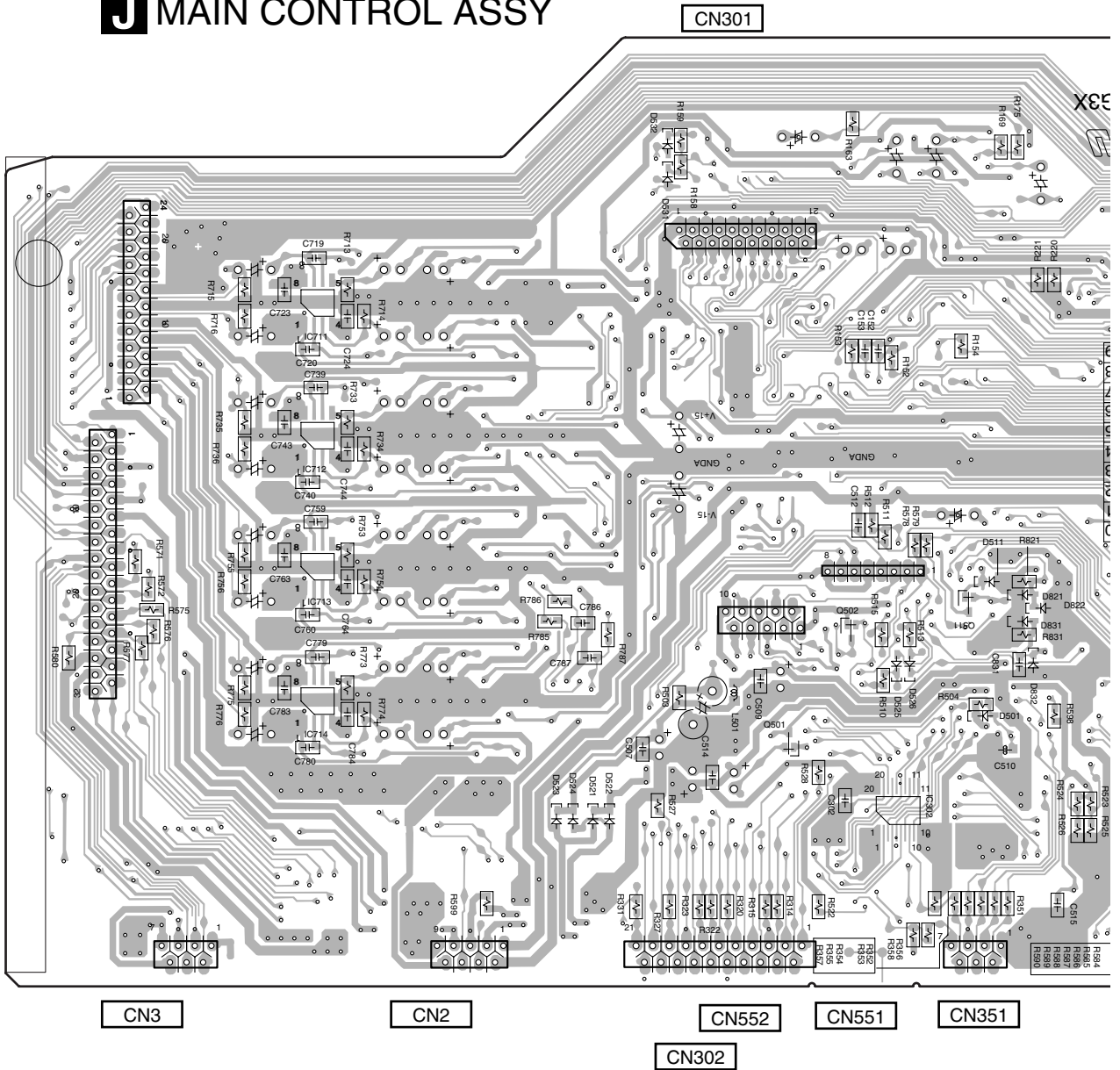
SIDE B

A

IC711  
IC712  
IC713  
IC714

Q501 IC302 Q511

# J MAIN CONTROL ASSY



B

C

D

E

F

J

SIDE B

A

Q251

CN601

CMKM-G3X



AWX

CN103

CN102

CN101

CN201

B

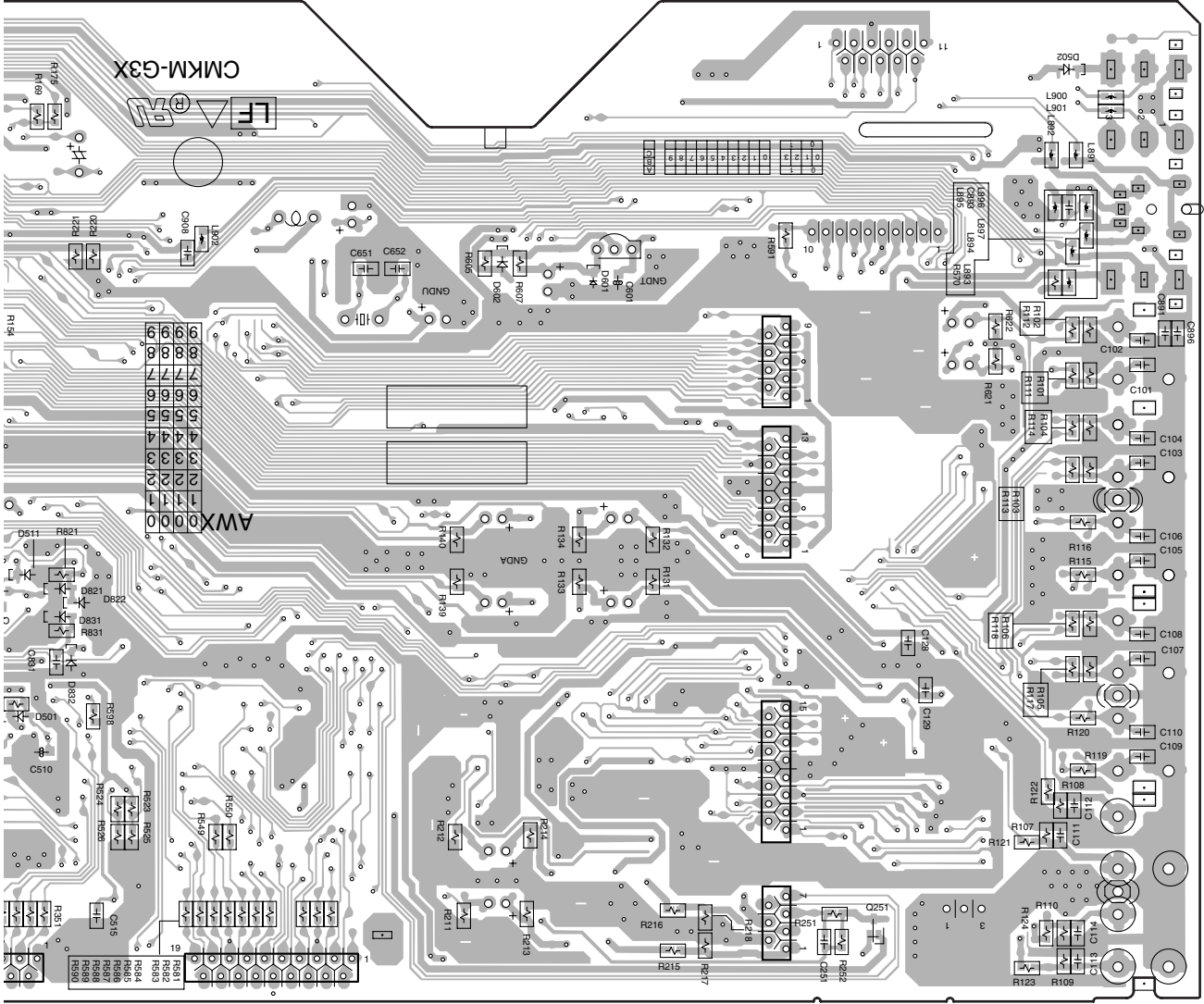
C

D

E

F

J



J351

CN502

CN1

(ANP7504-A)







# 4.10 POWER AMP IN ASSY

1

2

3

4

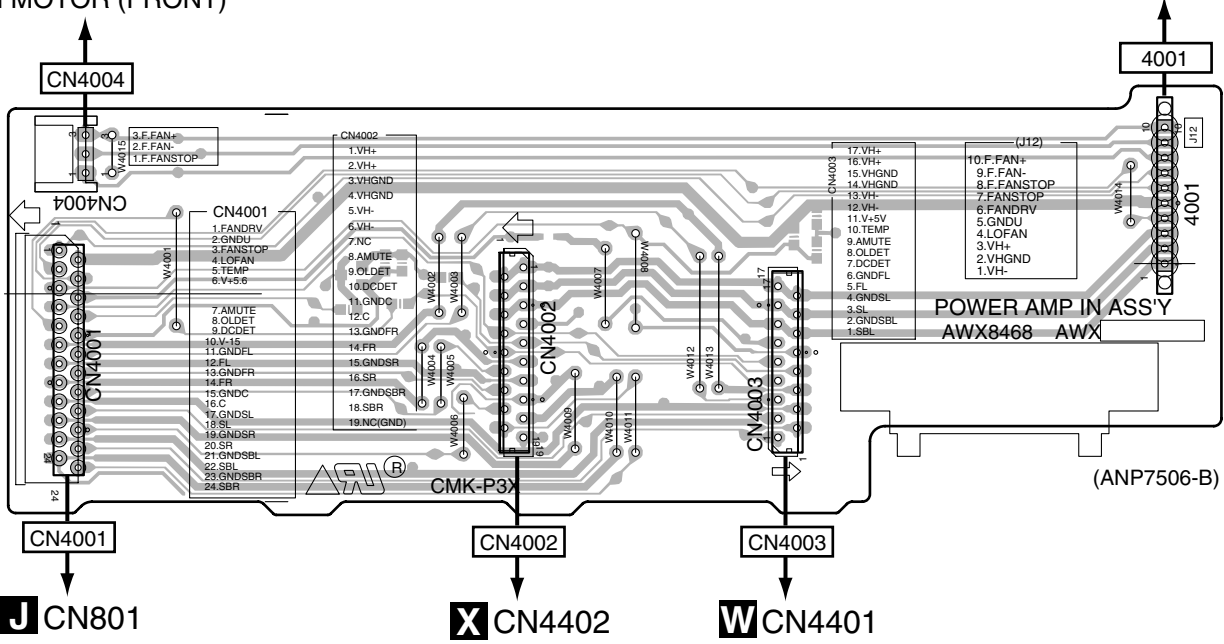
**SIDE A**

**SIDE A**

## POWER AMP IN ASSY

FAN MOTOR (FRONT)

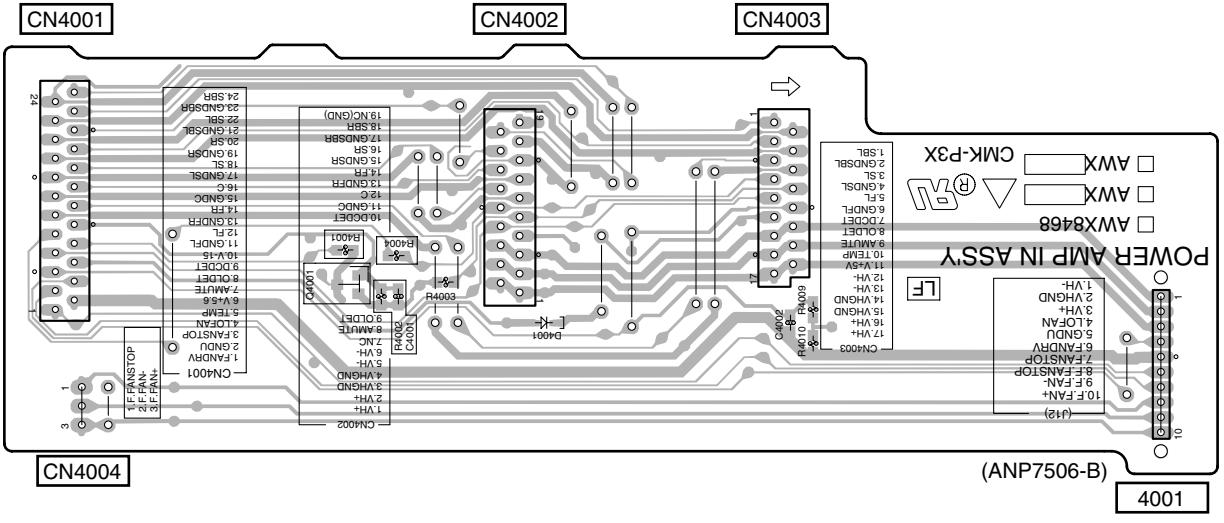
**P** CN4054



**SIDE B**

**SIDE B**

## POWER AMP IN ASSY



1

2

3

4

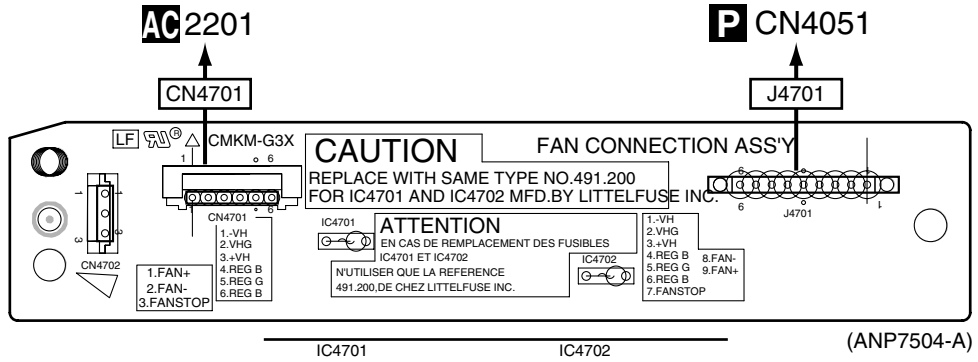
5 6 7 8

# 4.11 FAN CONNECTION ASSY

**SIDE A**

**SIDE A**

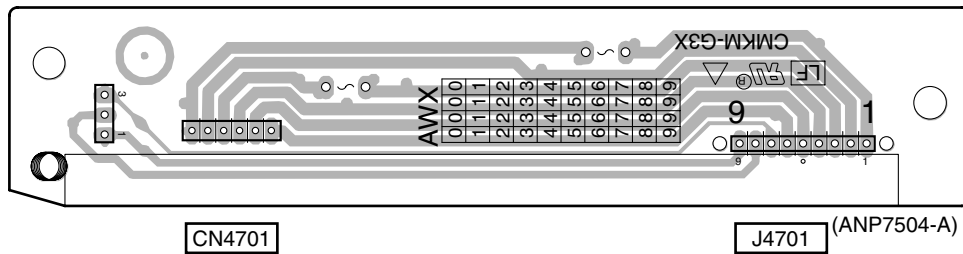
## FAN CONNECTION ASSY



**SIDE B**

**SIDE B**

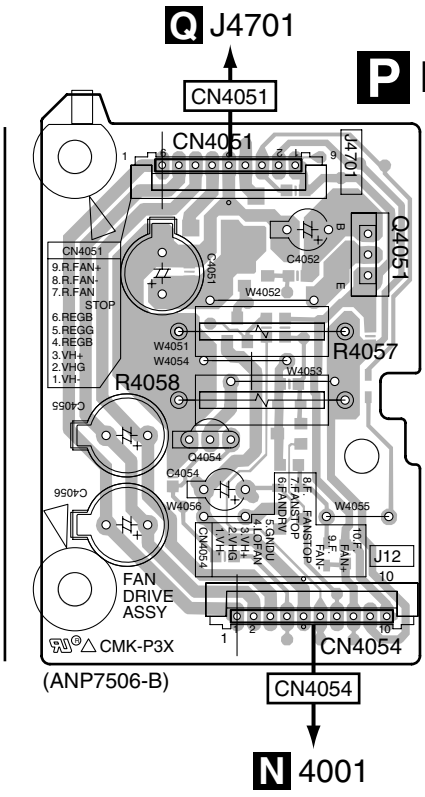
## FAN CONNECTION ASSY



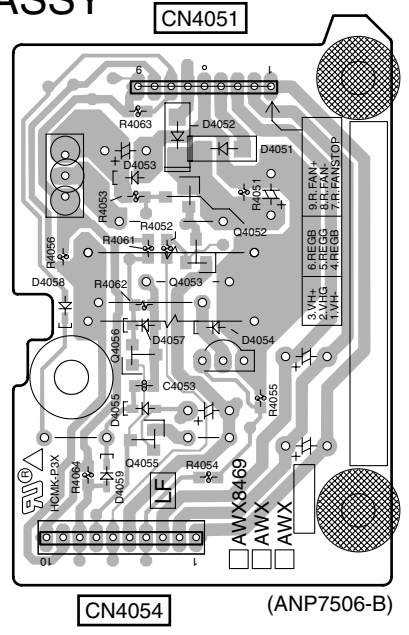
# 4.12 FAN DRIVE ASSY

**SIDE A**

**SIDE B**



**P FAN DRIVE ASSY**



**P**

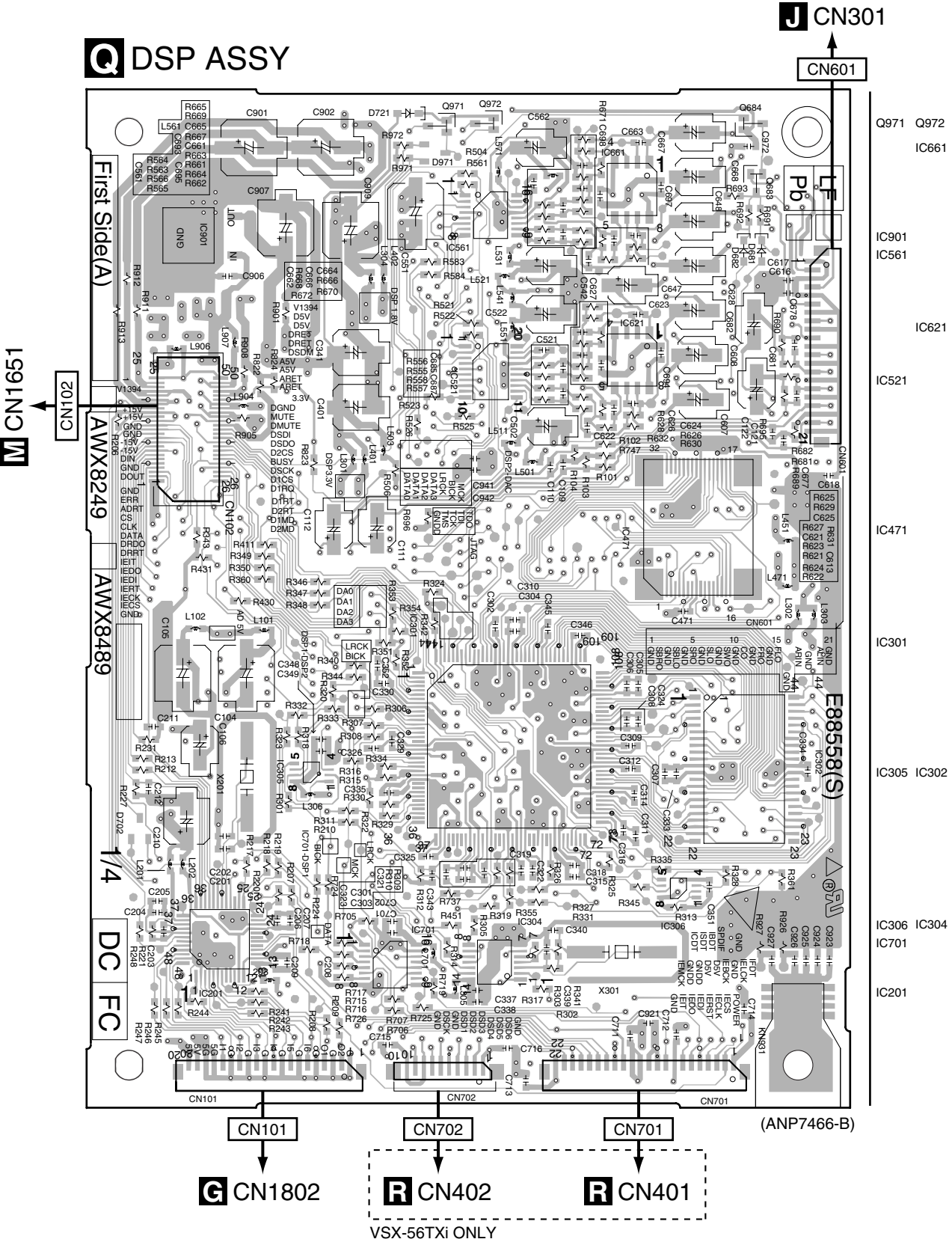
**P**

# 4.13 DSP ASSY

**SIDE A**

**SIDE A**

- This diagram has four layers. In the two middle layers, mainy Vcc and GND are connected.



**Q**

**Q**

VSX-56TXi

VSX-56TXi ONLY

SIDE B

SIDE B

- This diagram has four layers.  
In the two middle layers, mainy Vcc and GND are connected.

# DSP ASSY

A

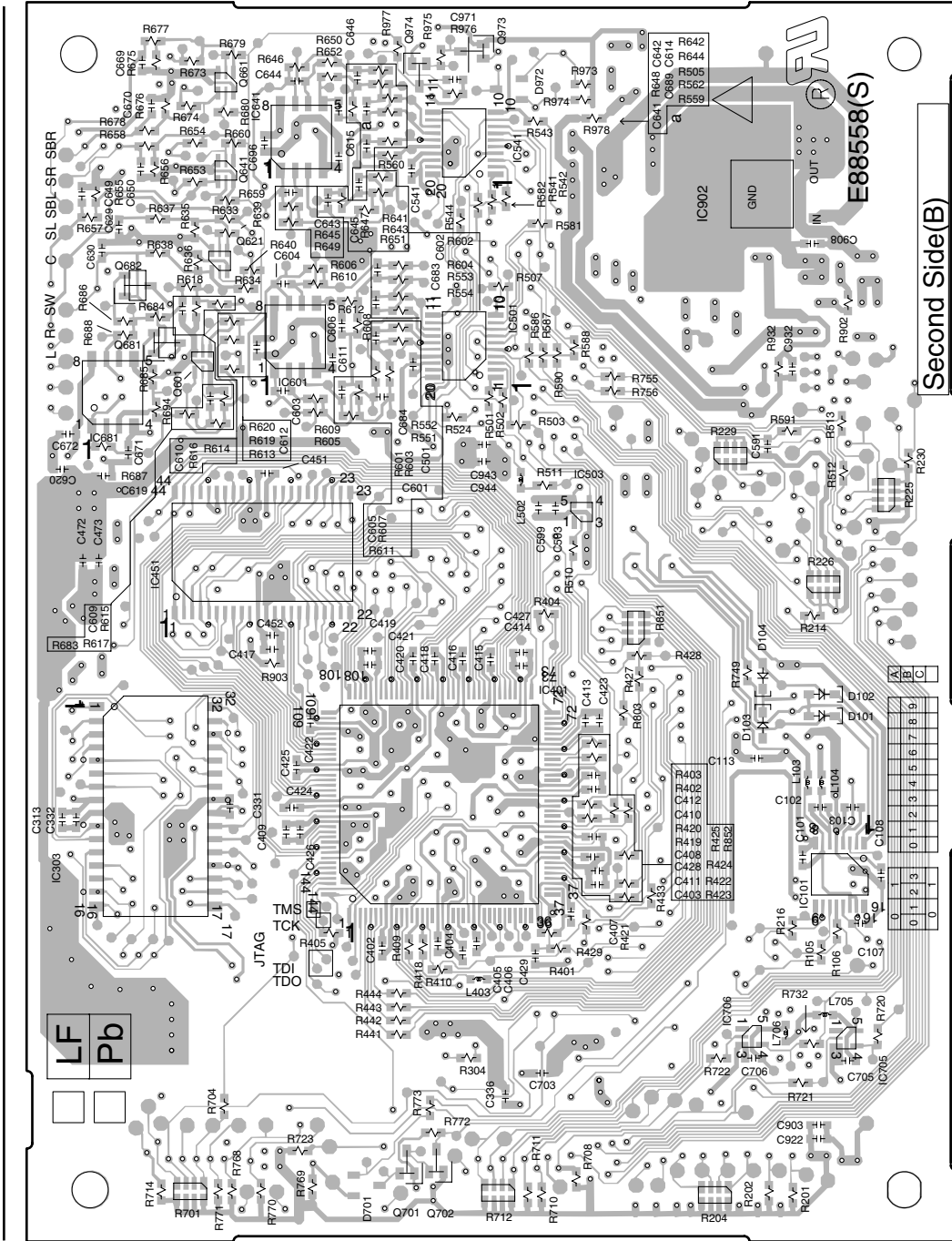
B

C

D

E

F



Second Side(B)

(ANP7466-A)

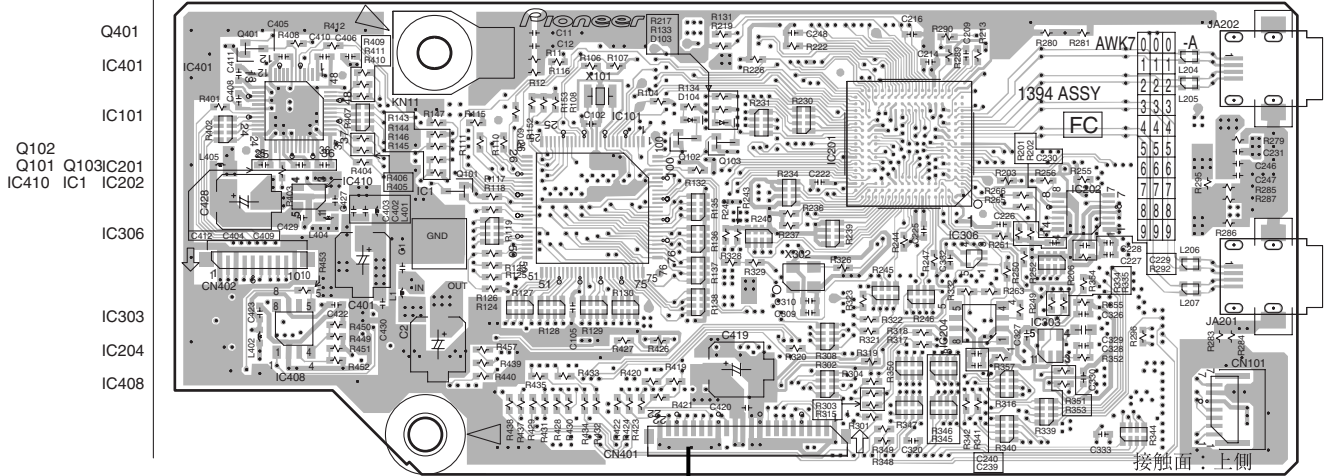


4.14 1394 ASSY (VSX-56TXi ONLY)

**R** 1394 ASSY

**SIDE A**

**SIDE A**



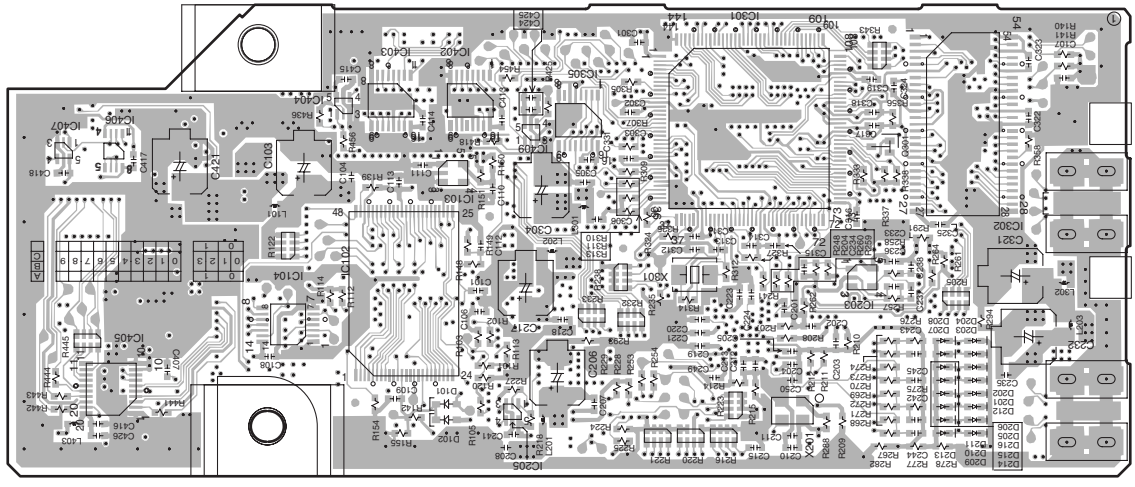
- Q401
- IC401
- IC101
- Q102
- Q101 Q103 IC201
- IC410 IC1 IC202
- IC306
- IC303
- IC204
- IC408

- |   |   |   |      |
|---|---|---|------|
| 0 | 0 | 0 | A    |
| 1 | 1 | 1 | L204 |
| 2 | 2 | 2 | L205 |
| 3 | 3 | 3 |      |
| 4 | 4 | 4 |      |
| 5 | 5 | 5 |      |
| 6 | 6 | 6 |      |
| 7 | 7 | 7 |      |
| 8 | 8 | 8 |      |
| 9 | 9 | 9 |      |



**SIDE B**

**SIDE B**



- IC205
- IC301
- IC403 IC402
- IC305
- IC404
- IC406
- IC407
- IC409
- Q301
- IC103
- IC302
- IC104 IC102
- IC203
- IC405
- IC205

(ANP7489-A)

**R**

**R**

# 4.15 DISPLAY ASSY

**SIDE A**

A

B

C

D

E

F

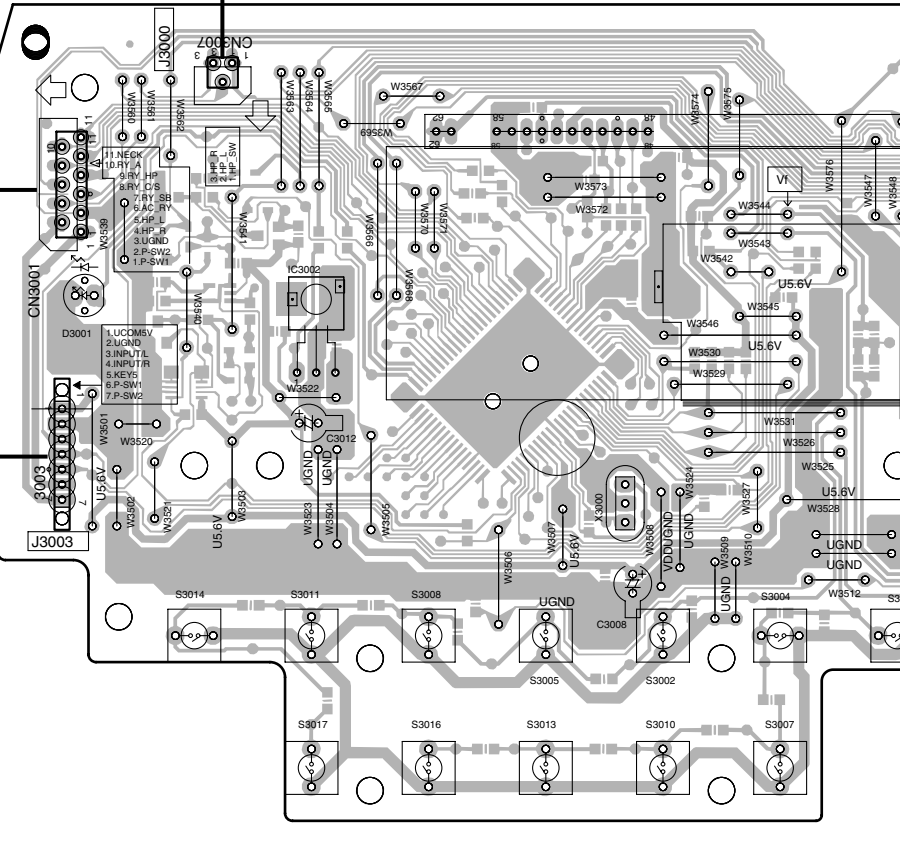
96

**S** DISPLAY ASSY

**AG** CN2002

**U** CN3451

CN3007 → **V** CN1951



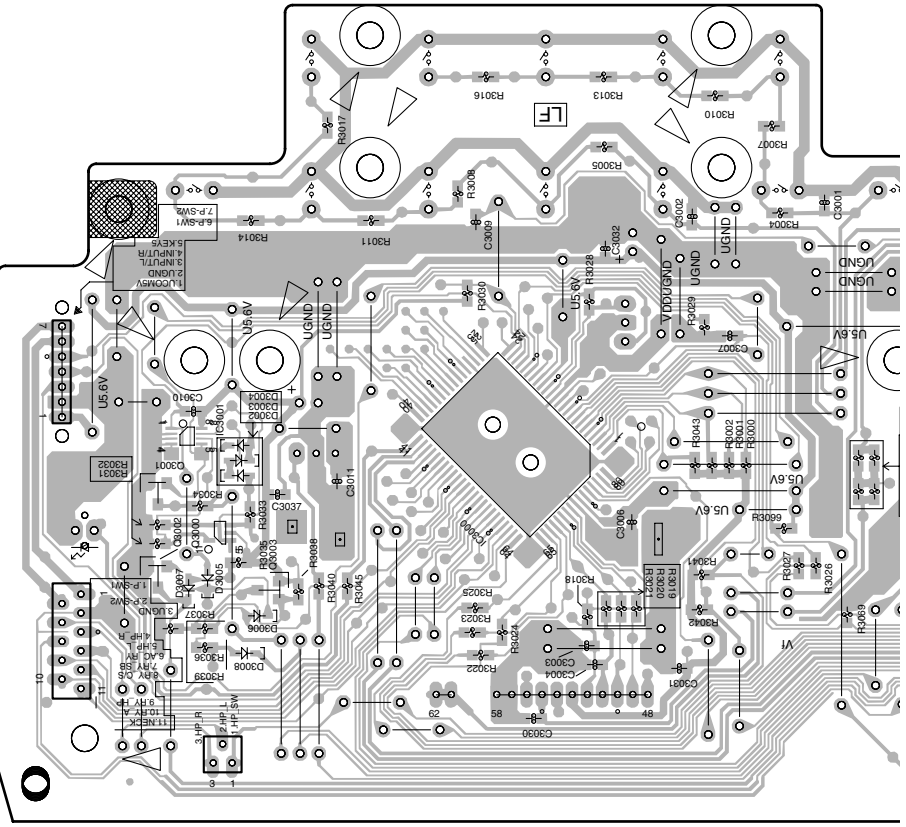
IC3002

**SIDE B**

**S** DISPLAY ASSY

Q3001 IC3001  
Q3002 Q3000 Q3003

IC3000



CN3007

VSX-56TXi

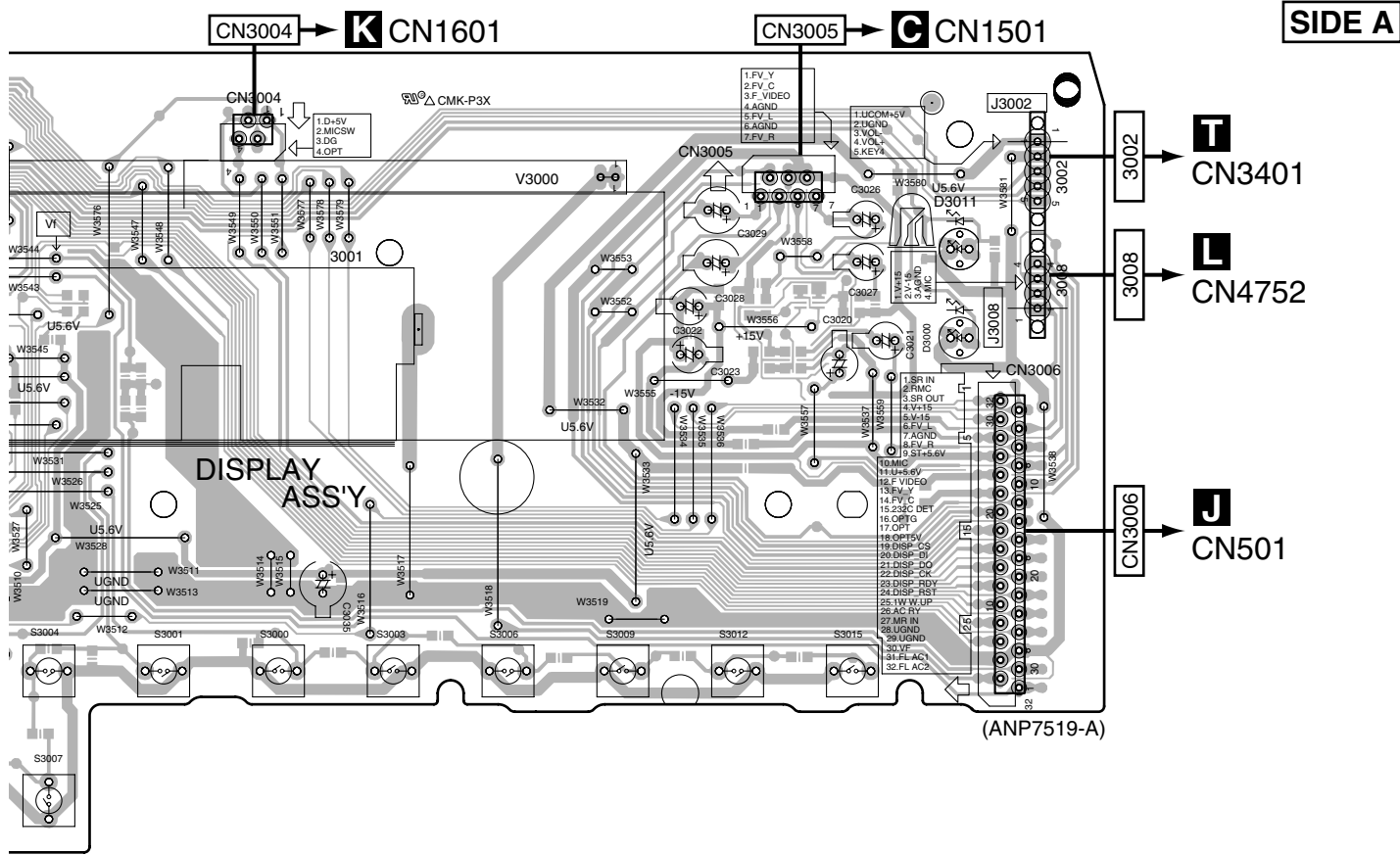
1

2

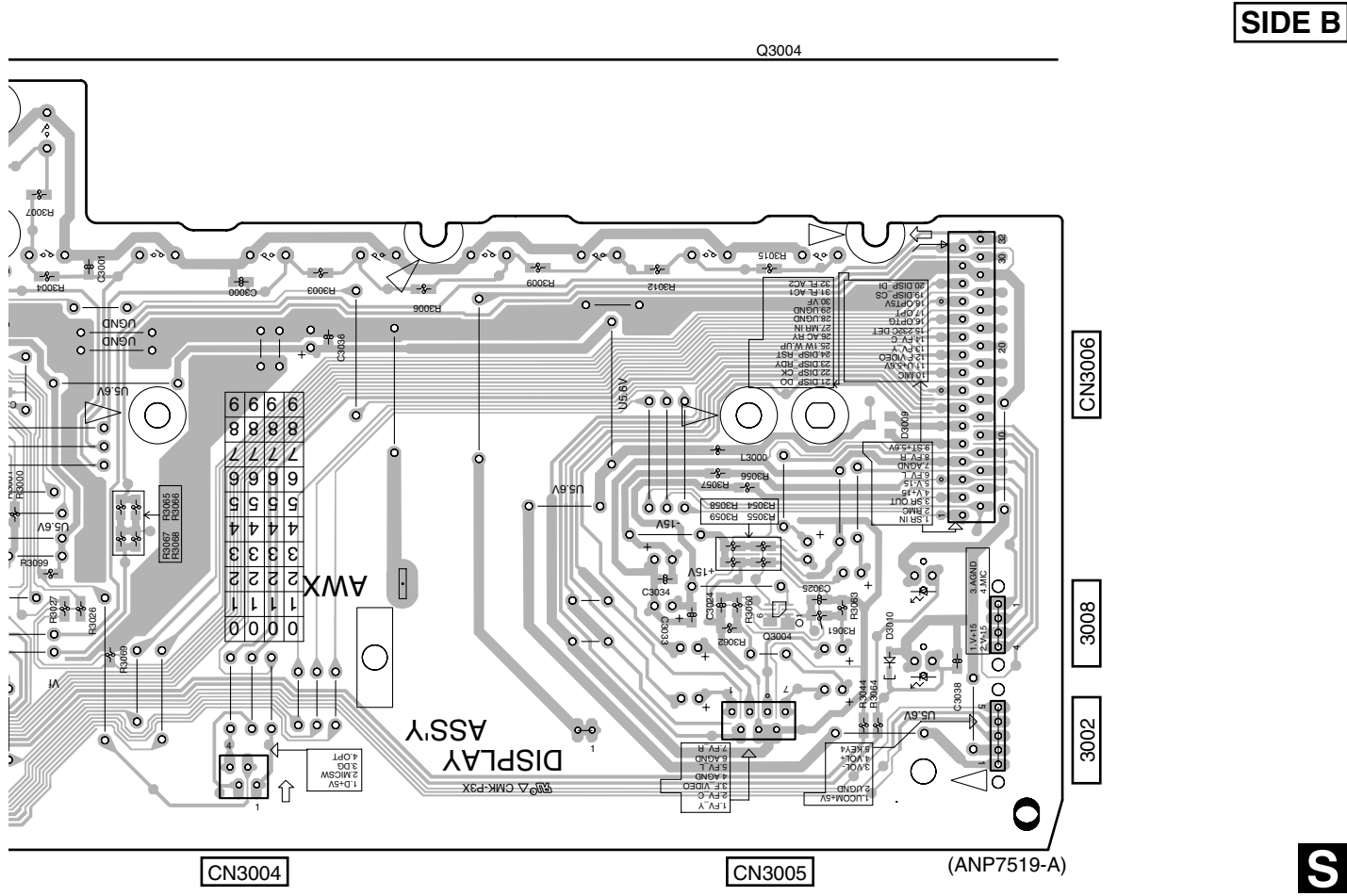
3

4





A  
B  
C



D  
E  
F

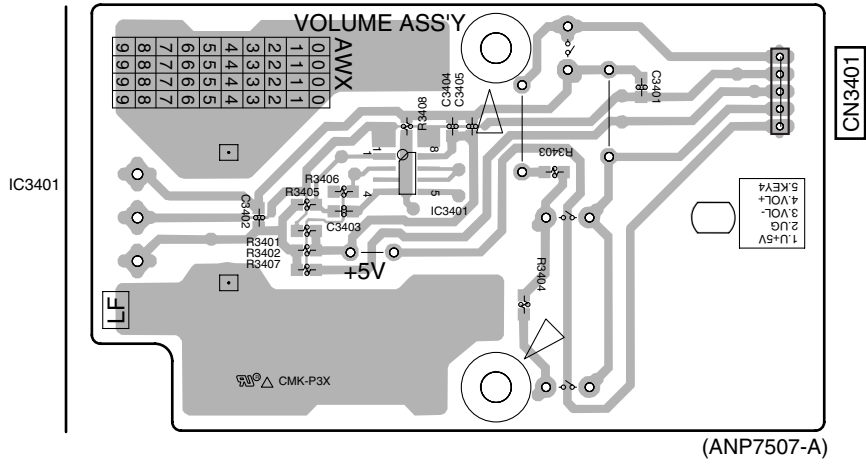




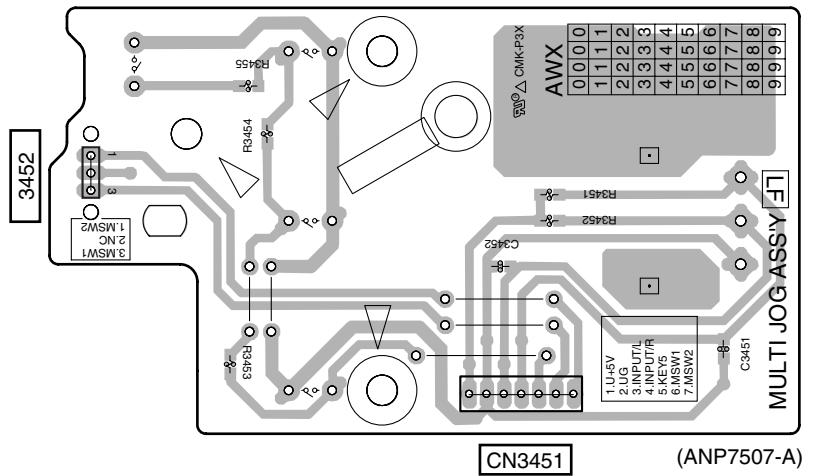
SIDE B

SIDE B

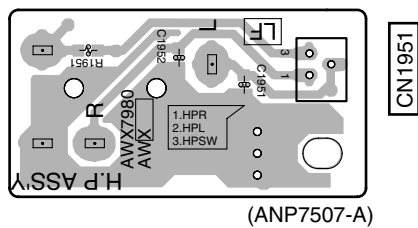
# T VOLUME ASSY



# U MULTI JOG ASSY



# V HEADPHONE ASSY







**SIDE B**

A

B

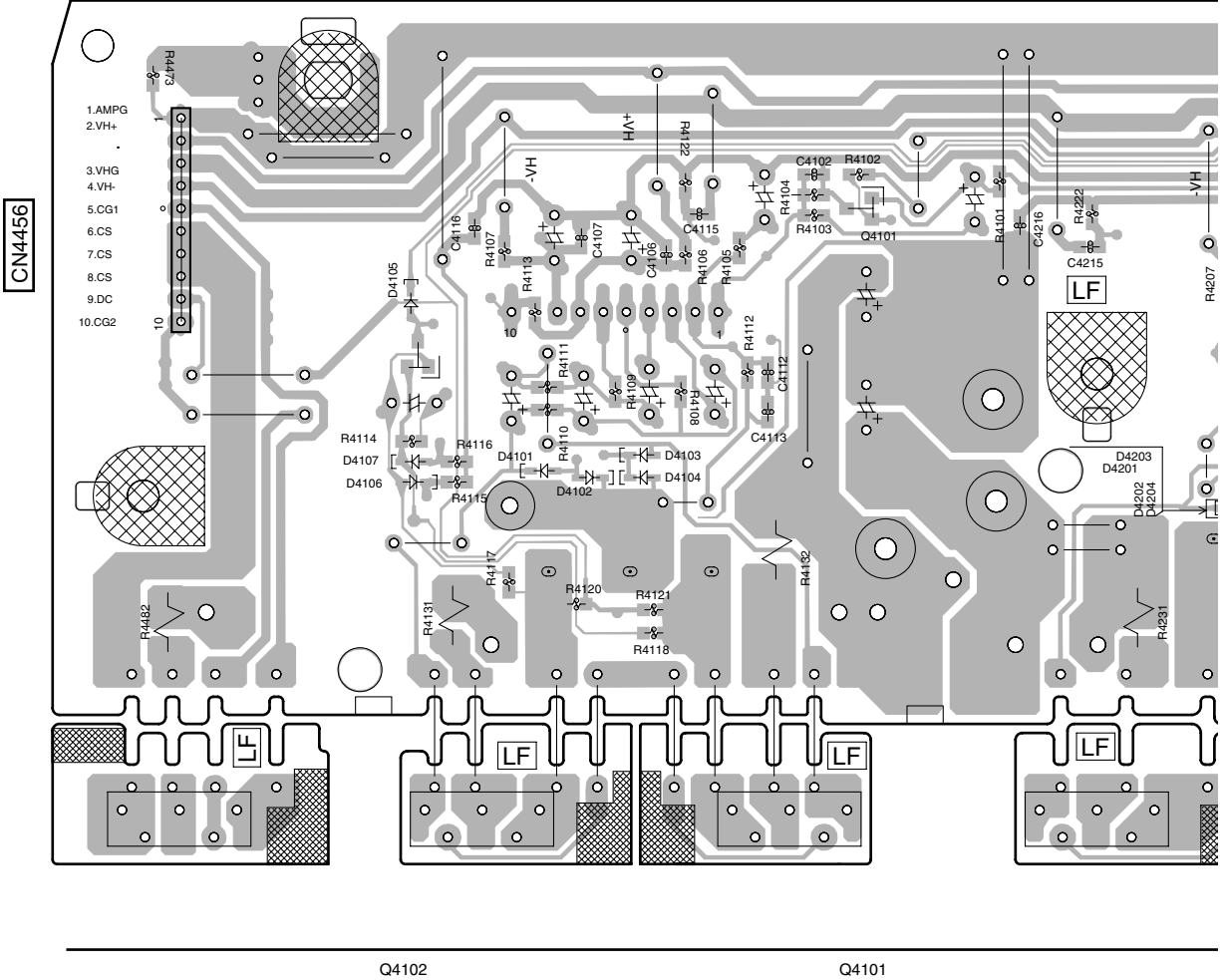
C

D

E

F

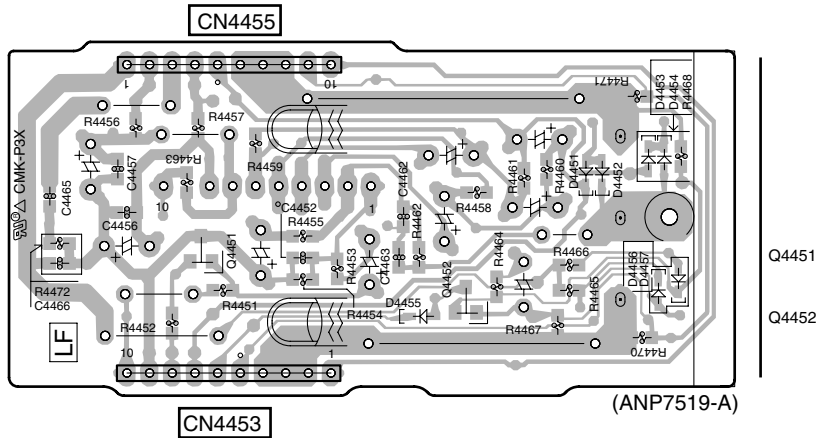
# W POWER AMP-L ASSY



Q4102

Q4101

# Y POWER AMP-C ASSY



CN4453

(ANP7519-A)

Q4451

Q4452

**W Y**

SIDE B

A

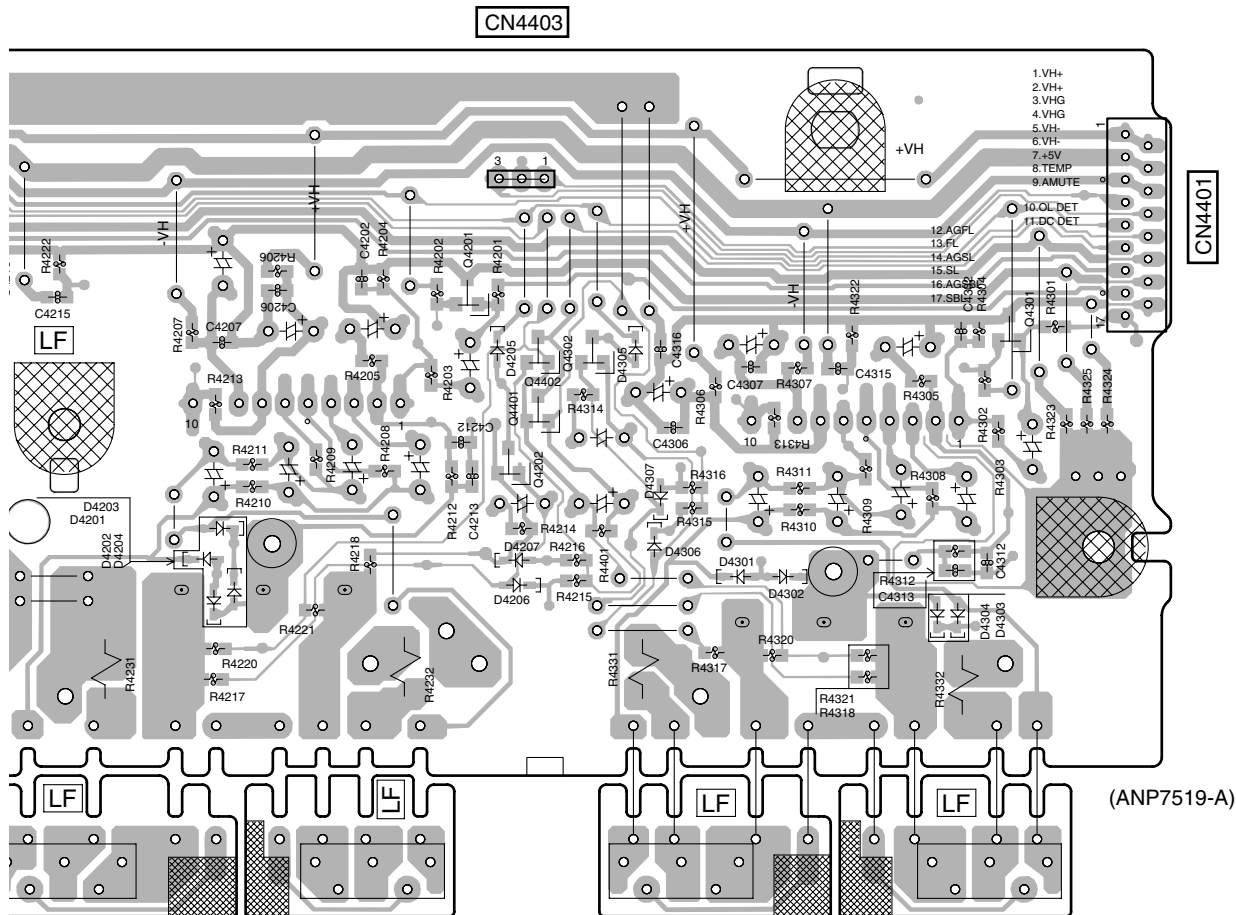
B

C

D

E

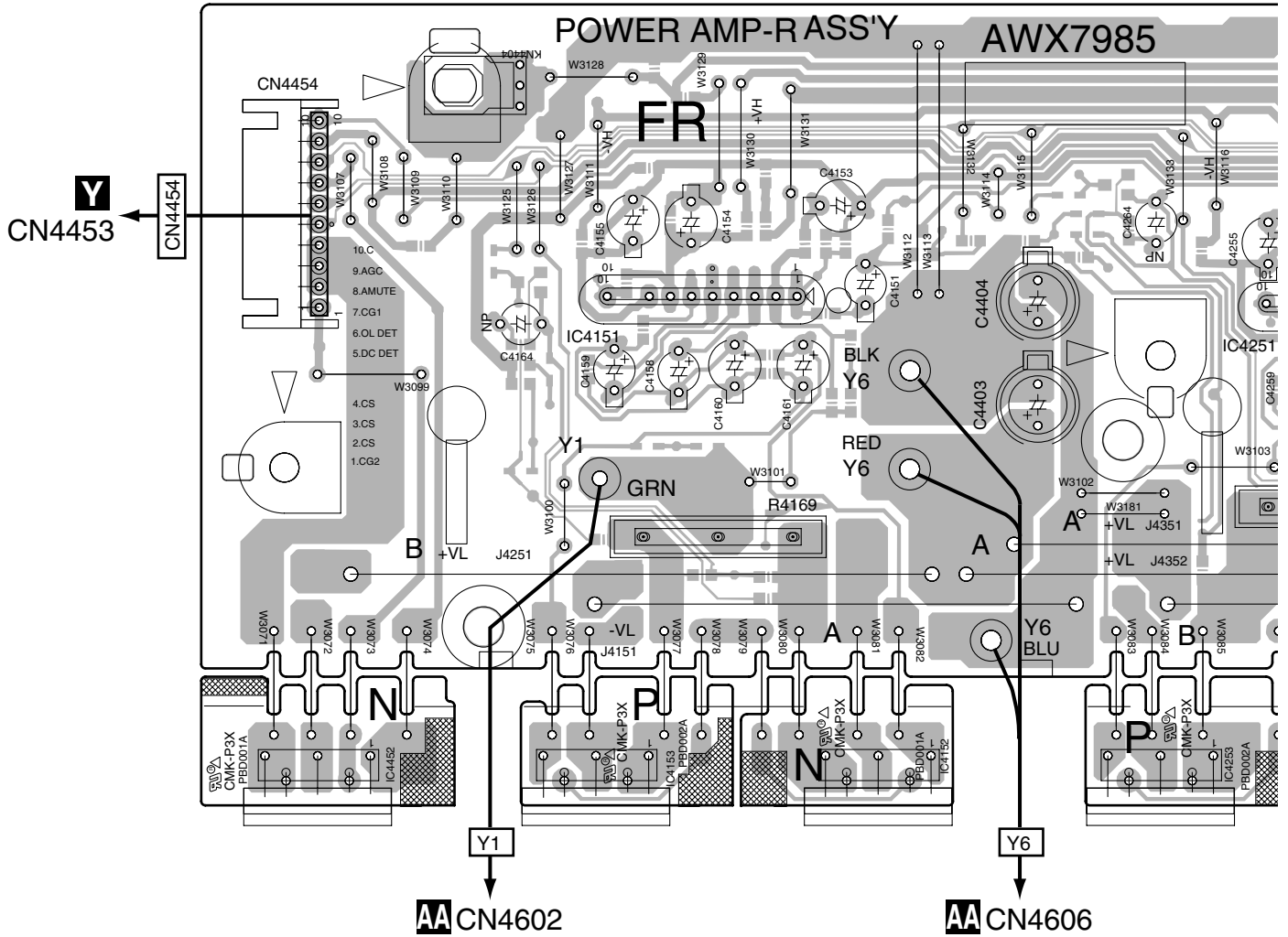
F



# 4.18 POWER AMP R ASSY

**SIDE A**

## **X** POWER AMP-R ASSY



IC4452                      IC4153    IC4151                      IC4152                      IC4253    IC4251

**AA** CN4602

**AA** CN4606





**SIDE A**

A

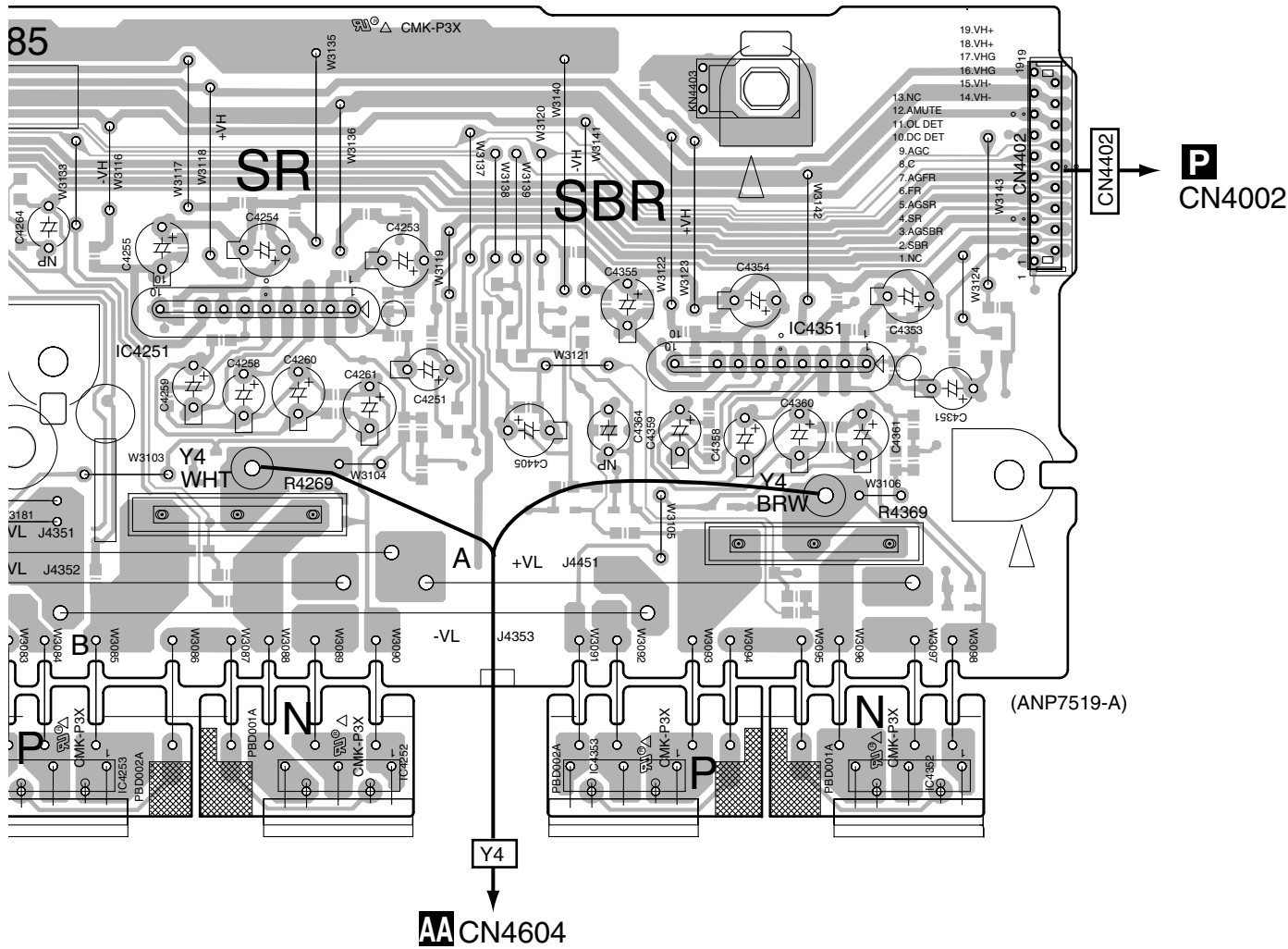
B

C

D

E

F



IC4253	IC4251	IC4252	IC4353	IC4351	IC4352
--------	--------	--------	--------	--------	--------



SIDE B

A

B

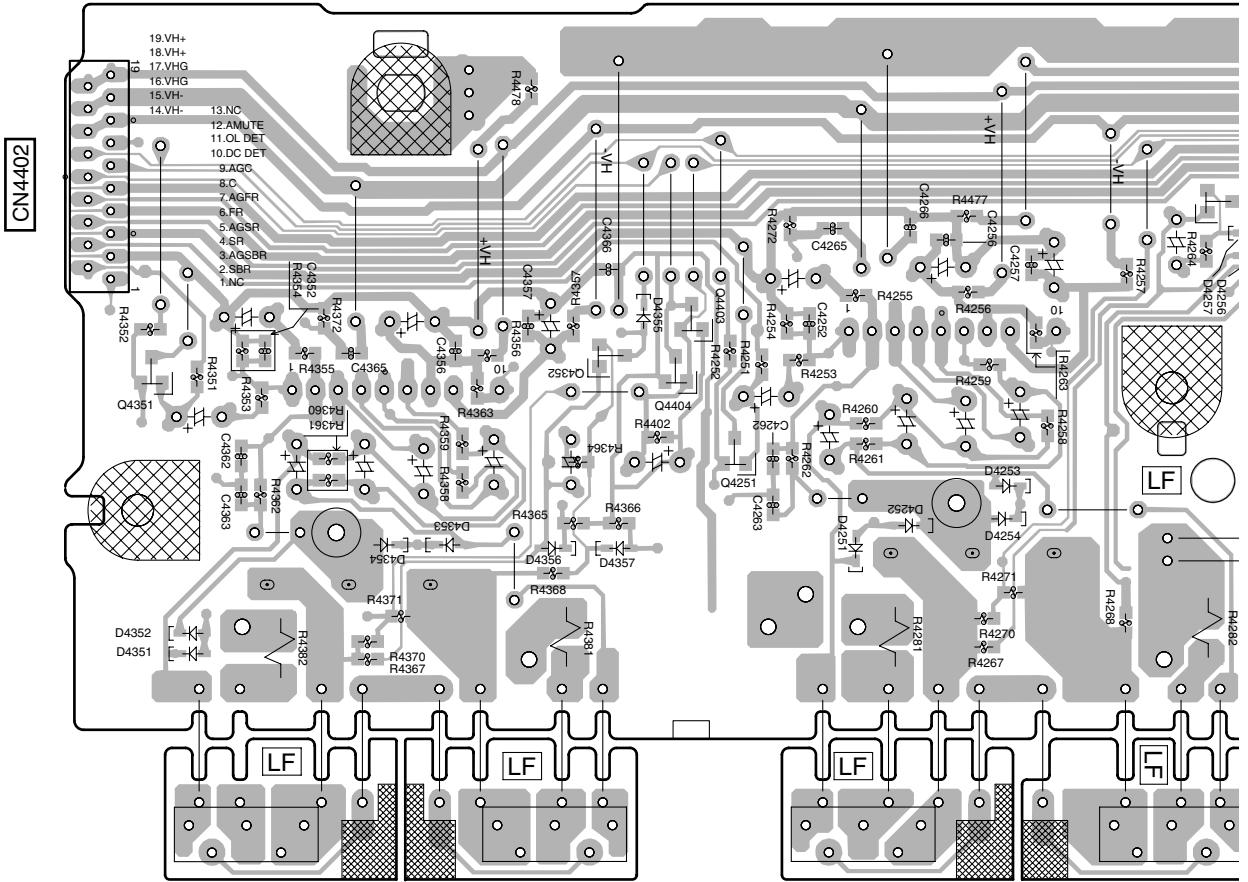
C

D

E

F

# X POWER AMP-R ASSY



Q4351

Q4403

Q4252

Q4352 Q4404

Q4251



SIDE B

A

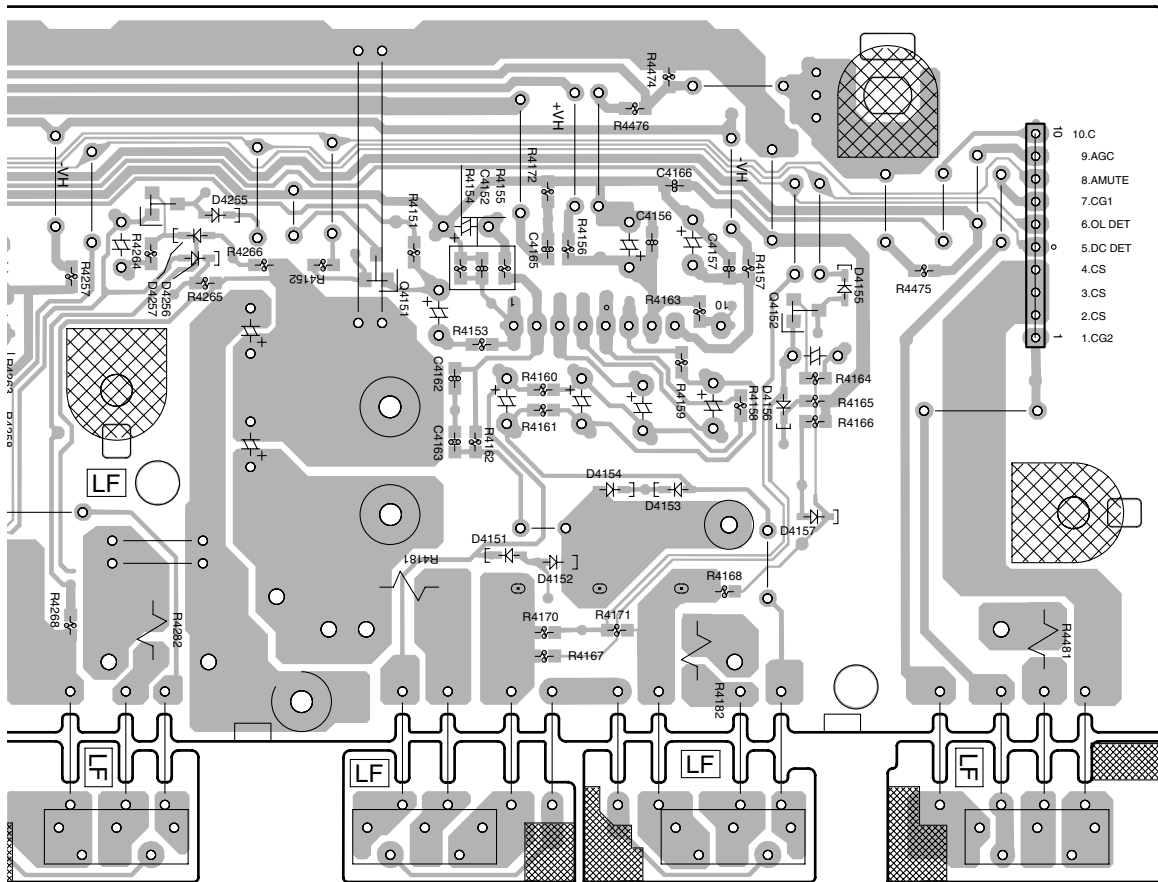
B

C

D

E

F



CN4454

(ANP7519-A)

Q4252

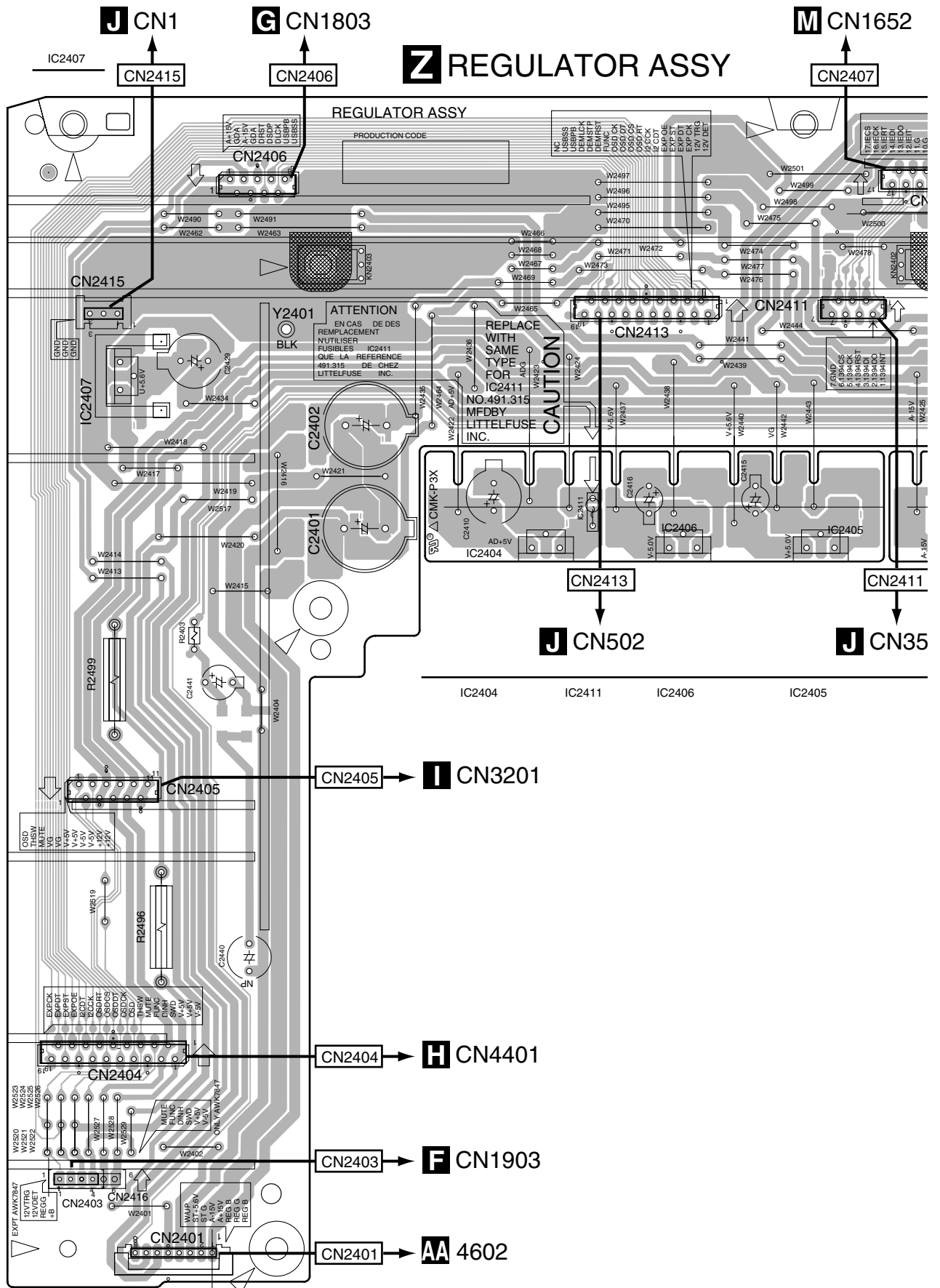
Q4151

Q4152



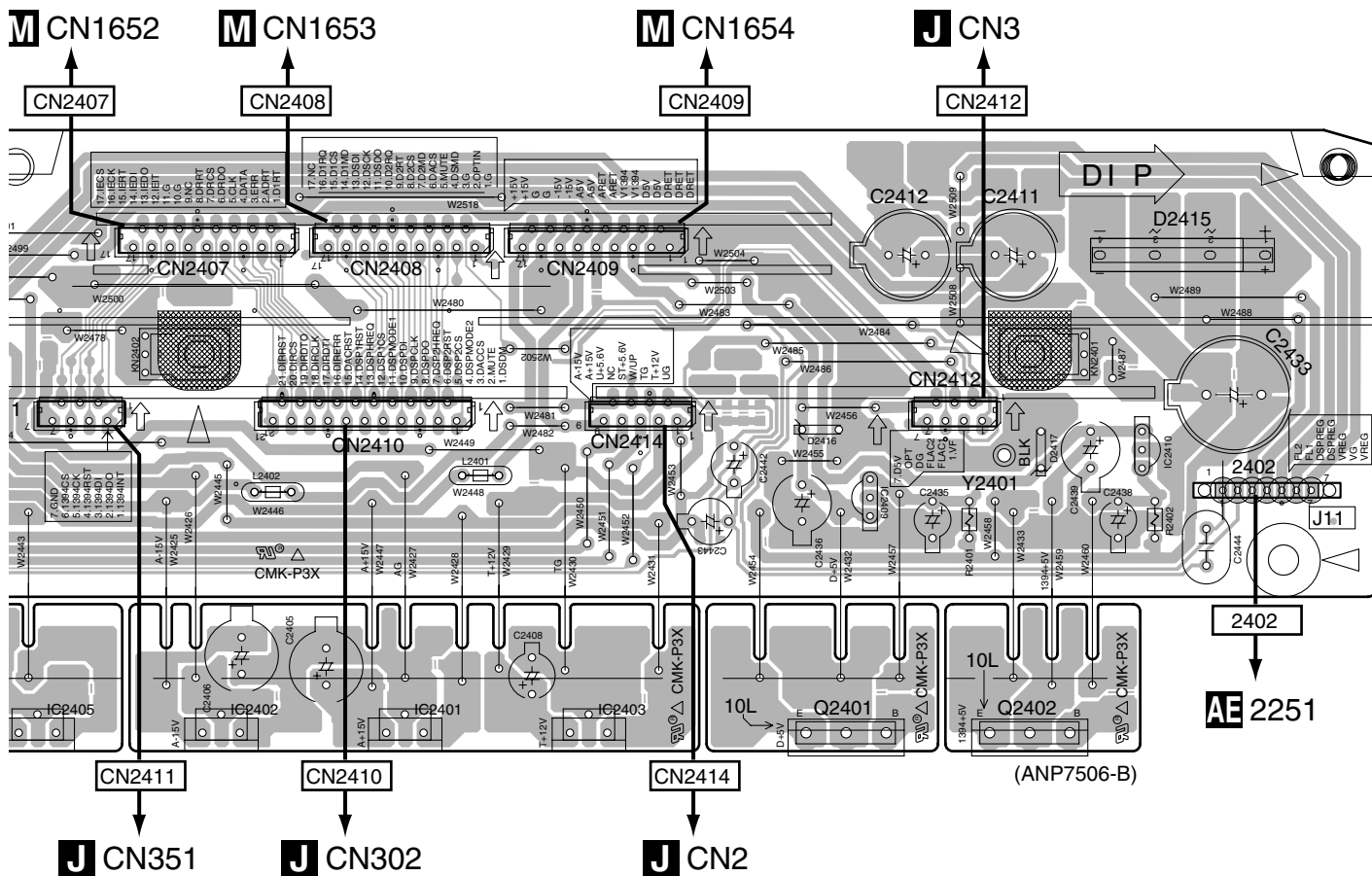
# 4.19 REGULATOR ASSY

**SIDE A**



**SIDE A**

A



B

C

2405      IC2402      IC2401      IC2403      Q2401      IC2409      Q2402      IC2410

D

E

F

**Z**

**SIDE B**

A

# Z REGULATOR ASSY

B

C

D

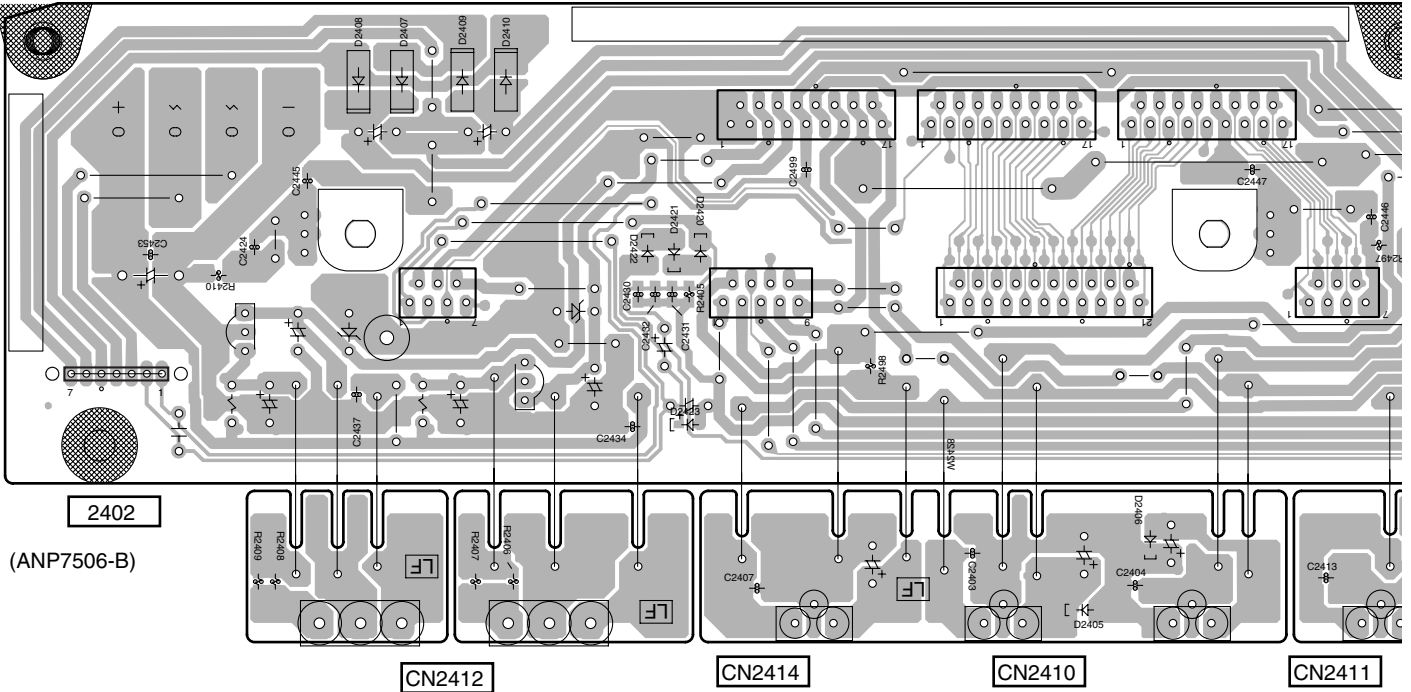
E

F

CN2409

CN2408

CN2407



2402

(ANP7506-B)

CN2412

CN2414

CN2410

CN2411



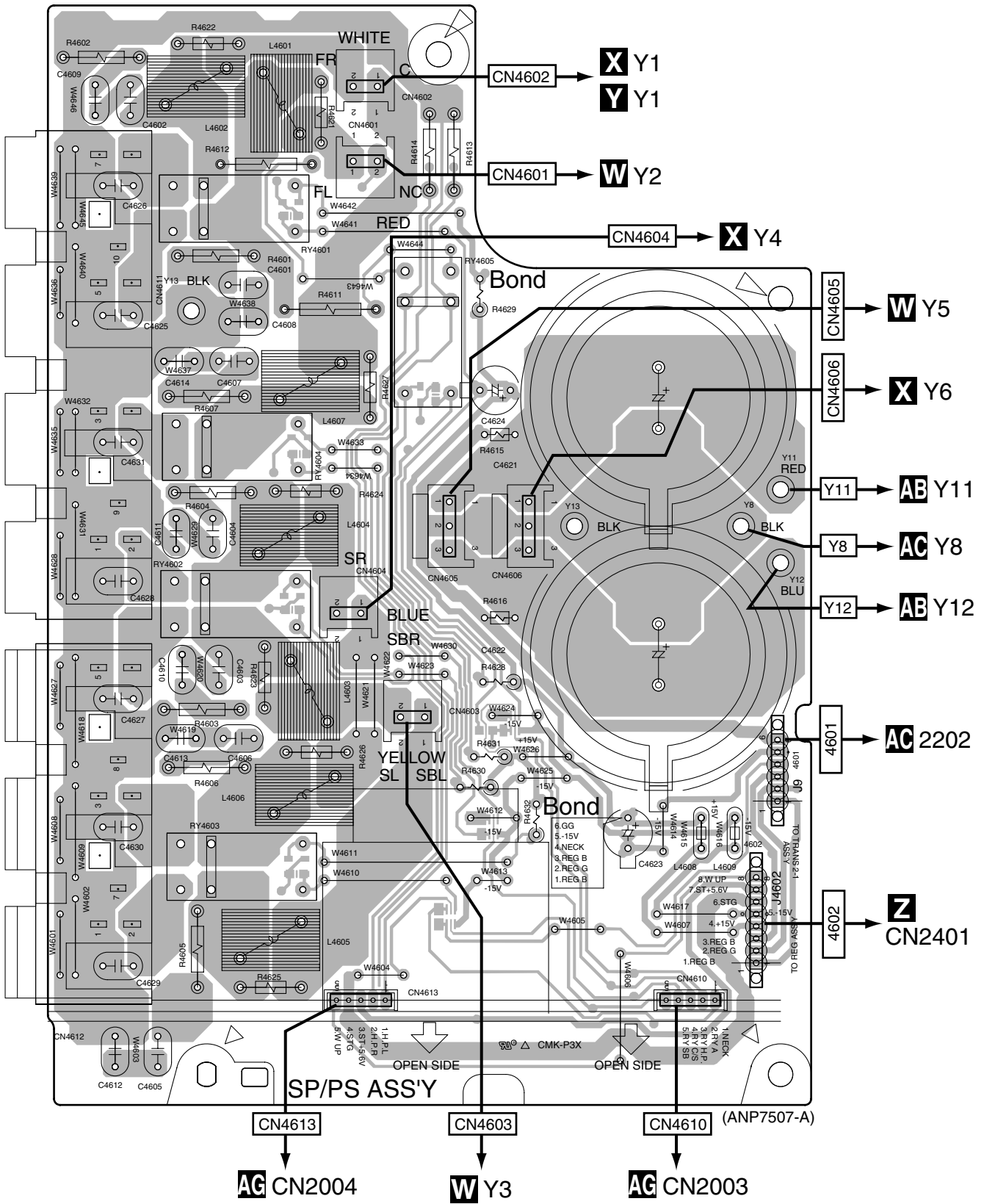


# 4.20 SP/PS ASSY

**SIDE A**

**SIDE A**

## AA SP/PS ASSY



**AA**

**AA**

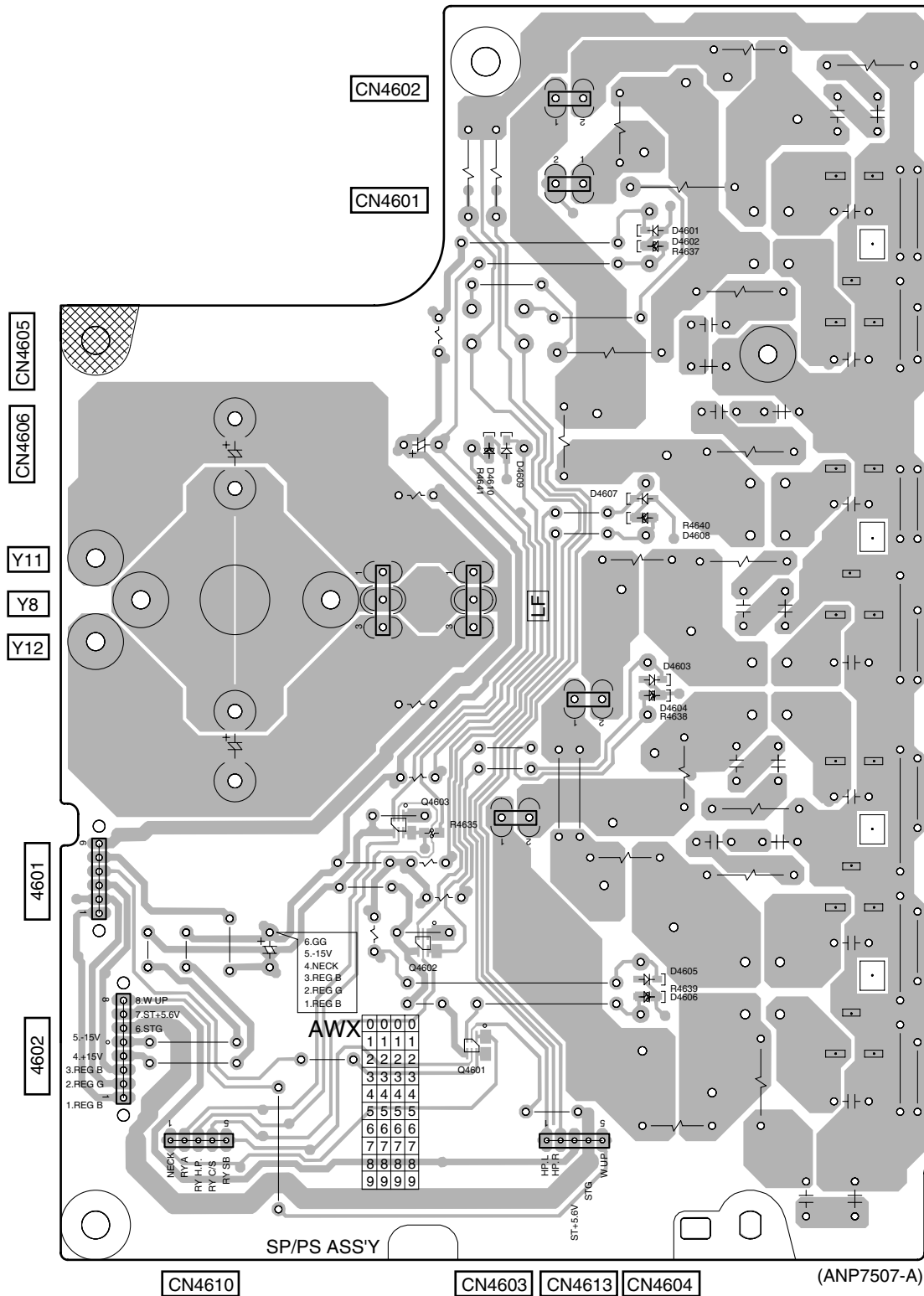


SIDE B

SIDE B

A

# AA SP/PS ASSY



B

C

D

E

F

AA

AA

Q4603  
Q4602  
Q4601

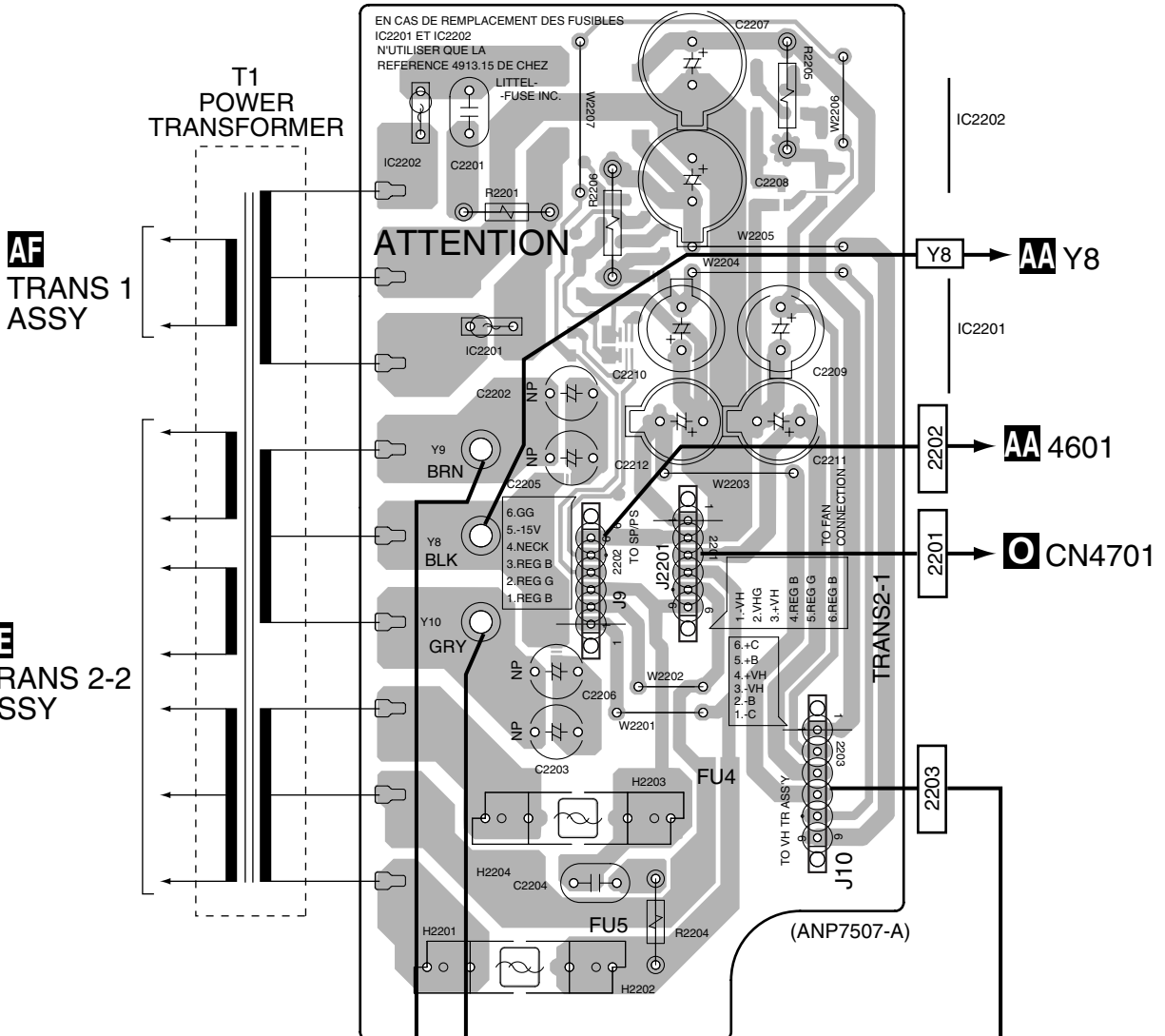
VSX-56TXi

# 4.21 DIODE, TRANS 2-1 and VH TR ASSYS

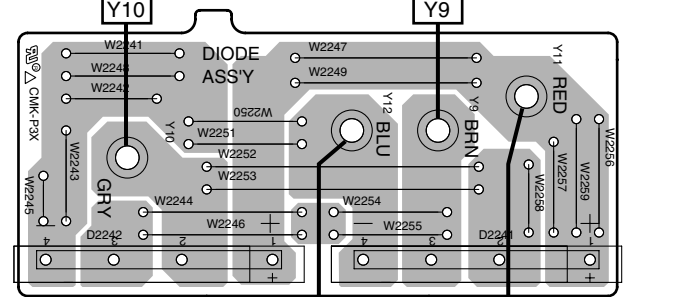
**SIDE A**

**SIDE A**

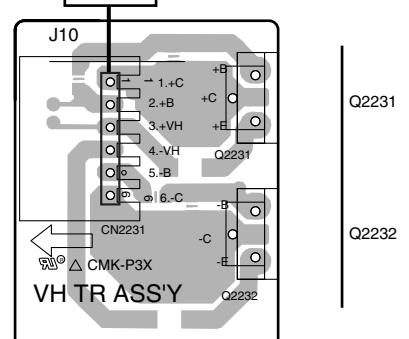
## AC TRANS 2-1 ASSY



## AB DIODE ASSY



## AD VH TR ASSY



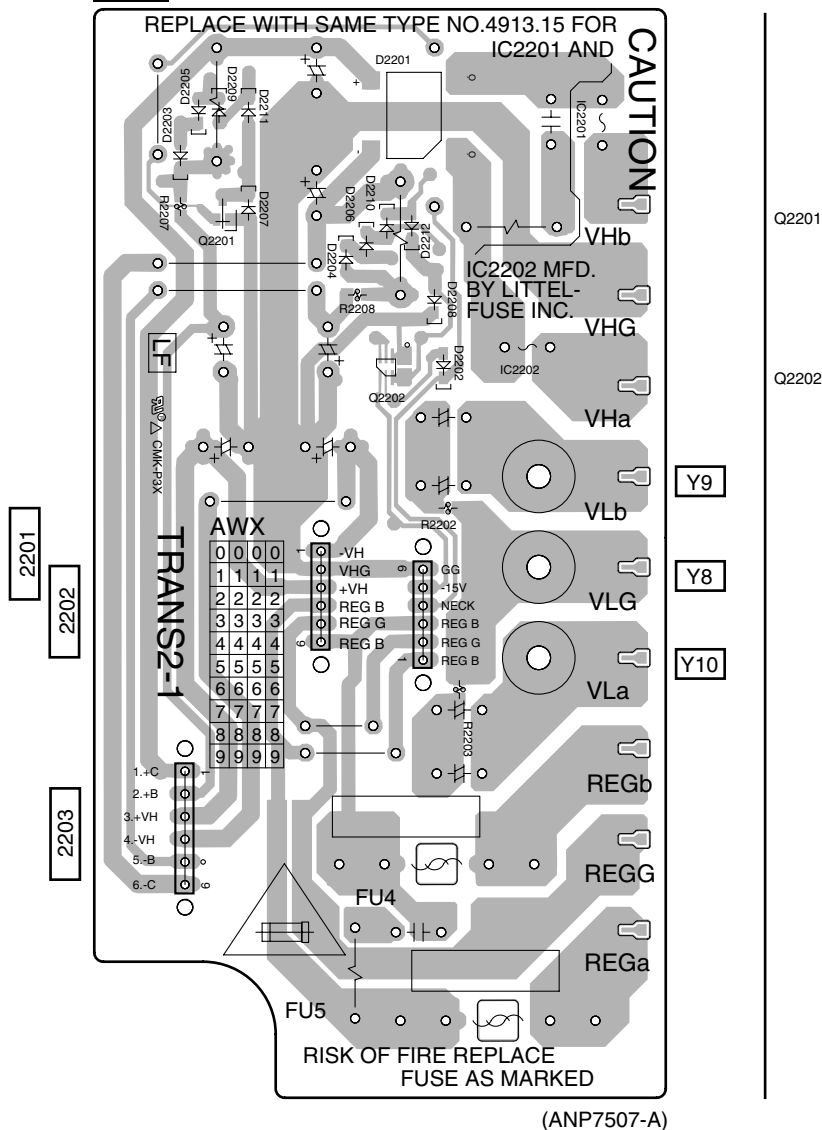
**AB AC AD**

**AB AC AD**

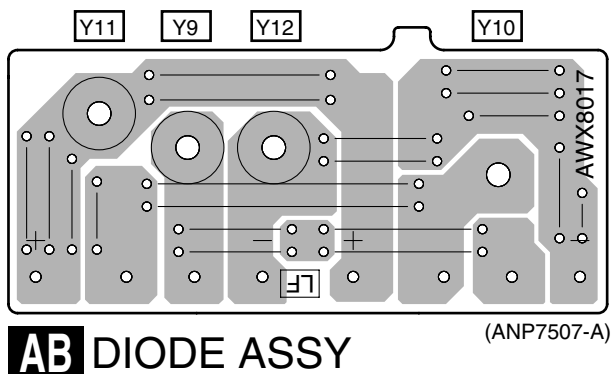
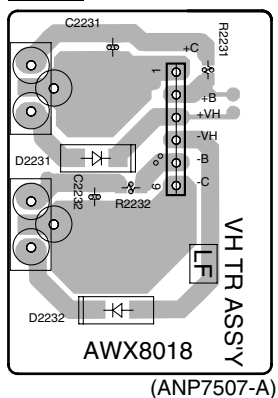
SIDE B

SIDE B

# AC TRANS 2-1 ASSY



# AD VH TR ASSY



# AB DIODE ASSY

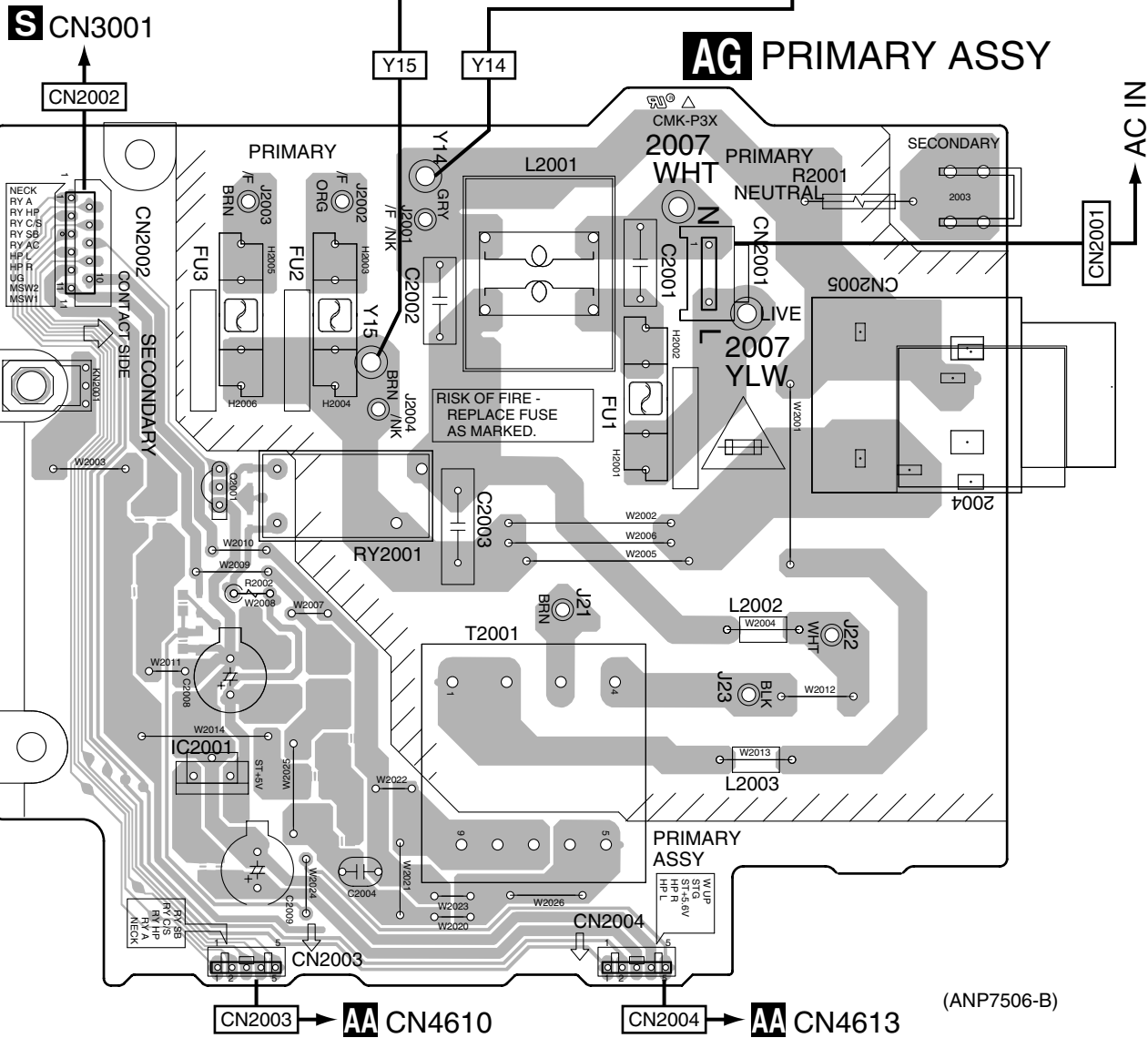
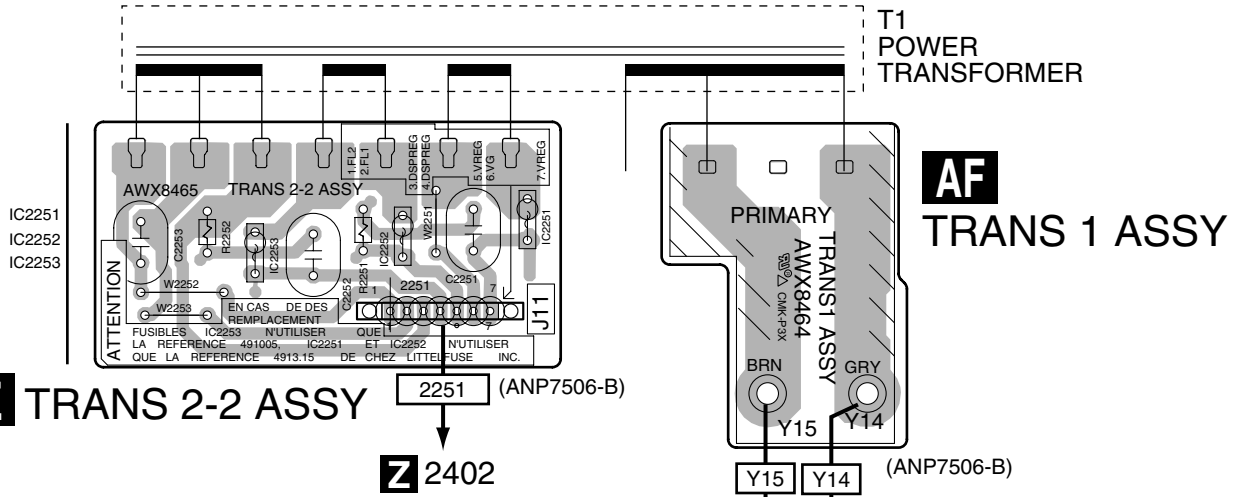
AB AC AD

AB AC AD

# 4.22 TRANS 2-2, TRANS 1 and PRIMARY ASSYS

**SIDE A**

**SIDE A**

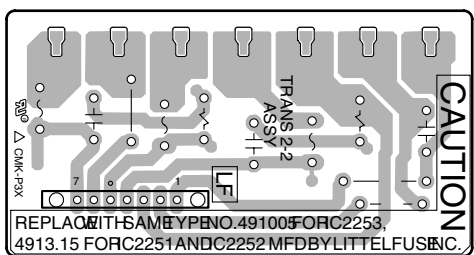
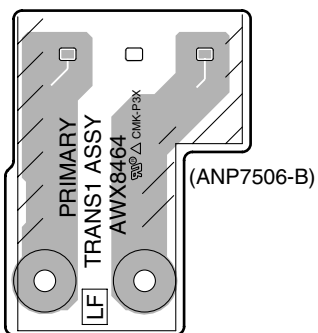


SIDE B

SIDE B

### AF TRANS 1 ASSY

### AE TRANS 2-2 ASSY



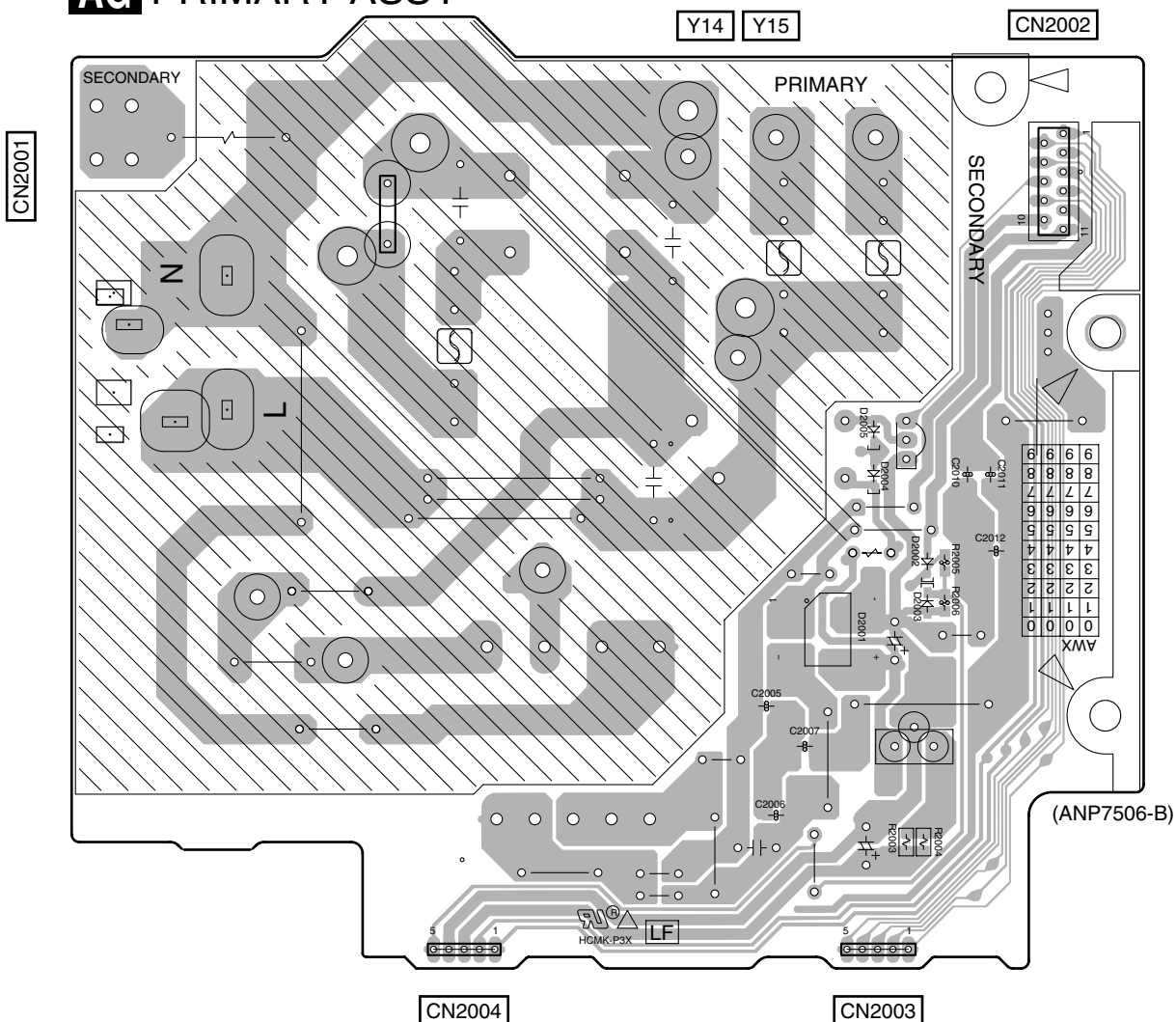
2251

(ANP7506-B)

Y14

Y15

### AG PRIMARY ASSY



AE AF AG

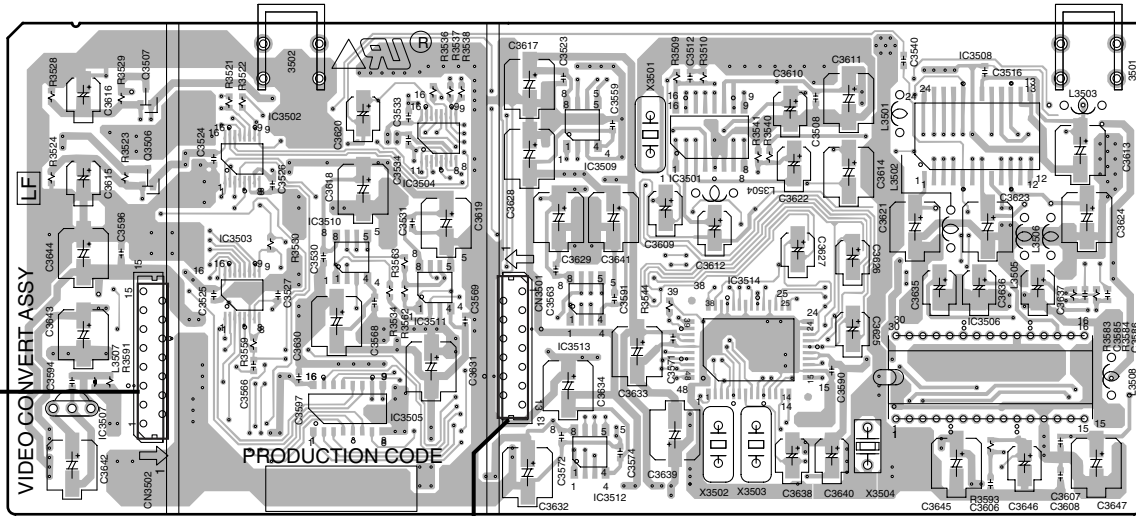
AE AF AG

# 4.23 VIDEO CONVERT ASSY

**SIDE A**

**SIDE A**

## AH VIDEO CONVERT ASSY

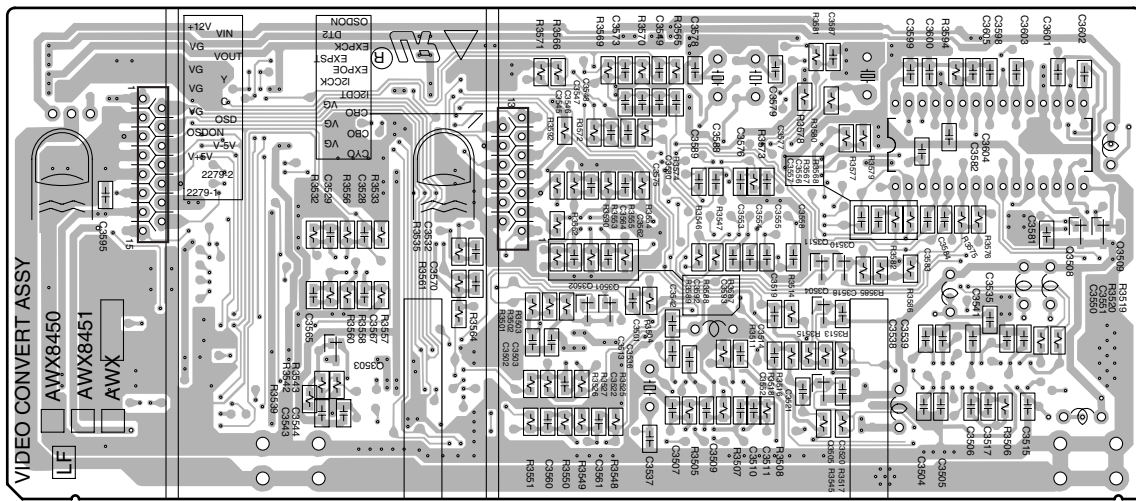


Q3507	IC3503	IC3510	IC3504	IC3513	IC3514	IC3508
Q3506	IC3502		IC3505	IC3512		
			IC3511			

**SIDE B**

**SIDE B**

## AH VIDEO CONVERT ASSY



IC933	Q3502	Q3501	Q3504	Q3510	Q3508
			Q3505	Q3511	Q3509

**AH**

**AH**

# 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 x 10<sup>1</sup>  $\rightarrow$  561 ..... RD1/4PU 561J  
 47k  $\Omega$   $\rightarrow$  47 x 10<sup>3</sup>  $\rightarrow$  473 ..... RD1/4PU 473J  
 0.5  $\Omega$   $\rightarrow$  R50 ..... RN2H R50K  
 1  $\Omega$   $\rightarrow$  1R0 ..... RS1P 1R0K

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

5.62k  $\Omega$   $\rightarrow$  562 x 10<sup>1</sup>  $\rightarrow$  5621 ..... RN1/4PC 5621F

## • LIST OF WHOLE PCB ASSEMBLIES

Mark	Symbol and Description	VSX-56TXi /KUXJ/CA	VSX-54TX /KUXJ/CA
	1..FM/AM TUNER MODULE	AXX7172	AXX7172
NSP	1..REGULATOR ASSY	AWK7845	AWK7849
	2..MIC & F.OPT IN ASSY	AWX8446	AWX8446
	2..REGULATOR ASSY	AWX8457	AWX8459
	2..PRIMARY ASSY	AWX8460	AWX8524
	2..TRANS2-2 ASSY	AWX8465	AWX8465
	2..7.1CH I/O ASSY	AWX8466	AWX8467
NSP	2..POWER AMP IN ASSY	AWX8468	AWX8468
	2..FAN DRIVE ASSY	AWX8469	AWX8469
NSP	1..COMPLEX ASSY	AWK7850	AWK7853
NSP	2..VOLUME ASSY	AWX7971	AWX7971
NSP	2..MULTI JOG ASSY	AWX7972	AWX7972
	2..INPUT CONNECT ASSY	AWX7974	AWX7974
NSP	2..FRONT IN ASSY	AWX7977	AWX7977
	2..OPTICAL IN ASSY	AWX7978	AWX7978
NSP	2..HEADPHONE ASSY	AWX7980	AWX7980
	2..DIODE ASSY	AWX8017	AWX8017
	2..VH TR ASSY	AWX8018	AWX8018
	2..V-AUDIO IN ASSY	AWX8313	AWX7964
	2..SP/PS ASSY	AWX8455	AWX8487
	2..12V TRIGGER ASSY	AWX8472	AWX8472
	2..TRANS 2-1 ASSY	AWX8474	AWX8474
NSP	1..MAIN ASSY	AWK7835	AWK7840
	2..MAIN CONTROLASSY	AWX8434	AWX8439
	2..DSP CONNECTION ASSY	AWX8441	AWX8442
	2..COAXIAL IN ASSY	AWX8443	AWX8445
	2..MIC AMP ASSY	AWX8447	AWX8447
	2..FAN CONNECTION ASSY	AWX8448	AWX8448
NSP	1..VIDEO CONVERT ASSY	AWK7841	AWK7844
	2..VIDEO CONVERT ASSY	AWX8450	AWX8450
	2..VIDEO ASSY	AWX8452	AWX8453
	2..COMPONENT ASSY	AWX8454	AWX8456
NSP	1..POWER AMP ASSY	AWK7854	AWK7858
	2..POWER AMP-L ASSY	AWX7984	AWX7984
	2..POWER AMP-R ASSY	AWX7985	AWX7985
	2..POWER AMP-C ASSY	AWX7986	AWX7986
	2..DISPLAY ASSY	AWX8473	AWX8483
	1..DSP ASSY	AWX8489	AWX8489
	1..1394 ASSY	AWK7834	Not used

## • CONTRAST OF PCB ASSEMBLIES

### **A** 7.1CH I/O ASSY

AWX8466 and AWX8467 are constructed the same except for the following :

Mark	Symbol and Description	AWX8466	AWX8467
	1301-1304 4P PIN JACK	AKB7075	Not used
	CN1301-CN1304 4P PIN JACK	Not used	AKB7015

### **B** V-AUDIO IN ASSY

AWX8313 and AWX7964 are constructed the same except for the following :

Mark	Symbol and Description	AWX8313	AWX7964
	1201, 1203 4P PIN JACK	AKB7075	Not used
	CN1201, CN1203 4P PIN JACK	Not used	AKB7015
	CN1205 6P PIN JACK	AKB7162	AKB7009

### **G** COAXIAL IN ASSY

AWX8443 and AWX8445 are constructed the same except for the following :

Mark	Symbol and Description	AWX8443	AWX8445
	IC1681	PCM2902EG	Not used
	IC1682	TC7SET08F	Not used
	C1680, C1697	CKSRYB103K50	Not used
	C1681	CEAT470M16	Not used
	C1683-C1686, C1689, C1690, C1698	CKSRYB104K16	Not used
	C1687	CCSRCH220J50	Not used
	C1688	CCSRCH180J50	Not used
	R1681	RS1/16S152J	Not used
	R1682, R1683	RS1/16S220J	Not used
	R1686	RS1/16S105J	Not used
	R1687	RS1/16S470J	Not used
	R1689	RS1/16S222J	Not used
	R1690	RS1/16S101J	Not used
	X1681 CRYSTAL RESONATOR (12.0MHz)	ASS7047	Not used
	JA1681 USB CONNECTOR	DKN1237	Not used
	JA1802 2P PIN JACK	AKB7148	AKB7131

### **H** COMPONENT ASSY

AWX8454 and AWX8456 are constructed the same except for the following :

Mark	Symbol and Description	AWX8454	AWX8456
	JA4001-JA4003 3P PIN JACK	VKB1151	VKB1150

### **I** VIDEO ASSY

AWX8452 and AWX8453 are constructed the same except for the following :

Mark	Symbol and Description	AWX8452	AWX8453
	JA3201-JA3203 COMB. JACK (2S+2P)	AKB7160	AKB7147
	JA3204 COMB. JACK (S+1P)	AKB7159	AKB7146
	JA3205 1P PIN JACK	VKB1156	VKB1122

### **J** MAIN CONTROL ASSY

AWX8434 and AWX8439 are constructed the same except for the following :

Mark	Symbol and Description	AWX8434	AWX8439
	IC105, IC106	UPC4507G2	Not used
	Q101, Q102	2SC3326	Not used
	Q103, Q106, Q107	DTA124EK	Not used
	Q104, Q105	2SK208	Not used
	D531, D532	1SS355	Not used



Mark	Symbol and Description	AWX8434	AWX8439
	C139, C140 C161, C164, C174, C175 C162, C166, C176, C178 R135, R136 R137, R138	CCSRCH470J50 CKSRYF104Z25 CKSRYB103K50 RS1/16S912J RS1/16S102J	Not used Not used Not used RS1/16S0R0J Not used
	R141, R142, R143, R160 R156, R157 R158, R159 R161, R164, R169, R172, R175, R176	RS1/16S472J RS1/16S473J RS1/16S682J RS1/16S105J RS1/16S472J	Not used Not used Not used Not used RS1/16S0R0J
	R163, R166, R171, R174 R167, R168 R177, R178 R331, R352–R354, R356 R351	RS1/16S474J RS1/16S222J RS1/16S242J RS1/16S221J RS1/16S0R0J	Not used RS1/16S0R0J RS1/16S0R0J Not used Not used
	R355 R357, R358 R523, R524 JA111–JA113 4P PIN JACK	RS1/16S101J Not used Not used VKB1133	Not used RS1/16S0R0J RS1/16S473J VKB1132

## M DSP CONNECTION ASSY

AWX8441 and AWX8442 are constructed the same except for the following :

Mark	Symbol and Description	AWX8441	AWX8442
	IC1653 L1652 C1653 R1655 R1656, R1676, R1678	TC74LVX244FT QTL1013 CKSRYB104K16 Not used RS1/16S0R0J	Not used Not used Not used RS1/16S0R0J Not used
	R1659, R1660, R1662	RS1/16S151J	Not used

## S DISPLAY ASSY

AWX8473 and AWX8483 are constructed the same except for the following :

Mark	Symbol and Description	AWX8473	AWX8483
	D3010 D3011 R3064	UDZS6R2(B) NSPB510-2283 RS1/16S471J	Not used Not used Not used

## Z REGULATOR ASSY

AWX8457 and AWX8459 are constructed the same except for the following :

Mark	Symbol and Description	AWX8457	AWX8459
⚠	IC2410	NJM78L05A	Not used
⚠	Q2402	2SA1803	Not used
	C2437	CKSRYB103K50	Not used
	C2438	CEAT2R2M50	Not used
	R2402	RD1/4MUF470J	Not used
	R2408, R2409	RS1/16S100J	Not used

## AA SP/PS ASSY

AWX8455 and AWX8487 are constructed the same except for the following :

Mark	Symbol and Description	AWX8455	AWX8487
⚠	C4621, C4622 (22000uF/63V) CN4611 8P SPEAKER TERMINAL CN4612 6P SPEAKER TERMINAL	ACH7217 AKE7099 AKE7100	ACH7169 AKE7074 AKE7075

**AG PRIMARY ASSY**

AWX8460 and AWX8524 are constructed the same except for the following :

Mark	Symbol and Description	AWX8460	AWX8524
⚠	2007 AC INLET ASSY	ADX7464	Not used
⚠	CN2001 AC CODE SOCKET	Not used	RKP1751

Mark No.	Description	Part No.	Mark No.	Description	Part No.
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**REGULATOR ASSY****OTHERS**

Y15	ADX7465
Y14	ADX7466
J11	D20PYY0745E

**COMPLEX ASSY****OTHERS**

Y8 BOARD IN JUMPER	ADX7284
Y9 BOARD IN JUMPER	ADX7285
Y10 BOARD IN JUMPER	ADX7286
Y11 BOARD IN JUMPER	ADX7287
Y12 BOARD IN JUMPER	ADX7288
J9 JUMPER WIRE 6P	D20PYY0615E

**A 7.1CH I/O ASSY  
SEMICONDUCTORS**

IC1301-IC1304	UPC4570G2-A
Q1351, Q1352, Q1361, Q1362	HN1C03F
Q1371, Q1372, Q1381, Q1382	HN1C03F

**CAPACITORS**

C1301-C1304, C1307, C1308	CCSRCH101J50
C1311-C1314, C1317, C1318	CCSRCH101J50
C1321-C1324, C1327, C1328	CCSRCH101J50
C1331-C1334, C1337, C1338	CCSRCH101J50
C1351, C1352, C1361, C1362	CCSRCH331J50

C1371, C1372, C1381, C1382	CCSRCH331J50
C1309, C1310, C1319, C1320	CEAT100M50
C1329, C1330, C1339, C1340	CEAT100M50
C1305, C1306, C1315, C1316	CEAT4R7M50
C1325, C1326, C1335, C1336	CEAT4R7M50

C1341-C1348, C1391-C1394	CKSRYB103K50
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**RESISTORS**

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

1301-1304 4P PIN JACK	AKB7075
CN1306 5P SOCKET	XKP3073
CN1307, CN1308 9P SOCKET	XKP3075

**B V-AUDIO IN ASSY  
SEMICONDUCTORS**

Q1201, Q1202	2SC2878
--------------	---------

**CAPACITORS**

C1201-C1212	CCSRCH221J50
C1213-C1215	CKSRYB103K50

**RESISTORS**

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

**OTHERS**

1201, 1203 4P PIN JACK	AKB7075
CN1205 6P PIN JACK	AKB7162
CN1204 17P SOCKET	XKP3079

**C FRONT IN ASSY  
COILS AND FILTERS**

L1501-L1504	VTL1077
-------------	---------

**CAPACITORS**

C1507-C1509	CCSRCH101J50
C1501, C1502	CCSRCH221J50
C1505	CKSRYB102K50
C1504, C1506	CKSRYB103K50
C1503	CKSRYB472K50

C1510

CKSRYB473K50

**RESISTORS**

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

**OTHERS**

CN1501 7P FFC CONNECTOR	52044-0745
JA1501 FRONT INPUT	AKX7016
KN1501 EARTH METAL FITTING	VNF1084

**D OPTICAL IN ASSY  
COILS AND FILTERS**

F1701	DTF1064
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**CAPACITORS**

C1706	CEAT470M16
C1701-C1705	CKSRYF104Z16

**RESISTORS**

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

**OTHERS**

CN1701 9P FFC CONNECTOR	52045-0945
JA1701, JA1702 OPTICAL LINK IN	GP1FA502RZ
JA1703, JA1704 OPTICAL LINK OUT	GP1FA502TZ

**E INPUT CONNECT ASSY  
SEMICONDUCTORS**

IC1401	M62429FP
IC1451	UPC4570G2-A
D1401	UDZ55R1(B)

**CAPACITORS**

C1406, C1407	CCSQCH101J50
C1401-C1405, C1451, C1452	CEAT100M50
C1454, C1455	CKSRYB103K50

Mark No.	Description	Part No.
C1453		CKSRYB472K50
<b>RESISTORS</b>		
R1405	Other Resistors	RS3LMF391J RS1/16S###J
<b>OTHERS</b>		
CN1407	5P PLUG	XKP3062
CN1406, CN1408	9P PLUG	XKP3064
CN1405	17P PLUG	XKP3068
CN1402	9P PLUG	XKP3074
CN1404	9P SOCKET	XKP3075
CN1403	13P SOCKET	XKP3077
CN1401	15P SOCKET	XKP3078

## **F** 12V TRIGGER ASSY SEMICONDUCTORS

△ IC1931	BA12T
IC1901	SP232AEN
Q1933	2SA1037K
Q1931	2SB1237X
Q1901	2SC1740S
Q1932	DTC124EK
D1901, D1902	1SS355
D1931	UDZS5R1(B)

### **COILS AND FILTERS**

L1901	LAU1R0J
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### **CAPACITORS**

C1901	CEAT101M16
C1903-C1906	CEAT1R0M50
C1938	CEATR10M50
C1932, C1933	CEHAT100M50
C1902, C1907, C1911, C1921, C1931	CKSRYB103K50
C1934-C1936	CKSRYB103K50
C1909	CKSRYB331K50

### **RESISTORS**

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

CN1901	D-SUB SOCKET	AKP1213
CN1902	KR CONNECTOR	B8B-PH-K
CN1903	4P SOCKET	KP200TA4L
JA1922	REMOTE CONTROL JACK	RKN1004
1901	SCREW TERMAINL	VNE1948

## **G** COAXIAL IN ASSY SEMICONDUCTORS

IC1681	PCM2902EG
IC1881	TC74HCU04AF
IC1682	TC7SET08F

### **COILS AND FILTERS**

F1881	DTF1064
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### **CAPACITORS**

C1688	CCSRCH180J50
C1687	CCSRCH220J50
C1885, C1886	CCSRCH470J50
C1887, C1896	CCSRCH471J50
C1681	CEAT470M16

Mark No.	Description	Part No.
C1890		CEAT470M25
C1680, C1697, C1857, C1858		CKSRYB103K50
C1883, C1884, C1888, C1897		CKSRYB103K50
C1683-C1686, C1689, C1690, C1698		CKSRYB104K16
C1889		CKSRYB105K6R3

### **RESISTORS**

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

X1681 (12.0MHz)	ASS7047	
CN1801	19P FFC CONNECTOR	52045-0945
JA1802	2P PIN JACK	AKB7148
JA1681	USB CONNECTOR	DKN1237
CN1802	20P FFC CCONNECTOR	VKN1196
CN1803	9P SOCKET	XKP3075

## **H** COMPONENT ASSY SEMICONDUCTORS

IC4403	BU4094BCF
IC4405, IC4406	OPA2652U
IC4404	PDC084B
IC4401, IC4402	TC74LVX4053FT
△ Q4406	2SA1576A

### **COILS AND FILTERS**

Q4407-Q4412	2SA1576A
△ Q4405	2SC4081
Q4415	2SC4081
Q4404	DTC124EUA

### **COILS AND FILTERS**

L4401, L4403	LAU100J
L4402	LAU330J

### **CAPACITORS**

C4442 (1000u/10V)	ACH7194
C4420	CCSRCH101J50
C4411	CCSRCH150J50
C4414	CCSRCH180J50
C4416, C4417	CCSRCH240J50

### **COILS AND FILTERS**

C4424, C4432, C4438	CCSRCH470J50
C4458	CEANP100M16
C4444-C4447, C4449, C4451-C4453	CEAT100M50
C4439-C4441, C4443, C4448, C4450	CEAT101M16
C4454, C4455	CEAT101M16

### **COILS AND FILTERS**

C4405, C4406, C4412, C4415	CKSRYB103K50
C4428-C4431, C4433-C4437	CKSRYB103K50
C4418, C4419, C4421, C4423	CKSRYB473K50

### **RESISTORS**

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

X4401 (14.32MHz)	ASS1056	
CN4403	12P FFC CONNECTOR	52045-1245
JA4401-JA4403	3P PIN JACK	VKB1151
CN4402	13P SOCKET	XKP3077
CN4401	19P SOCKET	XKP3080

## **I** VIDEO ASSY SEMICONDUCTORS

IC3205	LA7213
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**Mark No. Description****Part No.**

IC3203	NJM2279M
IC3206, IC3207	NJM2595M
IC3204	NJM2596M
IC3201, IC3202	TC74HC4053AFT
IC3208, IC3209	TK15420M
Q3201-Q3203	2SC4081
Q3204-Q3207	DTC124EUA
D3203	1SS355
D3201, D3202	DAN202K

**CAPACITORS**

C3254, C3268, C3269 (1000u/10V)	ACH7194
C3204, C3216, C3231	CCSRCH101J50
C3211, C3225-C3227, C3238-C3240	CCSRCH181J50
C3242-C3244	CCSRCH181J50
C3234	CCSRCH330J50

C3208	CCSRCH470J50
C3210, C3222, C3224	CEAT100M50
C3245-C3247, C3249-C3251	CEAT101M16
C3255-C3257, C3259-C3263, C3270	CEAT101M16
C3272-C3274, C3282, C3283	CEAT101M16

C3290, C3291	CEAT101M16
C3248, C3258, C3271, C3275	CEAT1R0M50
C3264	CEAT3R3M50
C3229, C3280, C3281, C3288, C3289	CKSRYP103K50
C3201, C3212, C3215, C3220, C3228	CKSRYP104K16

C3230, C3237, C3241	CKSRYP104K16
C3202, C3203, C3205-C3207	CKSRYP473K50
C3213, C3214, C3218, C3219	CKSRYP473K50
C3232, C3233, C3235, C3236	CKSRYP473K50

**RESISTORS**

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

JA3204 CMOB. JACK (S+1P)	AKB7159
JA3201-JA3203 COMB. JACK (2S+2P)	AKB7160
CN3202 CONNECTOR	B10B-PH-K
JA3205 1P PIN JACK	VKB1156
CN3201 11P SOCKET	XKP3076
CN3203 15P SOCKET	XKP3078

**J MAIN CONTROL ASSY  
SEMICONDUCTORS**

IC502, IC503	BU4094BCF
IC202	NJM4558MD
IC501	PEG040B8
IC511	TC74VHC08FT
IC302	TC74VHCT244AFT

IC103	TC9163AF
IC201	TC9164AF
IC104	TC9215AF
IC101	TC9274F-019
IC701-IC704	TC94A07F

IC102, IC105, IC106, IC711-IC714	UPC4570G2-A
Q101, Q102	2SC3326
Q601	2SD1858X
Q104, Q105	2SK208
Q103, Q106, Q251, Q511	DTA124EUA

Q107	DTC124EUA
Q501	DTC143EUA

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

D501, D502, D511, D521-D524	1SS355
D531, D532, D602, D821, D822	1SS355
D831, D832	1SS355
D601	UDZS10(B)

**COILS AND FILTERS**

L501	LCYA2R2J2520
L891-L898, L900-L902	QTL1013

**CAPACITORS**

C125-C127, C151-C153	CCSRCH101J50
C201-C203, C725-C727	CCSRCH101J50
C745-C747, C765-C767	CCSRCH101J50
C785-C787	CCSRCH101J50
C139, C140	CCSRCH470J50

C719, C720, C739, C740	CCSRCH680J50
C759, C760, C779, C780	CCSRCH680J50
C131, C132, C163, C167	CEAT100M50
C172, C173, C621, C622	CEAT100M50
C701, C702, C713, C714	CEAT100M50

C733, C734, C753, C754	CEAT100M50
C773, C774	CEAT100M50
C303, C304, C602	CEAT101M16
C211, C212	CEAT1R0M50
C506, C513	CEAT221M10

C505	CEAT2R2M50
C503	CEAT331M10
C717, C718, C721, C722	CEAT470M25
C737, C738, C741, C742	CEAT470M25
C757, C758, C761, C762	CEAT470M25

C777, C778, C781, C782	CEAT470M25
C133, C134	CEAT470M50
C511	CEAT471M10
C748, C749, C768, C769	CEVW100M16
C788, C789	CEVW100M16

C510	CKSQYF105Z16
C601	CKSQYF225Z16
C901, C903	CKSRYP102K50
C128, C129, C137, C138	CKSRYP103K50
C155-C157, C162, C166, C176	CKSRYP103K50

C178, C204, C205, C213, C214	CKSRYP103K50
C251, C302, C502, C507, C509	CKSRYP103K50
C514, C515, C535, C540, C598	CKSRYP103K50
C711, C712, C723, C724	CKSRYP103K50
C731, C732, C743, C744	CKSRYP103K50

C751, C752, C763, C764	CKSRYP103K50
C771, C772, C783, C784, C891	CKSRYP103K50
C908	CKSRYP103K50
C896, C900, C902	CKSRYP104K16
C512	CKSRYP472K50

C154, C599, C821, C831	CKSRYP473K50
C161, C164, C174, C175	CKSRYP104Z25
C508	PCH1132

**RESISTORS**

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

X501 (15.7MHz)	ASS7032
CN552 10P FFC CONNECTOR	52045-1045
CN601 11P FFC CONNECTOR	52045-1145
CN801 24P FFC CONNECTOR	52045-2445

Mark No.	Description	Part No.
CN501	32P FFC CONNECTOR	52045-3245
CN551	KR CONNECTOR	B8B-PH-K
CN1	3P PLUG	KM250NA3L
J602	CONNECTOR ASSY	PF10PG-B10
JA594	REMOTE CONTROL JACK	RKN1004
JA592, JA593	REMOTE CONTROL JACK	RKN1026
551	PCB BINDER	VEF1040
JA111-JA113	4P PIN JACK	VKB1133
CN301	21P FFC CONNECTOR	VKN1197
JA591	MINI JACK (4P)	XKN3015
CN201	7P PLUG	XKP3063
CN103	9P PLUG	XKP3064
CN102	13P PLUG	XKP3066
CN101	15P PLUG	XKP3067
CN3, CN351	7P SOCKET	XKP3074
CN2	9P SOCKET	XKP3075
CN502	19P SOCKET	XKP3080
CN302	21P SOCKET	XKP3081

## **K** MIC & F.OPT IN ASSY COILS AND FILTERS

L1601	ATL7002
△ L1602, L1603	QTL1013

### CAPACITORS

C1601, C1606	CCSRCH471J50
C1603	CEAL470M16
C1611	CKSRYB102K50
C1602, C1612, C1614	CKSRYB103K50

### RESISTORS

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

CN1601	4P FFC CONNECTOR	52044-0445
J1601	CORD WITH PLUG	ADX7417
JA1601	OPTICAL LINK IN	GP1FA502RZ
JA1606	REMOTE CONTROL JACK	RKN1004
CN1602	KR CONNECTOR	S3B-PH-K

## **L** MIC AMP ASSY SEMICONDUCTORS

△ IC4751	NJM78L05A
IC4752	UPC4570G2-A
D4751, D4752	UDZS5R1(B)

### CAPACITORS

C4753	CCSRCH101J50
C4754	CCSRCH330J50
C4751, C4752, C4755-C4757	CEAT100M50
C4758, C4762-C4765	CKSRYB473K50

### RESISTORS

R4756	RD1/4MUF471J
Other Resistors	RS1/16S###J

### OTHERS

CN4752	4P JUMPER CONNECTOR	52147-0410
CN4751	KR CONNECTOR	B3B-PH-K
KN4751	EARTH METAL FITTING	VNF1084

Mark No.	Description	Part No.
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## **M** DSP CONNECTION ASSY SEMICONDUCTORS

IC1651, IC1653	TC74LVX244FT
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### COILS AND FILTERS

L1651, L1652	QTL1013
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### CAPACITORS

C1651	CKSRYB103K50
C1653	CKSRYB104K16

### RESISTORS

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

CN1651	B TO B CONNECTOR 50P	AKP7177
CN1652-CN1654	17P SOCKET	XKP3079

## **N** POWER AMP IN ASSY SEMICONDUCTORS

Q4001	2SC2412K
D4001	1SS355

### CAPACITORS

C4002	CKSRYB104K16
C4001	CKSRYB223K50

### RESISTORS

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

4001	10P CABLE HOLDER	51048-1000
CN4001	24P FFC CONNECTOR	52044-2445
J12		D20PYY1010E
CN4004	JUMPER WIRE 9P	S3B-EH
CN4003	17P PLUG	XKP3068
CN4002	19P PLUG	XKP3069

## **O** FAN CONNECTION ASSY SEMICONDUCTORS

△ IC4701, IC4702	AEK7023
PROTECTOR(200mA)	

### OTHERS

4701	9P CABLE HOLDER	51048-0900
CN4701	6P JUMPER CONNECTOR	52147-0610
CN4702	3P TOP POST	B3B-EH
J4701	JUMPER WIRE 9P	D20PYY0915E

## **P** FAN DRIVE ASSY SEMICONDUCTORS

Q4056	2SA1037K
Q4051	2SC4793D1
Q4052	DTA124EK
Q4055	DTC114EK
Q4053	DTC124EK

△ D4051, D4052	1SR154-400
D4059	1SS355
D4055	UDZS12(B)
D4053	UDZS27(B)

**Mark No. Description**

D4057

**Part No.**

UDZS5R1(B)

**Mark No. Description**C345, C346, C402, C404-C408  
C410-C418, C420-C422  
C424-C426, C471  
C603-C606  
C111, C112, C502, C522, C542**Part No.**CCSRCH471J50  
CCSRCH471J50  
CCSRCH471J50  
CCSRCH820J50  
CEVW100M16**CAPACITORS**C4054  
C4052  
C4055, C4056  
C4051  
C4053CEAT101M16  
CEAT1R0M50  
CEAT331M63  
CEAT471M35  
CKSRYB103K50C562, C607, C608, C627, C628  
C647, C648, C667, C668  
C681, C682  
C104, C105, C551, C907, C909  
C106CEVW100M16  
CEVW100M16  
CEVW100M16  
CEVW101M16  
CEVW2R2M50**RESISTORS**

Other Resistors


RS1/16S###J

**OTHERS**CN4051 9P JUMPER CONNECTOR 52147-0910  
CN4054 10P JUMPER CONNECTOR 52147-1010C901, C902  
C210, C341, C401  
C212, C614, C618, C624, C626  
C683-C685, C689, C693, C695  
C927CEVW330M25  
CEVW470M6R3  
CKSRYB102K50  
CKSRYB102K50  
CKSRYB102K50C337, C343, C349, C429, C503  
C619, C620, C677, C678, C701  
C711-C716, C747, C921, C922  
C941  
C101-C103, C205, C207, C208CKSRYB103K50  
CKSRYB103K50  
CKSRYB103K50  
CKSRYB103K50  
CKSRYB104K16C211, C305, C307, C310, C311  
C313, C315, C324, C331, C334  
C352, C409, C419, C423, C427  
C451, C452, C501, C521, C541  
C561, C591, C630, C705, C706CKSRYB104K16  
CKSRYB104K16  
CKSRYB104K16  
CKSRYB104K16  
CKSRYB104K16C906, C908  
C303, C338, C348, C403, C599  
C702  
C109, C110, C622  
C601, C602, C609, C610CKSRYB104K16  
CKSRYB105K6R3  
CKSRYB105K6R3  
CKSRYB222K50  
CKSRYB332K50C621, C641, C642, C661, C662  
C629, C649, C650, C669, C670  
C971  
C926  
C203CKSRYB392K50  
CKSRYB472K50  
CKSRYB472K50  
CKSRYB473K16  
CKSRYB474K10C323, C428  
C107, C611-C613, C615  
C671, C672, C694, C696-C698CKSRYB563K16  
CKSRYF104Z25  
CKSRYF104Z25**RESISTORS**R851  
R204, R225, R226, R229, R701  
R712  
R221  
Other ResistorsRAB4C101J  
RAB4C104J  
RAB4C104J  
RS1/16S1802F  
RS1/16S###J**OTHERS**CN102 B TO B CONNECTOR 50P  
X201 (24MHz)  
X301 (33MHz)  
CN702 10P FFC CONNECTOR  
CN101 20P FFC CONNECTORAKP7176  
ASS7025  
ASS7040  
VKN1414  
VKN1424CN601 21P FFC CONNECTOR  
CN701 22P FFC CONNECTOR  
KN931 EARTH METAL FITTINGVKN1425  
VKN1426  
VNF1109**R1394 ASSY  
SEMICONDUCTORS**IC302  
△IC1K4S641632H-TC75  
NJM2391DL1-33**COILS AND FILTERS**L301-L304, L401, L402, L451  
L471, L904, L906, L907  
L101-L104, L201-L203  
L305, L306, L501, L503, L511  
L521, L531, L541, L551, L561ATL7002  
ATL7002  
QTL1013  
QTL1013  
QTL1013

L571, L701, L705, L706

QTL1013

**CAPACITORS**C339, C340  
C202  
C623, C625, C643-C646  
C663-C666  
C201CCSRCH100D50  
CCSRCH150J50  
CCSRCH151J50  
CCSRCH151J50  
CCSRCH220J50C204, C206, C209, C301, C302  
C304, C306, C308, C309, C312  
C314, C316, C318, C319  
C321, C322, C325, C326  
C329, C330, C332, C333, C335CCSRCH471J50  
CCSRCH471J50  
CCSRCH471J50  
CCSRCH471J50  
CCSRCH471J50

5		6		7		8	
Mark No.	Description	Part No.		Mark No.	Description	Part No.	
IC303		NJU7093AF		CN101	7P CONNECTOR	RKN1048	
IC101		PD5787A		CN402	10P CONNECTOR	VKN1414	
IC301		PD8112A					
IC103		PST9245		CN401	22P CONNECTOR	VKN1426	A
⚠ IC410		S-L2980A25MC-C6K		JA201, JA202	1394 TERMINAL	VKN1800	
IC401		SM5819AF		<div style="text-align: center;">  </div>			
IC405		TC74VHC541FT					
IC104		TC74VHCT125AFT					
IC205		TC7SH08FU					
IC404		TC7SZ125FU					
IC409		TC7SZ126FU					
IC201		TSB43CA42ZGW					
Q101, Q301		DTA124EUA					
Q401		DTA143EUA					
D102		RB501V-40					
<b>COILS AND FILTERS</b>							
⚠ L204-L207		ATH7015		IC3000		PEG041A	
L1, L101, L201-L203		ATL7002		IC3002		RPM7140-H4	
L301, L302, L401, L403-L405		ATL7002		IC3001		TC7W53FU	
<b>CAPACITORS</b>				Q3003		2SA1037K	
C329 (10u/6.3V)		ACG7046		Q3001, Q3002		DTC124EK	
C2, C401, C428 (220u/6.3V)		ACH7195		Q3000		FMA1A	B
C242, C243		CCSRCH221J50		Q3004		HN1C01FU	
C402		CCSRCH471J50		D3002-D3008		1SS355	
C103, C206, C217, C232, C304		CEVW101M16		D3001		BR5064X	
				D3009		DAN202K	
C321, C419		CEVW101M16		D3011		NSPB510-2283	
C113, C211, C213, C215, C216		CKSRYB102K50		D3000		SLI-343DUW(STU)	
C310, C324		CKSRYB102K50		D3010		UDZS6R2(B)	
C101, C111		CKSRYB103K50		<b>COILS AND FILTERS</b>			
C1, C102, C104-C110		CKSRYB104K16		L3000		ATL7002	
C201-C205, C207, C209, C210		CKSRYB104K16		<b>SWITCHES AND RELAYS</b>			
C212, C214, C218-C226, C235		CKSRYB104K16		S3000-S3017		VSG1024	
C241, C246-C249, C301-C303		CKSRYB104K16		<b>CAPACITORS</b>			
C305, C309, C311, C315-C320		CKSRYB104K16		C3003, C3004, C3007, C3024, C3025		CCSRCH101J50	
C322, C323, C325, C327, C333		CKSRYB104K16		C3020, C3021, C3026, C3027		CEJQ100M16	
C404, C405, C408-C412		CKSRYB104K16		C3028, C3029		CEJQ101M10	
C415, C416, C420, C424, C427		CKSRYB104K16		C3008, C3012, C3035		CEJQ101M6R3	
C244, C245, C326		CKSRYB105K6R3		C3022, C3023		CEJQ330M25	
C330		CKSRYB472K50		C3000-C3002		CKSRYB102K50	
C328		CKSRYB474K10		C3009, C3011, C3032-C3034		CKSRYB103K50	
<b>RESISTORS</b>				C3036, C3037		CKSRYB103K50	D
R119, R127-R130, R205		RAB4C101J		C3006, C3031		CKSRYB104K16	
R230-R233, R245, R246, R445		RAB4C101J		C3010		CKSRYB153K50	
R122		RAB4C103J		C3030		CKSRYF104Z50	
R407		RAB4C221J		<b>RESISTORS</b>			
R308, R339, R340, R343-R347		RAB4C470J		Other Resistors		RS1/16S###J	
R350		RAB4C470J		<b>OTHERS</b>			
R135-R138, R206, R216		RAB4C472J		X3000 (4.19MHz)		ASS7042	
R220, R221, R223, R234		RAB4C472J		3008	4P CABLE HOLDER	51048-0400	
R238-R240		RAB4C472J		3002	5P CABLE HOLDER	51048-0500	
R302, R402		RAB4C680J		3003	7P CABLE HOLDER	51048-0700	E
R275, R276		RS1/16S5101F		CN3007	3P FFC CONNECTOR	52045-0345	
R267-R274		RS1/16S56R0D		CN3004	4P FFC CONNECTOR	52045-0445	
R213		RS1/16S6341D		CN3005	7P FFC CONNECTOR	52045-0745	
Other Resistors		RS1/16S###J		CN3001	11P FFC CONNECTOR	52045-1145	
<b>OTHERS</b>				CN3006	32P FFC CONNECTOR	52045-3245	
X101 (6.14MHz)		VSS1179		V3000	FL TUBE	AAV7087	
X302 (22.5792MHz)		ASS7054		J3008	JUMPER WIRE 4P	D20PYY0415E	
X201 (24.5760MHz)		ASS7055		J3002	JUMPER WIRE 5P	D20PYY0510E	
				J3003	JUMPER WIRE 7P	D20PYY0715E	
				3001	FL HOLDER	VNF1085	F

**Mark No. Description****Part No.****Mark No. Description****Part No.****T VOLUME ASSY  
SWITCHES AND RELAYS**

A S3401 ASX7037  
S3402-S3404 VSG1024

**CAPACITORS**

C3401, C3402 CKSRYB103K50

**RESISTORS**

Other Resistors RS1/16S###J

**OTHERS**

CN3401 5P JUMPER CONNECTOR 52147-0510

B

**U MULTI JOG ASSY  
SWITCHES AND RELAYS**

S3451 ASX7038  
S3452-S3455 VSG1024

**CAPACITORS**

C3451, C3452 CKSRYB103K50

**RESISTORS**

Other Resistors RS1/16S###J

C

**OTHERS**

CN3451 7P JUMPER CONNECTOR 52147-0710

**V HEADPHONE ASSY****CAPACITORS**

C1951, C1952 CKSRYB392K50

**RESISTORS**

Other Resistors RS1/16S###J

D

**OTHERS**

CN1951 3P FFC CONNECTOR 52045-0345  
1951 PHONE JACK AKN7029  
KN1951 EARTH METAL FITTING VNF1084

**W POWER AMP-L ASSY  
SEMICONDUCTORS**

E  $\Delta$  IC4101, IC4201, IC4301 PA9009A  
 $\Delta$  IC4102, IC4202, IC4302 PBD001A  
 $\Delta$  IC4103, IC4203, IC4303, IC4453 PBD002A  
Q4102, Q4202, Q4302 2SA1255  
Q4101, Q4201, Q4301 2SC3326

D4102, D4104-D4107, D4202 1SS355  
D4204-D4207, D4302, D4304-D4307 1SS355  
D4101, D4103, D4201, D4203, D4301 UDZS10(B)  
D4303 UDZS10(B)

**CAPACITORS**

C4106, C4107, C4206, C4207 ACG7041  
C4306, C4307 (220u/100V) ACG7041  
C4102, C4202, C4302 CCSRCH331J50  
C4112, C4113, C4212, C4213 CCSRCH6R0D50  
C4312, C4313 CCSRCH6R0D50

F

C4114, C4214, C4314 CEANP1R0M50  
C4401, C4402 CEAT331M63

C4110, C4111, C4210, C4211 CEHAT100M2A  
C4310, C4311 CEHAT100M2A  
C4101, C4201, C4301 CEHAT100M50

C4103, C4203, C4303 CEHAT331M10  
C4104, C4105, C4204, C4205 CEHAT470M63  
C4304, C4305 CEHAT470M63  
C4108, C4109, C4208, C4209 CEHAZL470M25  
C4308, C4309 CEHAZL470M25

**RESISTORS**

$\Delta$  R4131, R4132, R4231, R4232 ACN7107  
 $\Delta$  R4331, R4332, R4482 (0.1) ACN7107  
 $\Delta$  R4119, R4219, R4319 (0.22/5W) ACN7121  
R4112, R4212, R4312 RN1/10SE3302D  
Other Resistors RS1/16S###J

**OTHERS**

Y2 LEAD WITH HOUSING ADX7398  
Y3 LEAD WITH HOUSING ADX7399  
Y5 LEAD WITH HOUSING ADX7404  
CN4403 3P TOP POST B3B-EH  
CN4456 10P PLUG KM250NA10L

KN4401, KN4402 VNF1084  
ERATH METAL FITTING  
CN4401 17P SOCKET XKP3079

**X POWER AMP-R ASSY  
SEMICONDUCTORS**

$\Delta$  IC4151, IC4251, IC4351 PA9009A  
 $\Delta$  IC4152, IC4252, IC4352, IC4452 PBD001A  
 $\Delta$  IC4153, IC4253, IC4353 PBD002A  
Q4152, Q4252, Q4352 2SA1255  
Q4403, Q4404 2SC2412K  
Q4151, Q4251, Q4351 2SC3326  
D4152, D4154-D4157, D4252 1SS355  
D4254-D4257, D4352, D4354-D4357 1SS355  
D4151, D4153, D4251, D4253, D4351 UDZS10(B)  
D4353 UDZS10(B)

**CAPACITORS**

C4156, C4157, C4256, C4257 ACG7041  
C4356, C4357 (220u/100V) ACG7041  
C4152, C4252, C4352 CCSRCH331J50  
C4162, C4163, C4262, C4263 CCSRCH6R0D50  
C4362, C4363 CCSRCH6R0D50

C4164, C4264, C4364 CEANP1R0M50  
C4405 CEAT331M10  
C4403, C4404 CEAT331M63  
C4160, C4161, C4260, C4261 CEHAT100M2A  
C4360, C4361 CEHAT100M2A

C4151, C4251, C4351 CEHAT100M50  
C4153, C4253, C4353 CEHAT331M10  
C4154, C4155, C4254, C4255 CEHAT470M63  
C4354, C4355 CEHAT470M63  
C4158, C4159, C4258, C4259 CEHAZL470M25

C4358, C4359 CEHAZL470M25

**RESISTORS**

$\Delta$  R4181, R4182, R4281, R4282 ACN7107  
 $\Delta$  R4381, R4382, R4481 (0.1) ACN7107  
 $\Delta$  R4169, R4269, R4369 (0.22/5W) ACN7121  
R4162, R4262, R4362 RN1/10SE3302D  
Other Resistors RS1/16S###J



5	6	
Mark No.	Description	Part No.
<b>OTHERS</b>		
Y1	LEAD WITH HOUSING	ADX7397
Y4	LEAD WITH HOUSING	ADX7400
Y6	LEAD WITH HOUSING	ADX7404
CN4454		KM250NA10L
KN4403, KN4404		VNF1084
EARTH METAL FITTING		
CN4402	19P SOCKET	XKP3080

## **Y** POWER AMP-C ASSY SEMICONDUCTORS

△ IC4451	PA9009A
Q4452	2SA1255
Q4451	2SC3326
D4452, D4454-D4457	1SS355
D4451, D4453	UDZS10(B)

### **CAPACITORS**

C4456, C4457 (220u/100V)	ACG7041
C4452	CCSRCH331J50
C4462, C4463	CCSRCH6R0D50
C4464	CEANP1R0M50
C4460, C4461	CEHAT100M2A
C4451	CEHAT100M50
C4453	CEHAT331M10
C4454, C4455	CEHAT470M63
C4458, C4459	CEHAZL470M25

### **RESISTORS**

△ R4469 (0.22/5W)	ACN7121
R4462	RN1/10SE3302D
Other Resistors	RS1/16S###J

### **OTHERS**

CN4453, CN4455	10P SOCKET	KP250NA10
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## **Z** REGULATOR ASSY SEMICONDUCTORS

△ IC2411	AEK7003
△ IC2409	NJM78L05A
IC2410	NJM78L05A
△ IC2404, IC2405	NJM78M05FA
△ IC2403	NJM78M12FA

△ IC2401	NJM78M15FA
△ IC2407	NJM78M56FA
△ IC2406	NJM79M05FA
△ IC2402	NJM79M15FA
△ Q2401	2SA1803

Q2402	2SA1803
△ D2401-D2404, D2407-D2410	1SR154-400
△ D2418, D2419	1SR154-400
△ D2415	D3SBA20(B)
D2405, D2406, D2413, D2414	RB501V-40

D2420	UDZS10(B)
D2421, D2422	UDZS15(B)
D2423, D2424	UDZS6R2(B)

### **CAPACITORS**

C2401, C2402 (3300u/35V)	ACH7191
C2433 (4700u/16V)	ACH7192

7	8	
Mark No.	Description	Part No.
C2446		CCSRCH101J50
C2440		CEANP470M35
C2415, C2416		CEAT101M16
C2408		CEAT101M25
C2405, C2406, C2410, C2429		CEAT221M35
C2411, C2412		CEAT222M16
C2435, C2438		CEAT2R2M50
C2443		CEAT331M10

C2442		CEAT470M50
C2441		CEAT470M63
C2436, C2439		CEAT471M16
C2451, C2452		CKSRYB102K50
C2403, C2404, C2407, C2409		CKSRYB103K50

C2413, C2414, C2428, C2434, C2437		CKSRYB103K50
C2453, C2499		CKSRYB103K50
C2424		CKSRYB473K50
C2444		CQMBA104J50

### **RESISTORS**

R2403	RD1/4MUF121J
R2401, R2402	RD1/4MUF470J
R2499	RS3LMF101J
R2496	RS3LMF470J
Other Resistors	RS1/16S###J

### **OTHERS**

2402	7P CABLE HOLDER	51048-0700
CN2401	8P JUMPER CONNECTOR	52147-0810
Y2401	BOARD IN JUMPER	ADX7420
CN2403	4P PLUG	KM200TA4
CN2415	3P SOCKET	KP250NA3

KN2401-KN2403		VNF1084
EARTH METAL FITTING		
CN2411, CN2412	7P PLUG	XKP3063
CN2406, CN2414	9P PLUG	XKP3064
CN2405	11P PLUG	XKP3065

CN2407-CN2409	17P PLUG	XKP3068
CN2404, CN2413	19P PLUG	XKP3069
CN2410	21P PLUG	XKP3070

## **AA** SP/PS ASSY SEMICONDUCTORS

Q4602, Q4603	RN1903
Q4601	RN4903
D4601-D4610	1SS355

### **COILS AND FILTERS**

L4601-L4607	AF CHOKE COIL	ATH1053
L4608, L4609	NOISE FILTER	RTF1167

### **SWITCHES AND RELAYS**

RY4601-RY4605	ASR7014
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### **CAPACITORS**

△ C4621, C4622	ACH7217
C4623	CEAT101M50
C4601-C4614	CFTNA224J50
C4625-C4631	CQMBA103J50

### **RESISTORS**

△ R4621-R4627	RD1/2LMF4R7J
R4628-R4632	RD1/2VM331J
R4615, R4616	RD1/4MUF473J

**Mark No. Description Part No.**

△ R4601-R4607 RS1LMF4R7J  
 △ R4611, R4612 RS2LMF331J

A Other Resistors RS1/16S###J

**OTHERS**

4601 6P CABLE HOLDER 51048-0600  
 4602 8P CABLE HOLDER 51048-0800  
 Y13 BOARD IN JUMPER ADX7291  
 CN4611 8P SPEAKER TERMINAL AKE7099  
 CN4612 6P SPEAKER TERMINAL AKE7100

J4602 JUMPER WIRE 8P D20PYY0830E  
 CN4610, CN4613 5P PLUG KM200TA5

B

**AB DIODE ASSY SEMICONDUCTORS**

△ D2241, D2242 LN6SB60-4003

**AC TRANS 2-1 ASSY SEMICONDUCTORS**

△ IC2201, IC2202 PROTECTOR(3.15A) AKE7016  
 Q2201 DTC143EUA  
 Q2202 RN4903  
 △ D2201 S1WB(A)60SD  
 D2202 UDZS16(B)

C

D2207, D2208 UDZS22(B)  
 D2203-D2206, D2209-D2212 UDZS9R1(B)

**CAPACITORS**

△ C2202, C2203 81u/100V) ACH1237  
 C2207, C2208 (470u/71V) ACH7193  
 C2209, C2210 CEAT101M63  
 C2211, C2212 CEAT221M63

**RESISTORS**

△ R2205, R2206 RS1LMF332J  
 Other Resistors RS1/16S###J

**OTHERS**

2201, 2202 6P CABLE HOLDER 51048-0600  
 2203 6P CABLE HOLDER 51052-0600  
 H2201-H2204 FUSE CLIP AKR1004  
 J2201 JUMPER WIRE 6P D20PYY0615E  
 J10 JUMPER EIRE D25PYY0607E

E

**AD VH TR ASSY SEMICONDUCTORS**

△ Q2232 2SA1837D1  
 △ Q2231 2SC4793D1  
 △ D2231, D2232 1SR154-400

**RESISTORS**

Other Resistors RS1/16S###J

**OTHERS**

CN2231 6P LTYPE CONNECTOR KPD6L

F

**AE TRANS2-2 ASSY SEMICONDUCTORS**

△ IC2251, IC2252 PROTECTOR(3.15A) AKE7016

**Mark No. Description Part No.**

△ IC2253 PROTECTOR(5A) AEK7019

**CAPACITORS**

C2251-C2253 CQ MBA104J50

**RESISTORS**

△ R2251, R2252 RD1/4MUF100J

**OTHERS**

2251 7P CABLE HOLDER 51048-0700

**AF TRANS 1 ASSY**

TRANS1 ASSY has no service parts.

**AG PRIMARY ASSY SEMICONDUCTORS**

△ IC2001 NJM78M56FA  
 Q2001 KRC101M  
 D2002, D2004, D2005 1SS355  
 △ D2001 S1WB(A)60SD  
 D2003 UDZS5R1(B)

**COILS AND FILTERS**

L2002, L2003 FERRITE BEAD VTH1013  
 △ L2001 LINE FILTER XTF3004

**TRANSFORMERS**

△ T2001 ATT7043

**SWITCHES AND RELAYS**

△ RY2001 ASR7025

**CAPACITORS**

△ C2001, C2002 (0.01u/275V) ACE7013  
 △ C2003 (10000pF/250V) ACG7033  
 C2008 CEAT102M25  
 C2009 CEAT221M25  
 C2005-C2007, C2011, C2012 CKSRYB103K50

C2004

CQMA103J50

**RESISTORS**

△ R2001 (2.2M/1/2W) RCN1080  
 R2002 RD1/2VM101J  
 Other Resistors RS1/16S###J

**OTHERS**

CN2002 11P FFC CONNECTOR 52045-1145  
 △ 2007 AC INLET ASSY ADX7464  
 △ 2004 1P AC OUTLET AKP1033  
 H2001, H2002 FUSE CLIP AKR7001  
 CN2003, CN2004 5P SOCKET KP200TA5L

△ 2003 SCREW TERMINAL VNE1948  
 KN2001 EARTH METAL FITTING VNF1084

**AH VIDEO CONVERT ASSY SEMICONDUCTORS**

IC3505 BU4094BCF  
 IC3501 MM1093NF  
 △ IC3507 NJM78L09A  
 IC3514 TA1270BF  
 IC3504 TC74HC4053AFT

IC3502, IC3503 TC74LVX4053FT

Mark No.	Description	Part No.
IC3508		TC90A49F
IC3509-IC3513		TK15420M
Q3501, Q3502		2SA1576A
⚠ Q3507		2SA1576A
⚠ Q3503		2SC4081
Q3504-Q3506		2SC4081

## 6. ADJUSTMENT

There is no information to be shown in this chapter.

### COILS AND FILTERS

L3507	ATL7002
L3502, L3503, L3505, L3506	LAU100J
L3501	LAU1R0J
L3504	LAU330J

### CAPACITORS

C3515, C3522, C3537	CCSRCH100D50
C3519	CCSRCH101J50
C3578, C3579	CCSRCH120J50
C3517	CCSRCH181J50
C3552	CCSRCH390J50
C3507	CCSRCH391J50
C3542	CCSRCH560J50
C3510	CCSRCH6R0D50
C3615, C3616, C3620, C3625-C3627	CEVW100M16
C3613, C3617-C3619, C3621	CEVW101M16
C3623, C3624, C3628-C3634, C3639	CEVW101M16
C3641-C3644	CEVW101M16
C3609	CEVW1R0M50
C3638, C3640	CEVW2R2M50
C3611, C3614	CEVW470M16
C3610, C3612, C3622	CEVW4R7M35
C3509	CKSRYB102K50
C3504-C3506, C3508, C3511, C3513	CKSRYB103K50
C3516, C3523-C3527, C3530, C3531	CKSRYB103K50
C3533-C3536, C3538, C3539, C3541	CKSRYB103K50
C3550, C3551, C3559, C3563	CKSRYB103K50
C3568, C3569, C3571-C3575, C3588	CKSRYB103K50
C3590, C3591, C3595-C3597	CKSRYB103K50
C3501-C3503, C3521, C3553-C3558	CKSRYB104K16
C3589, C3594	CKSRYB104K16
C3545-C3547	CKSRYB105K6R3
C3514	CKSRYB122K50
C3576	CKSRYB222K50
C3587	CKSRYB223K50
C3577	CKSRYB224K10
C3540	CKSRYB474K10
C3512	CKSRYB561K50

### RESISTORS

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

X3501, X3503 (3.579545MHz)	ASS1091
X3502 (4.4336319MHz)	ASS1092
X3504 (503kHz)	ASS7036
3501, 3502 SCREW PLATE	VNE1948
CN3501 13P PLUG	XKP3066
CN3502 15P PLUG	XKP3067

### FM/AM TUNER UNIT

FM/AM TUNER UNIT has no service parts.

# 7. GENERAL INFORMATION

## 7.1 DIAGNOSIS

### 7.1.1 PROTECTION CIRCUIT CONTROL SPECIFICATION

#### Microcomputer-related ports

FAN\_DRIVE (Expansion IC) : For Fan on/off

TEMP\_IN (pin 94)

Input port (A/D) : To detect temperature

FAN\_STOP (pin 95)

Input port : To detect Fan forced stop

OL\_DET (pin 73)

Input port : To detect overloading at the amplifier  
(Interrupt port)

DC\_DET (pin 63)

Input port : For DC detection

12V\_DET (pin 2)

Input port : To detect 12V trigger

The following control processes are activated immediately before the relay system is turned on upon power-on. The time is 4.8 seconds after power-on. (Control of the relay system is enabled 5.2 seconds after power-on.)

Only DC detection is enabled 2 seconds after power-on to activate it before other protection functions.

#### ① Fan control

##### 1) Fan control

TEMPIN	Temperature (°C)	Fan	Remarks
More than 219	More than 125	ON	Mute ON & speaker relay OFF : The warning indication "OVERHEAT" Leading hold
204 to 218	110 to 125	ON	
156 to 203	80 to 110	ON	Mute OFF & speaker relay ON : Normal mode
134 to 155	70 to 80	Leading hold	
Less than 133	Less than 70	OFF	

##### 2) Fan detection

If the fan is forcibly stopped, the FAN\_DET port becomes "L".

Detecting "L" the microcomputer performs the following operations:

1. System muting on
2. Protection relays off

The warning indication "FAN STOP" appears (flashing) on the FL display.

If this status continues for more than 3 seconds, the power is turned off (for Standby mode).

If the port becomes "H" within 3 seconds, the unit resets automatically.

FAN\_DET port performs the chattering check for 1 msec.

In addition, there is the case that detection delays for maximum 20 msec because performs monitor of FAN\_DET port with a main loop.

##### 3) Thermistor open detection

If a total (total of 50 times) of A/D value (TEMPIN) for one second is less than 250, the indication "THDCT NG" flashes.

If this status continues for 3 seconds, the power becomes the standby mode.

#### ② Overload detection (abnormality detection)

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

Detecting "L" edge interrupt in an interrupt process, the microcomputer performs the following operations:

1. System muting on
2. Speaker relay off (Control with the display microcomputer)
3. Power off (Standby mode)

#### ③ DC detection (defect detection)

Only DC detection is 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".

Detecting "L" the microcomputer performs the following operations:

1. System muting on
2. Speaker relay off (Control with the display microcomputer)

The warning indication "AMP ERR" appears on the FL display.

If this status continues for more than 3 seconds, the power is turned off (for Standby mode) and flashes the standby LED.

Do not accept the key input afterward.

(Flash it always till turns the primary side off.)

If the port becomes "L" within 3 seconds, the unit resets automatically.

DC\_DET port performs the chattering check for 1 msec.

In addition, there is the case that detection delays for maximum 20 msec because performs monitor of DC\_DET port with a main loop.

Even if turns the primary side off and turns on once again, standby LED flashes as it is.

If detects DC once and turned the power off, do not accept the key input afterward.

However, power on is possible when the following key was pressed to be able to key input in the protection line and service.

1. Test mode (remote control code : A55F)
2. When the STEREO/DIRECT key and STREAM DIRECT key are both held pressed for 2 seconds.

(It is effective only when turned the power off with DC detection regarding step 2.)

#### ④ Diagnostic mode

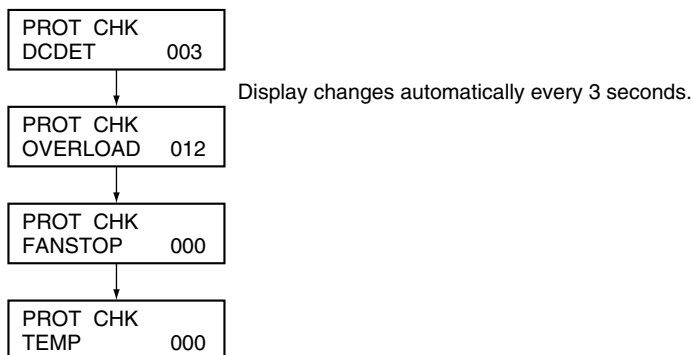
This mode is only for servicing and checking the circuit design, and not open to users.

When the STEREO/DIRECT key and TONE + key are both held pressed for 2 seconds in Standby mode, the power is turned on, and the number of times of each defect or Speaker relay off by abnormality detection is sequentially displayed on the FL display.

Displayed items:

- DC detection
- Overload detection
- Fan detection
- Temperature detection

Hold the STEREO/DIRECT key and TONE + key pressed for 2 seconds in Standby mode.



When the MULTI CH IN key and TONE – key are both held pressed for 2 seconds in standby mode, all clear the counter for detection.

#### ● Protection Process List

Item	Purpose	Detection Method	Process	Warning Indication	Remarks
DC detection	To detect amplifier damage (defect status) A process to protect speakers (for protection of connected external devices)	Detects when the DC_DET port becomes "L".	Turns muting on and speaker relay off, then turns off the power after 3 seconds.	Flashing "AMP ERR" for 3 seconds. Flash the standby LED after the power off.	Once detected and turned the power off, input a key never again.
AMP overload	To detect overloading (abnormal status) With low-load driving or a short circuit of the speaker terminals (for protection of the amplifier)	Detects when the AMP_OL port becomes "L" (checks by interrupt).	Turns muting on and speaker relay off, and immediately turns off the power.	None	
Fan control	Protection function against a temperature rise at the heat sink	Detect temperature more than 100°C.	Turns muting on and speaker relay off. Rotate the fan	Continue flashing with "OVERHEAT"	
		Detect temperature of 90 to 100°C.	Rotate the fan		Mute, relay and warning indications is leading hold.
		Detect temperature of 74 to 90°C.	Rotate the fan		Mute off & relay on (normal mode)
		Detect temperature of 69 to 74°C.	Fan is leading hold		
		A condition except the above.	Stop the fan		
Fan stop	To know that the rotating fan is forcibly stopped	Detects when the FAN_DET port becomes "L".	Turns muting on and speaker relay off, then turns off the power after 3 seconds.	Flashing "FAN STOP" for 3 seconds	If the FAN_DET port becomes "H" within 3 seconds, the unit resets automatically. After the power off, the key input is possible once again.
12V trigger	To detect the shortcircuit of 12V trigger circuit	Detects when the 12V_DET port becomes "H".	Turns 12V_TRG port to "L", then turns off the 12V output.	Flashing "12V TRI ERR"	Only a fan that is assigned 12V TRIG is valid. Release the FL indication with the power on/off.

## 7.1.2 DIAGNOSTICS OF AMPLIFIER SECTION

When DC detection worked (STBY IND. flashes for a long time) in the protection circuit of foregoing section (or there is not the speaker output, probably only 1CH), failure (damage) of the power amplifier section is considered.

Because this receiver cannot diagnose the amplifier section by an electricity state by structure, please diagnose it in the following steps.

### Caution:

When release the STBY (flashes) state before repair, Because there is the case that the damage progresses when turns the power on once again, please be careful.

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

1. Are not Fuse and IC protector opening it?
- 2-a. When can turn on electricity, confirm that supply voltage of the point that can measure is appropriate.
- 2-b. Furthermore, confirm that voltage ((in a no signal) DC and the appropriate signal output) between GND and R4621-4627 (Either of the amplifier side and the speaker terminal side is possible) (Or remove either of CN4601-4604). And limit failure CH.

If was able to limit failure CH, diagnose the CH in the following steps.

• **Use the tester basically and check that each part is not damaged (resistance value / open / short circuit).**

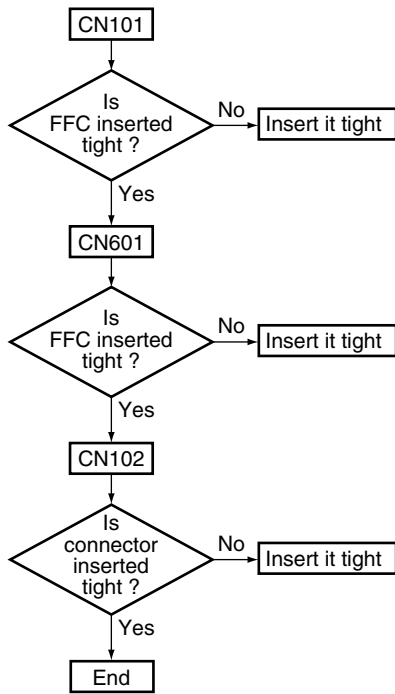
About parts with damaged possibility, explain FL ch to an example in order.

1. R4131, 4132 (ACN7107: 0.1  $\Omega$ , 1W chip drain resistor)  
IC 4102, 4103  
(PBD001A: Nch, PBD002A: Pch output POWER MOS Tr.)
2. R4119 (ACN7111: 0.22  $\Omega$  .5W  $\times$ 2 cement source resistor)  
R4117, 4118  
(RS1/16S471J: 470  $\Omega$  chip resistor for protection circuit)  
D4101, 4103  
(UDZS10B: 10V Zener diode for current limiting)  
D4102, 4104 (1SS355: Small signal diodes same as above)  
R4110, 4111 (RS1/16S560J: 56  $\Omega$  chip gate resistor)  
R4106, 4107  
(RS1/16S101J: 100  $\Omega$  chip IC4101 power filter resistor)
3. IC4101 (PA9009A: Power amplifier with output current bias Voltage step HIC)  
IC4701, 4702  
(AEK7023: 200mA IC protector /FAN CONNECTION Assy)
4. Q2231, 2232 (2SC4793, 2SA1837 TO-220 Tr. /VH TR Assy)

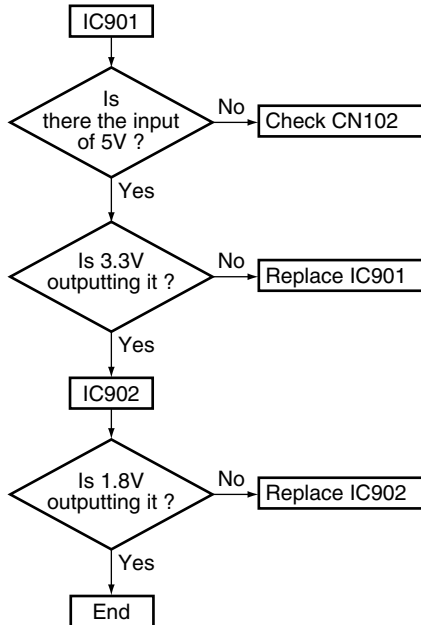
### 7.1.3 TROUBLE SHOOTING

- When a sound is not out in the surround mode with the digital signal input.
- Suppose CR to be poor contact and that is not damaged.
- This shows failure analysis of DSP Assy.

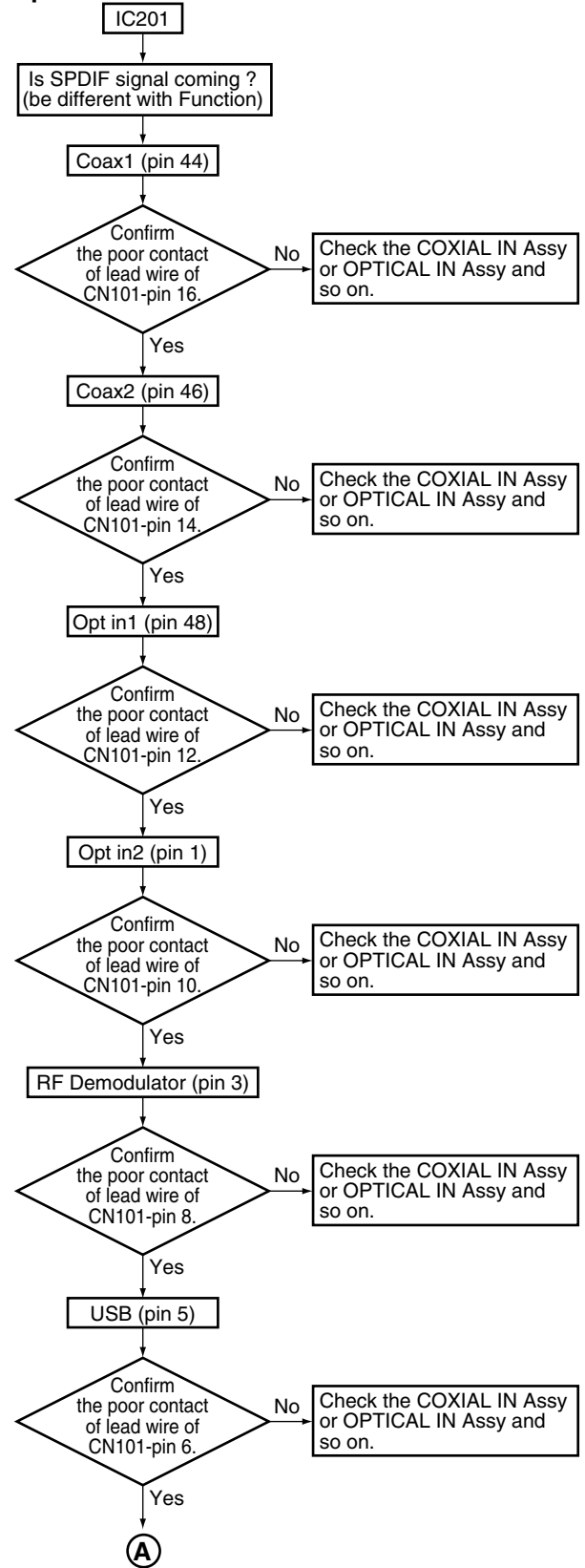
#### Step 1



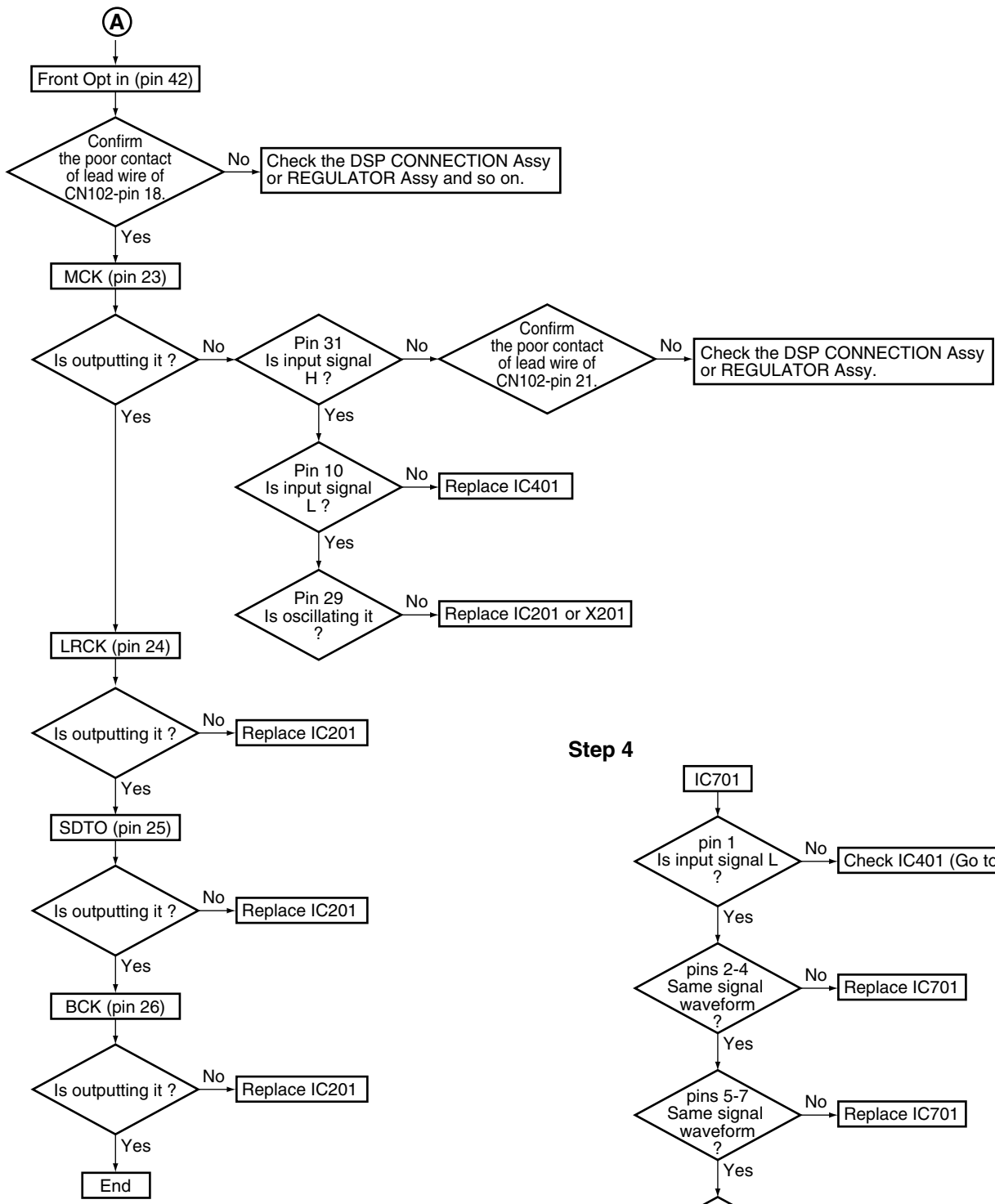
#### Step 2



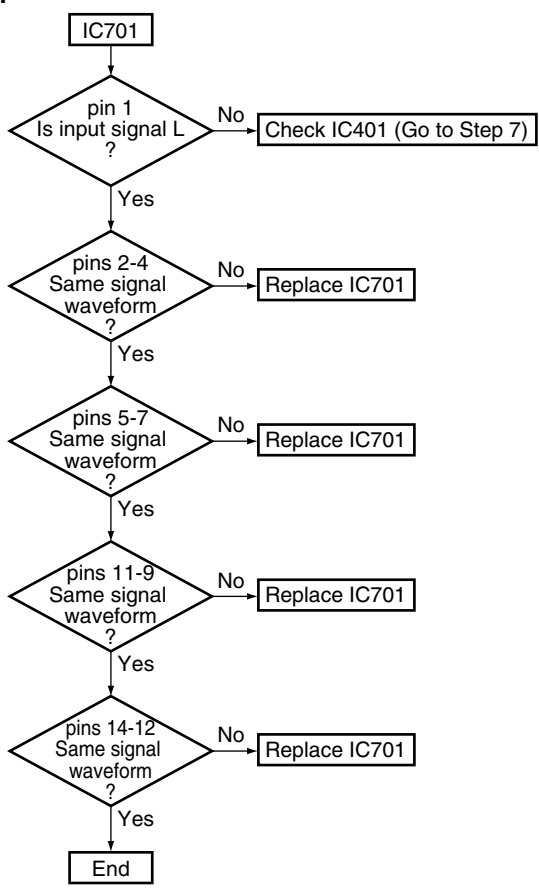
#### Step 3



A  
B  
C  
D  
E  
F

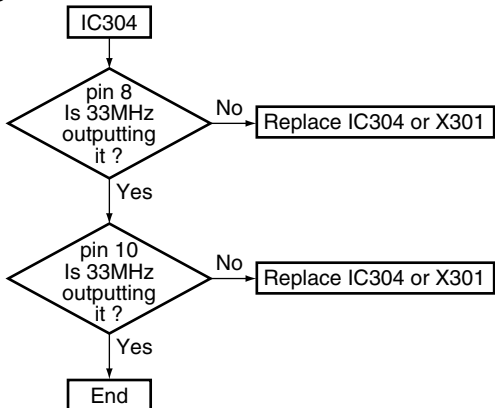


### Step 4

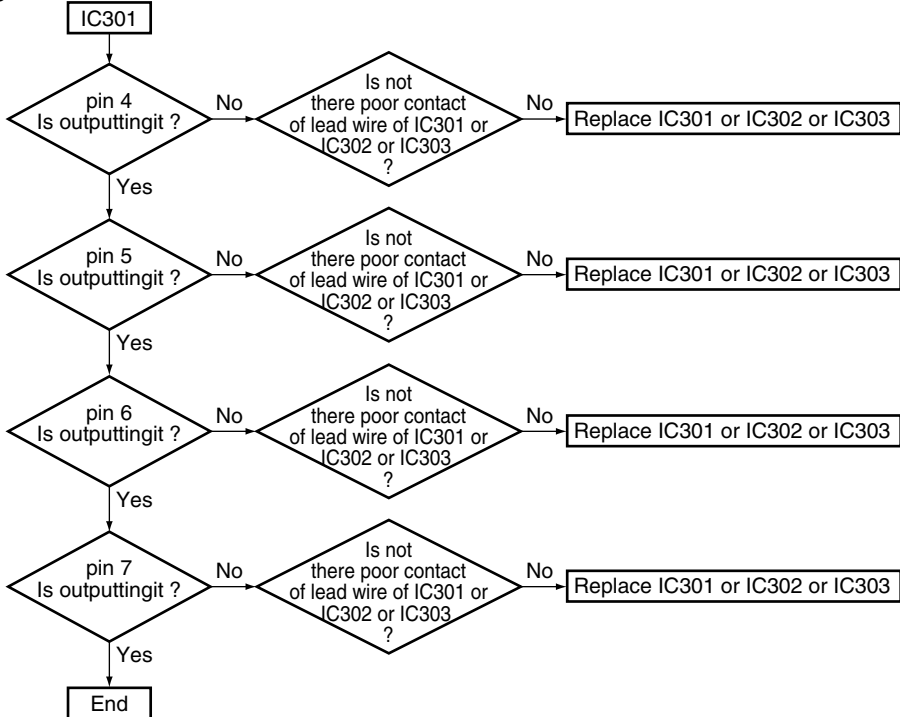




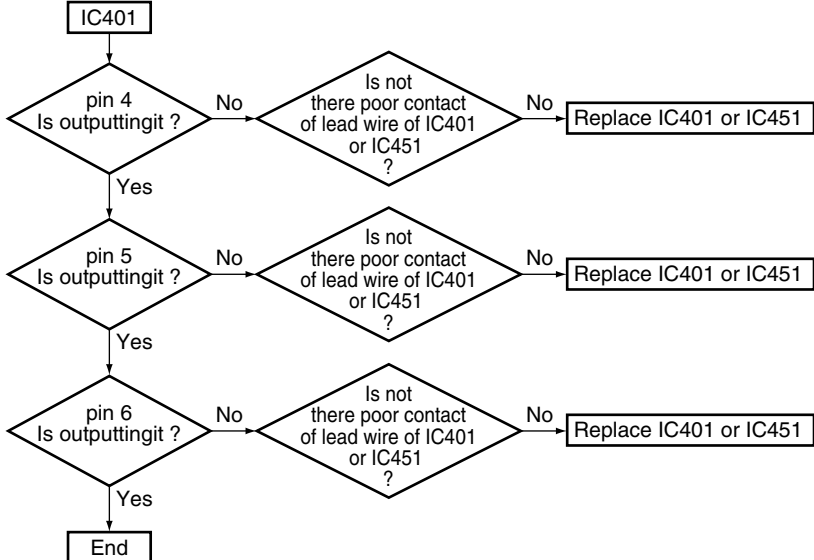
Step 5



Step 6

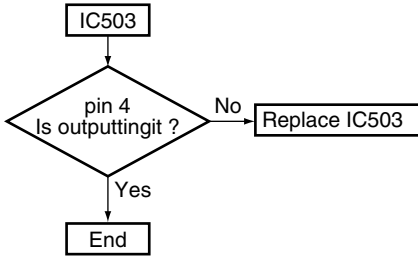


Step 7



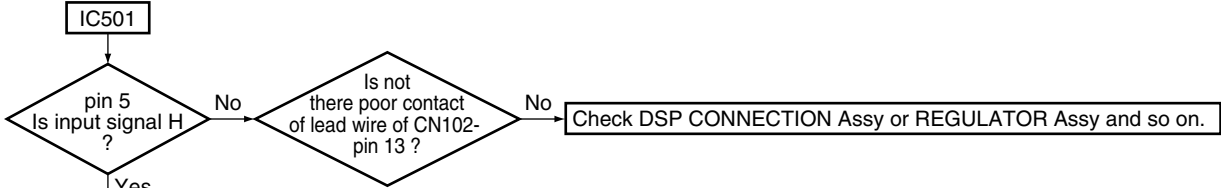
### Step 8

A

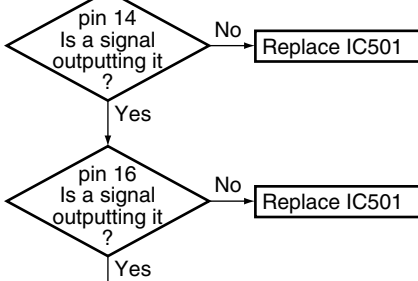


### Step 9

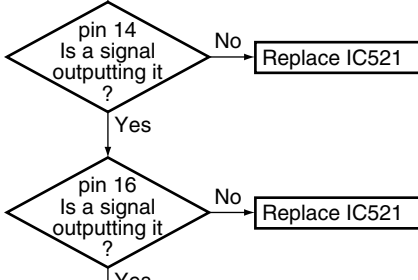
B



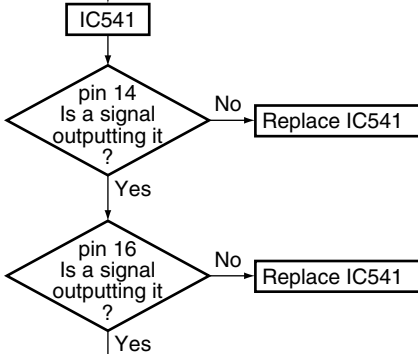
C



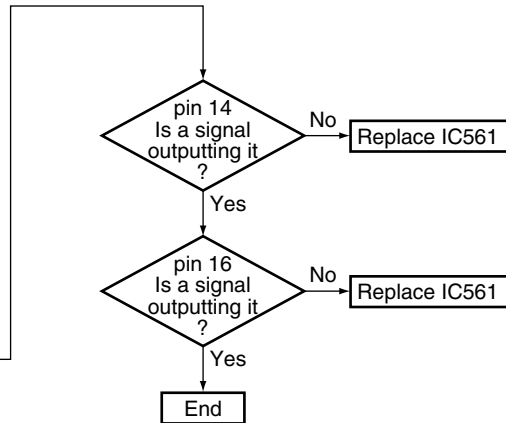
D



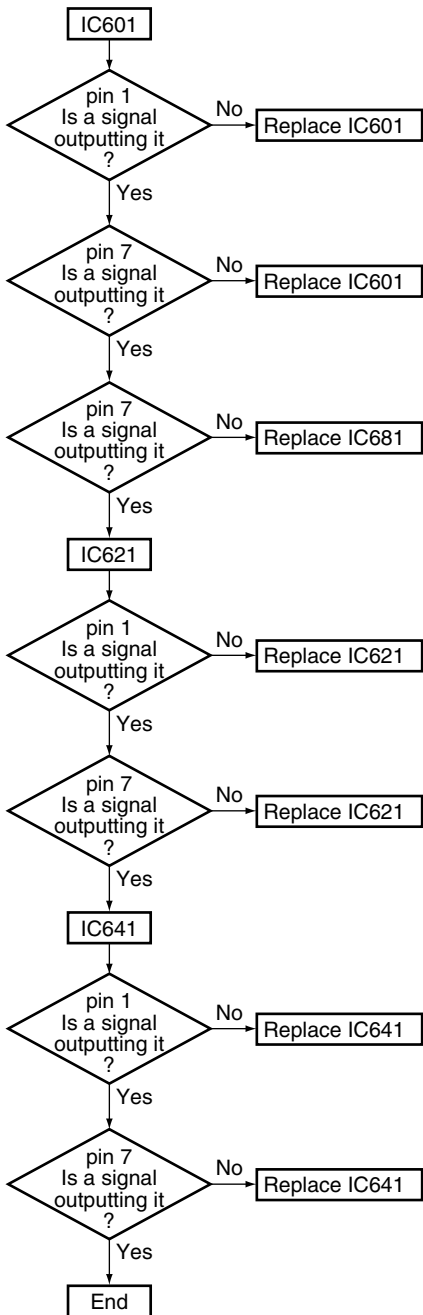
E



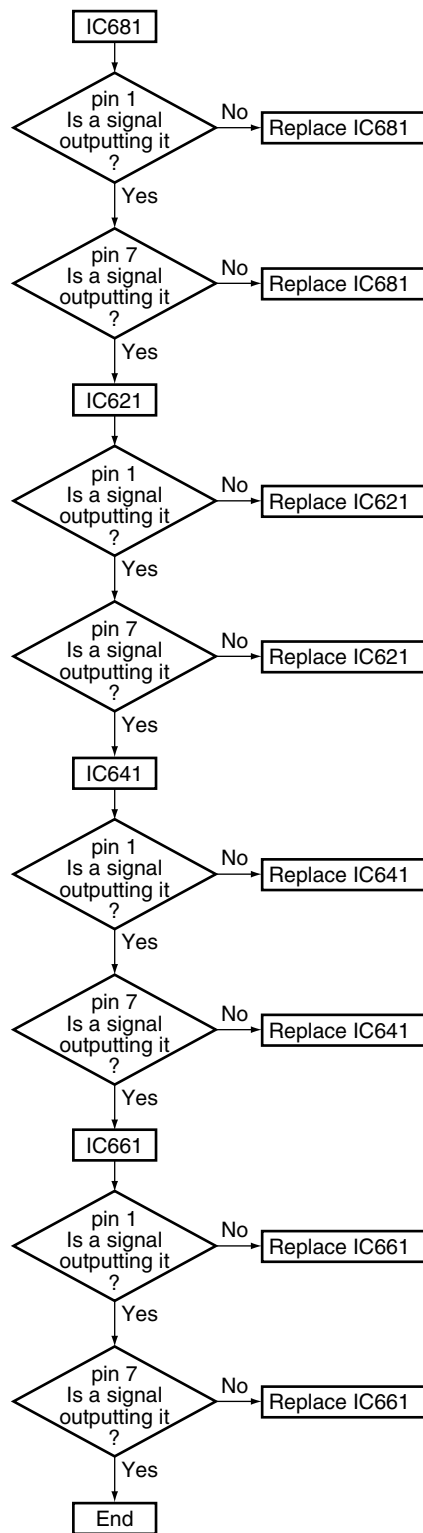
F



### Step 10



### Step 11



A  
B  
C  
D  
E  
F

## 7.1.4 OUTLINE OF THE 1394 UNIT

### ●Operational Outline of the IEEE 1394 Unit

A This unit supports the A&M protocol (Audio and Music Data transmission Protocol), which, among the IEEE 1394 audio and video protocols, is employed for audio equipment and electronic musical instruments, etc. As the unit does not support the MPEG2-TS protocol (for BS digital tuners and D-VHS) or the DV protocol (for digital video cameras and Pioneer's DVR) among IEEE 1394 audio and video protocols, it does not support video data transmission.

The main commands supported by this unit are: For sending, the PLAY command to a player, and for receiving, the commands for switching functions, increasing/decreasing the volume, muting on/off, and stream information (for inquiring about the receiving capabilities of the receiver).

Audio data (media) that can be received by the unit are as follows:

- DVD-A (2 channels, multiple channels)
- SACD (2 channels, multiple channels)
- B • IEC 60958 (DVD-V, DVD-RW, CD, VCD, MP3, DTS-CD, etc.)

The received data are demodulated separately for the above three signal formats in the IEEE 1394 receiving IC, output to another IC for jitterless transmission, then output to a third IC for DIR or to the DSP of the main unit.

As to SACD data, DSD streams are converted to multibit data at the SACD/PCM converting IC, and this enables SACD data processing at the DSP of the main unit. But DSD streams are inputted directly into the DAC bypassing the DSP at SACD DIRECT mode.

In jitterless transmission, audio data with jitter generated during IEEE 1394 transmission (actually, jitter contained in sync signals that cannot be reduced by the PLL for audio receiving) are cached in the buffer RAM in the receiver up to a certain amount, and then read out by a highly accurate crystal-oscillation clock in the receiver, which enables reduction of jitter. The receiver controls the amount of cached data in the buffer RAM such that a certain amount of data is always cached. If the amount of cached data falls below the specified level, a request is sent to increase the playback speed (transmission volume per unit hour) (+1%). If the amount of cached data exceeds the specified level, a request is sent to decrease the playback speed (-1%). Thus, data transmitted in jitterless transmission are delayed by about 0.7 sec behind the time indicated on the FL of the transmitting device, compared with data transmitted in normal transmission. Moreover, as mentioned above, because the sending device switches the system clock according to the request of the receiving device, sync of the video signal may be unlocked, and the audio signal would be delayed behind a video signal because of its being cached. So many sending devices do not adopt jitterless transmission for content having both audio and video signals.

Both the sending and receiving devices must support jitterless transmission to enable this type of transmission. Start of jitterless transmission is requested by the receiving device; however, depending on the status of the sending device (type of media, etc.), jitterless transmission may not be possible. Media for which jitterless transmission is supported and those for which it is not (only normal transmission is supported) are shown below:

- Jitterless transmission : DVD-A, SACD, CD, DTS-CD
- D • Normal transmission only : DVD-V, DVD-RW, VCD, MP3

Depending on the specifications of the sending device, it may not support jitterless transmission, even for those media for which it can be supported.

As to copyright protection, IEEE 1394 employs the DTCP (Digital Transmission Content Protection) system, which consists of the following:

1. Copy-control information
2. Authentication and key exchange
3. Encryption
4. System renewability

The procedures for copy protection are basically as follows: After authentication and key exchange for encryption/decryption, the sending device will send the data encrypted using the keys. The receiving device in turn will decipher the data using the exchanged keys.

- Media whose data can be encrypted: DVD-V, DVD-A, SACD, DVD-RW
- E • Media whose data cannot be encrypted: CD, DTS-CD, VCD, MP3

● IEEE 1394 Error Indications

No.	Message	Error Code	Cause and Actions to be taken	Remarks
1	WRITING CONFIG	E7	The Config ROM data are being written to flash memory. Do NOT turn off the power while this message is displayed. While this message is displayed, the Standby button on the main unit is disabled.	This message is displayed when a unit whose host board was replaced with a new one is turned on for the first time.
2	MODEL ID ERROR	CO	The MODEL ID stored in flash memory on the host board and that stored in the main unit do not match. Download the GUID again.	This error is generated when a host board for the wrong destination is mounted in the unit, and it will only be generated during servicing. The message will remain displayed until the error is corrected.
3	CONFIG ERROR	C1	The Config ROM data are erroneous. Download the GUID again.	This message is displayed when the power is turned off while the Config ROM data are being written. As this is generated while the unit is operated online, this error will only be generated during servicing. The message will remain displayed until the error is corrected.

**Note:** If downloading of the GUID cannot be performed for corrective measures for messages 1 and 2, replace the host board with a new one.

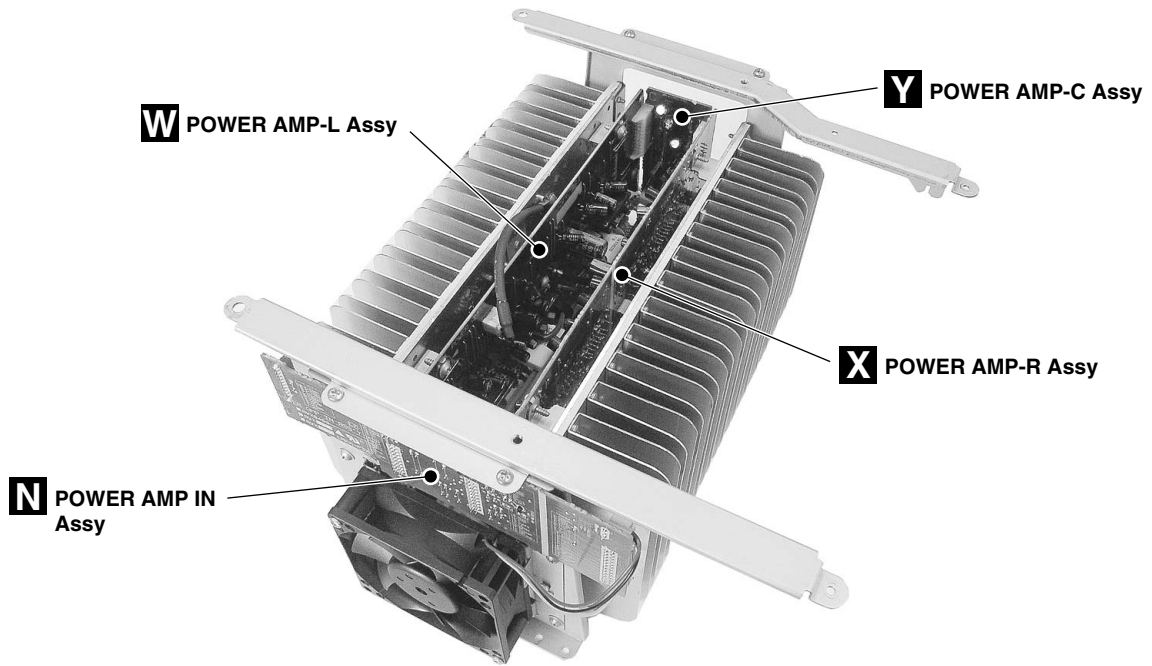
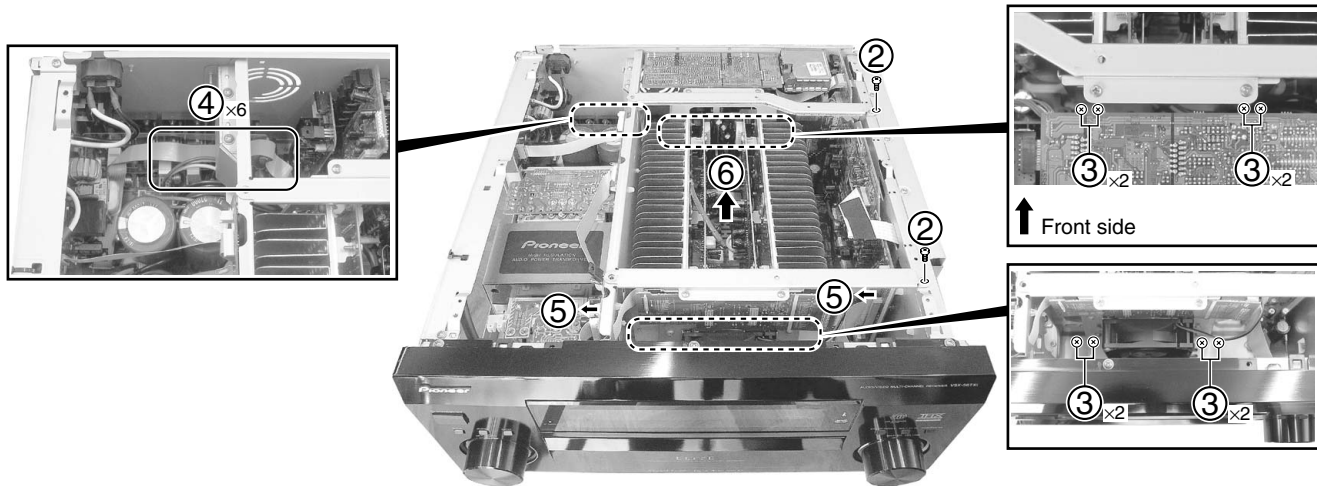
A  
B  
C  
D  
E  
F

### 7.1.5 DISASSEMBLY

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

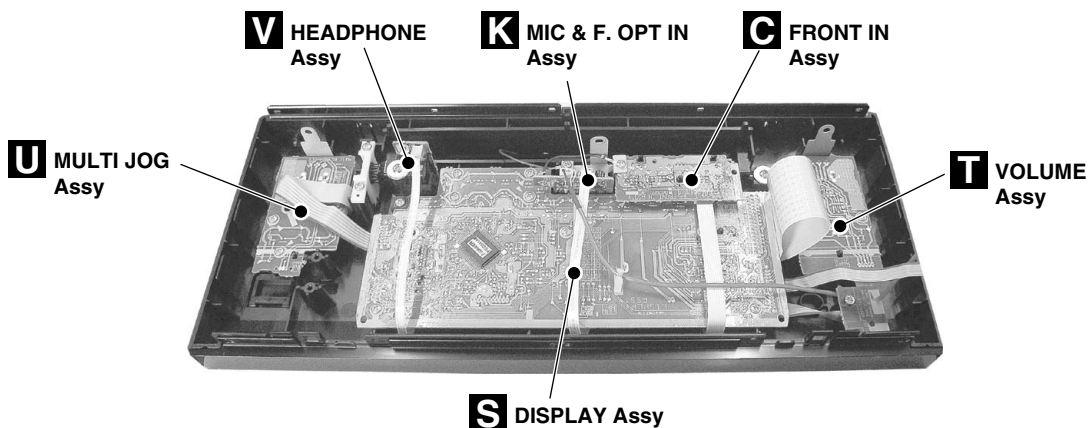
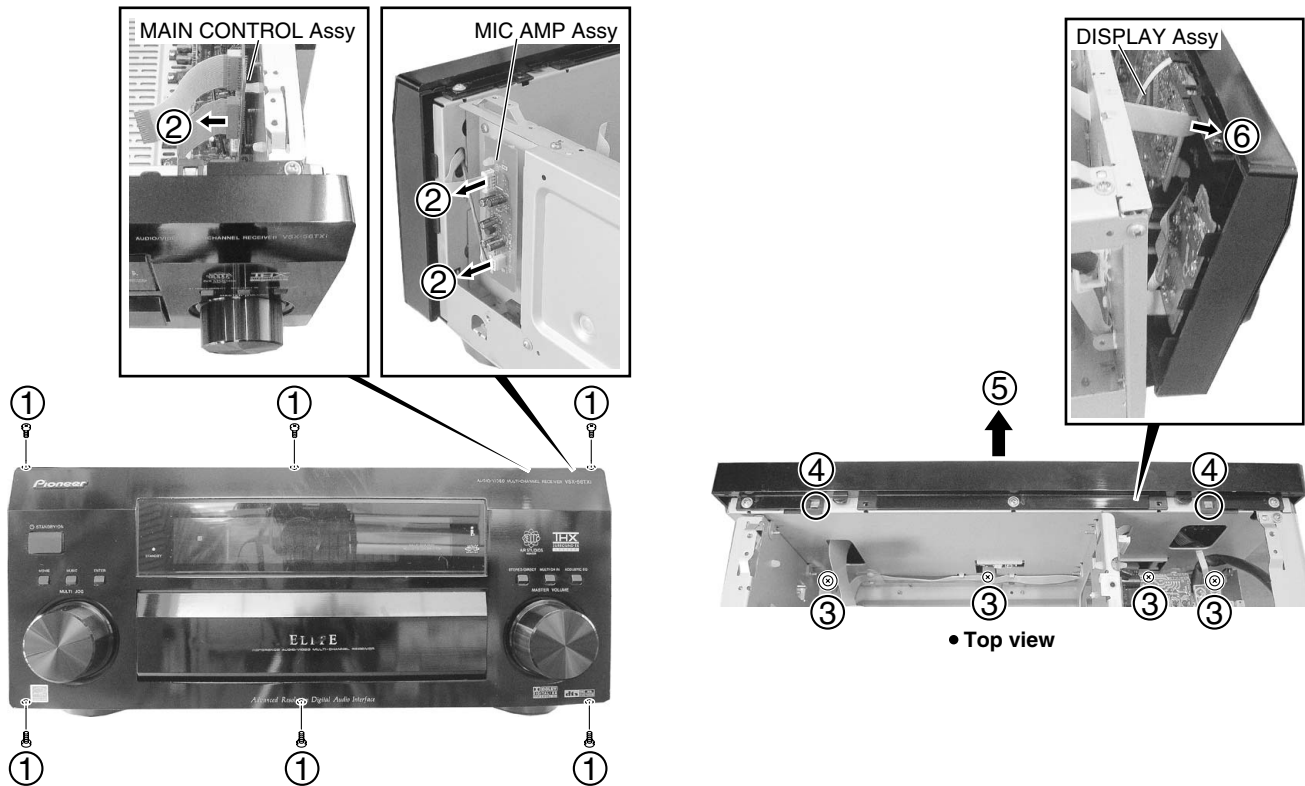
#### 1 Bonnet Case 56B and Heatsink Section

- ① Remove the bonnet case 56B by removing the 23 screws.
- ② Remove the two screws.
- ③ Remove the eight screws.
- ④ Disconnect the six connectors.
- ⑤ Disconnect the one flexible cable and the one connector.
- ⑥ Remove the heatsink section.



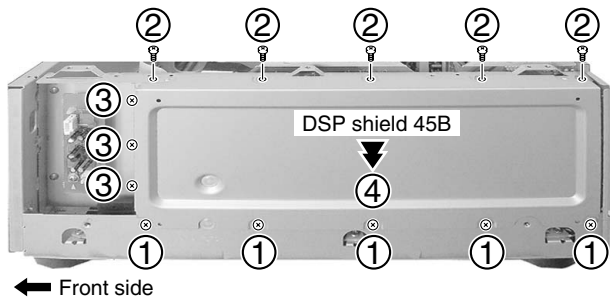
## 2 Front Panel Section

- ① Remove the six screws.
- ② Disconnect the one flexible cable and the two connectors.
- ③ Remove the four screws.
- ④ Unhook the two hooks.
- ⑤ Remove the front panel section.
- ⑥ Disconnect the one flexible cable.

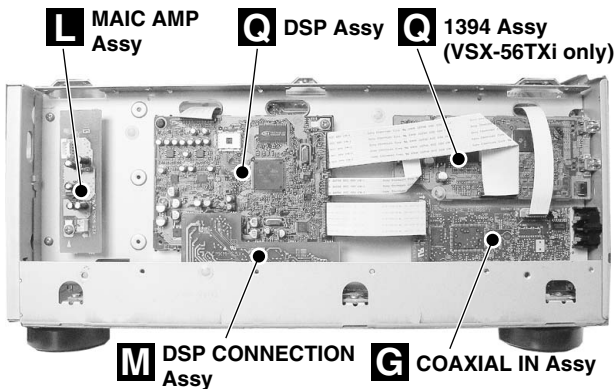


### 3 DSP Section

- ① Remove the five screws.
- ② Remove the five screws.
- ③ Remove the three screws.
- ④ Remove the DSP shield 45B.



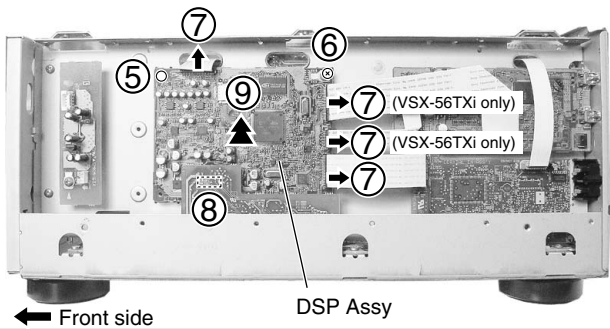
← Front side



← Front side



- ⑤ Remove the one nylon rivet.
- ⑥ Remove the one screw.
- ⑦ Disconnect the four flexible cables. (VSX-56TXi)  
Disconnect the two flexible cables. (VSX-54TX)
- ⑧ Disconnect the one connector.
- ⑨ Remove the DSP Assy.

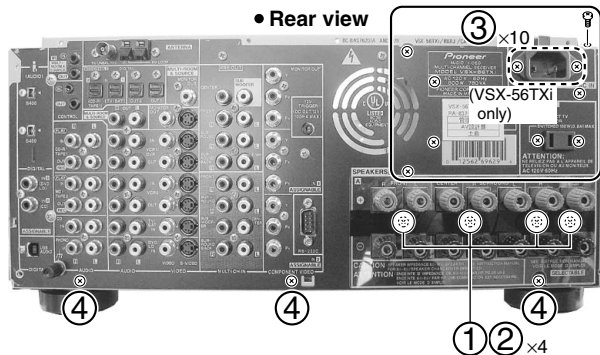


← Front side



### 4 Rear Panel and Main Sections

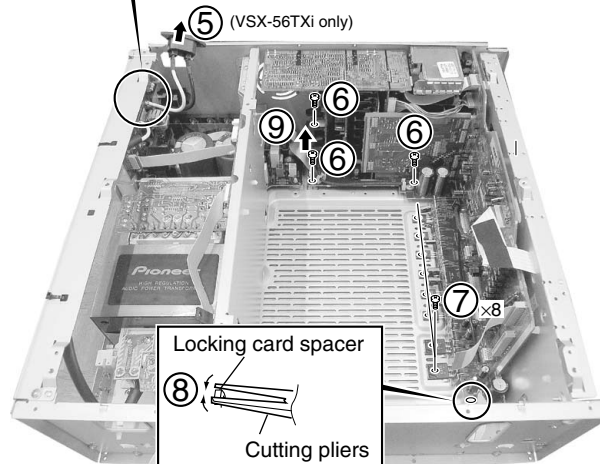
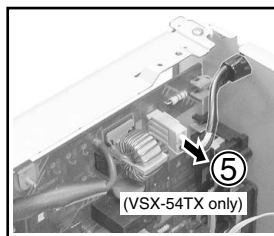
- ① Remove the four cushion circle 16B.
- ② Remove the four screws.
- ③ Remove the ten screws. (VSX-56TXi)  
Remove the eight screws. (VSX-54TX)
- ④ Remove the three screws.



• Rear view

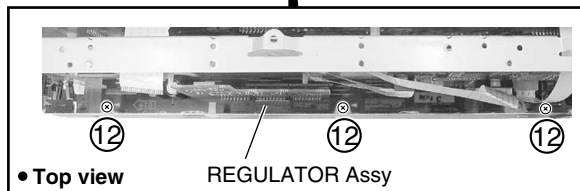
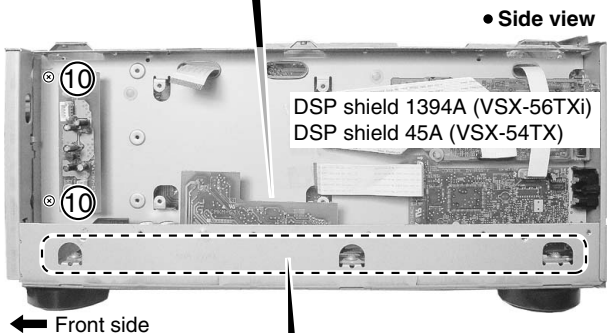
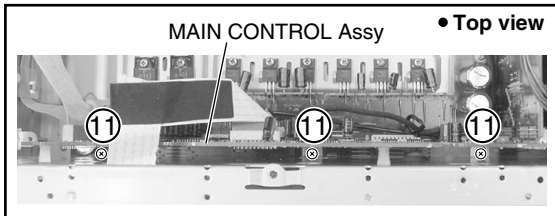


- ⑤ Remove the AC IN socket. (for VSX-56TXi)  
Disconnect the one connector. (for VSX-54TX)
- ⑥ Remove the three screws.
- ⑦ Remove the eight screws.
- ⑧ Remove the locking card spacer.
- ⑨ Disconnect the one connector.

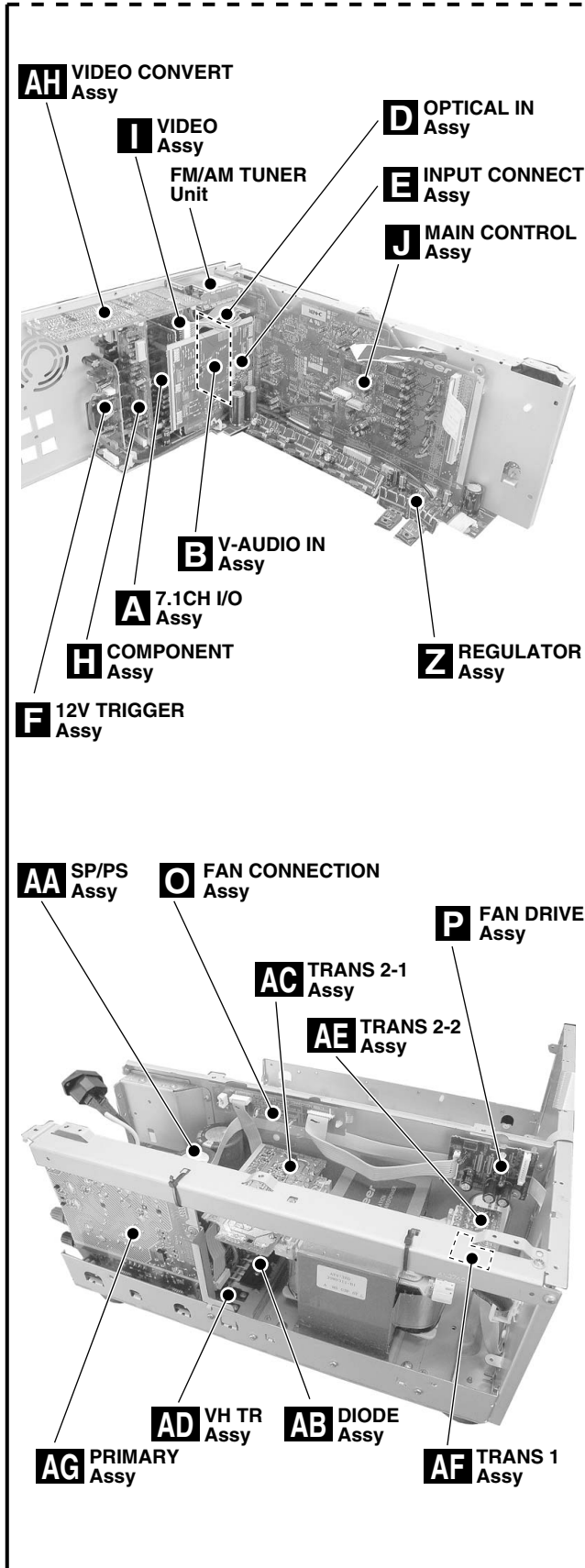
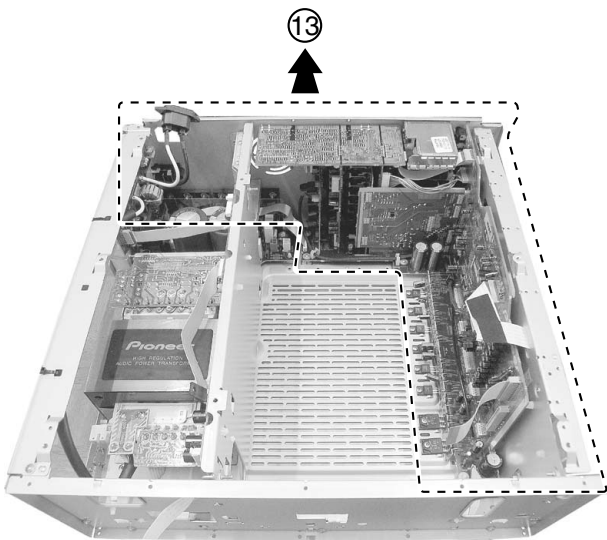




- ⑩ Remove the two screws.
- ⑪ Remove the three screws.
- ⑫ Remove the three screws.



- ⑬ Remove the rear panel section with the main section.



## How to Diagnose the Unit with the Heatsink Section Removed

With the following method, the Assys that cannot be diagnosed while the unit is powered because the Heatsink Section obstructs access to them can be diagnosed.

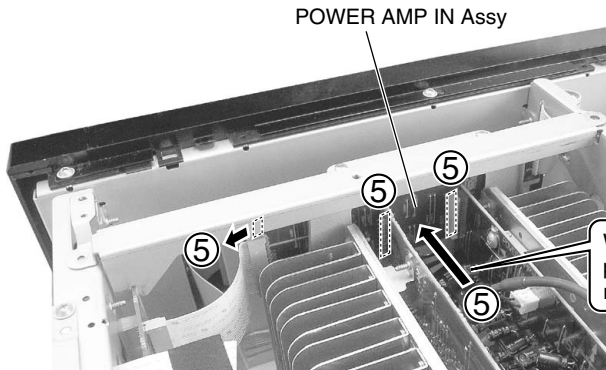
### Notes:

1. This method is merely an expedient way of diagnosing sections that are difficult to access, such as the MAIN CONTROL Assy and REGULATOR Assy. Diagnoses involving the Power Amplifier section, such as DC detection, are not possible with this method, nor are diagnoses regarding temperature detection.
2. After diagnosis is finished, discharge the electrolytic capacitor using a resistor, not by short-circuiting it.

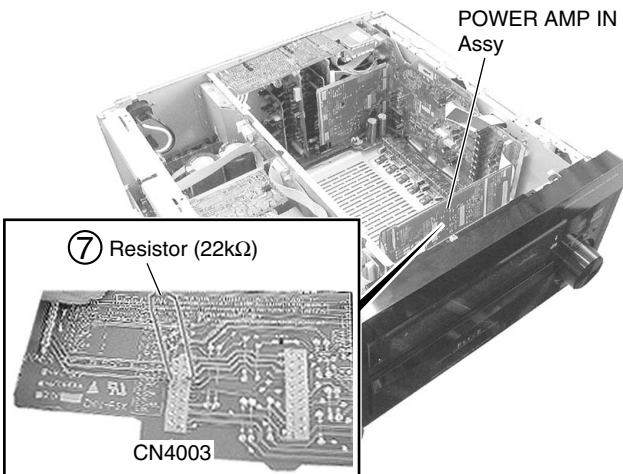
### Procedures

- ① Remove the bonnet case 56B by removing the 23 screws.
- ② Remove the two screws that secure Bridge Frames 45F and 45R.
- ③ Disconnect the six connectors connected between the Heatsink Section and the SP/PS Assy.
- ④ Disconnect the eight screws that secure the Heatsink Section.
- ⑤ Disconnect the three connectors of the POWER AMP IN Assy. In this case, you can easily remove the Assy once the flexible cable connecting the POWER AMP IN Assy and the MAIN CONTROL Assy has been disconnected.

See Step ①.



- ⑥ Remove the Heatsink Section, leaving the POWER AMP IN Assy intact.
- ⑦ Jump with a 22kΩ resistor between Pins 10 and 11 of CN4003 on the POWER AMP IN Assy.
- ⑧ Turn on the power. The power will then be on without the protection circuits activated.



**Diagnosis**

**⚠ After finishing diagnosis, perform the following before returning the Heatsink Section to its original position:**

- ① Remove the resistor used in Step ⑦.
- ② Discharge the electrolytic capacitors on the VH line shown below. If you do not, the resistors may be damaged by a surge of current.

#### Electrolytic capacitors to be discharged:

TRANS 2-1 Assy: C2207, C2208, C2211  
FAN DRIVE Assy: C4055, C4056

- ③ Return the Heatsink Section to its original position.

## 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

PD8112A, PEG040B8, PEG041B, BU4094BCF, PCM2902EG, TSB43CA42, SM5819AF, TA1270BF

#### ■ PD8112A (1394 ASSY: IC301)

##### • Flow Control IC

##### ● Pin Function

No.	Pin Name	I/O	Pin Function
1	VDDOUT	–	Digital VDD (3.3V)
2	SPDIFOUT	O	IEC60958 output
3	SDATA3O	O	MBLA data output (5 ch, 6 ch) (at flow: I2S)
4	SDATA2O	O	MBLA data output (3 ch, 4 ch) (at flow: I2S)
5	SDATA1O	O	MBLA data output (1 ch, 2 ch) (at flow: I2S)
6	SDATA0O	O	MBLA ancillary data output (at flow: I2S)
7	LRCKOUT	O	MBLA LRCK output
8	BCKOUT	O	MBLA BCK output (64fs)
9	AMCLKOUT	O	Master clock output (When AMCLKEN output is LOW, active Hi-Z.)
10	AMCLKEN	O	When 60958 is selected or OUTPUTEN=L output, active LOW. For external clock control
11	SDERRO	O	Data error flag output
12	VSSOUT	–	Digital GND
13	VDDOUT	–	Digital VDD (3.3V)
14	SDMUTEO	O	Data mute flag output MUTE: H
15	SAPCMBCKIN	I	BCK input when converting SACD to MLPCM
16	SAPCMLRCKIN	I	LRCK input when converting SACD to MLPCM
17	SAPCMD3IN	I	DATA3 input when converting SACD to MLPCM
18	SAPCMD2IN	I	DATA2 input when converting SACD to MLPCM
19	SAPCMD1IN	I	DATA1 input when converting SACD to MLPCM
20	SACDMKO	O	SACD master clock output (2.8224MHz)
21	SACDDAO	O	SACD ancillary data output
22	SACDD0O	O	SACD data output (L)
23	SACDD1O	O	SACD data output (R)
24	SACDD2O	O	SACD data output (C)
25	SACDD3O	O	SACD data output (Lfe)
26	VSSCORE	–	Digital GND (for inside)
27	VDDCORE	–	Digital VDD (3.3V, for inside)
28	SACDD4O	O	SACD data output (Ls)
29	SACDD5O	O	SACD data output (Rs)
30	SACDFRO	O	SACD frame data output (75Hz)
31	TESTMODE0	I	LSI test mode input Normally, "L" fixed
32	TESTMODE1	I	LSI test mode input Normally, "L" fixed
33	PLLMODE	I	VCOCLK division ratio selection Normally, "L"
34	SAPCMODE	I	0: normal, 1: When the data type is SACD, output SAPCM*** input to MLPCM.
35	XVALMODE	I	0: 64M•128M bit SDRAM, 1: 256M bit SDRAM
36	RJMSEBF	I	MLPCM output format setting at flow 0: I2S, 1: Right aligned MSB first
37	SEL512	I	Master clock selection at flow 0: 768fs, 1: 512fs
38	CONT48	O	Output for controlling the oscillator (When FMODE="1" and SEL44K="1", active High)
39	CLK48K	I	Master clock input of fs48kHz (36.864MHz or 24.576MHz)
40	CLK48KI	I	Crystal resonator input of fs48kHz (24.576MHz)
41	CLK48KO	O	Crystal resonator output of fs48kHz (24.576MHz)
42	VSSOUT	–	Digital GND
43	VDDOUT	–	Digital VDD (3.3V)
44	CONT44	O	Output for controlling the oscillator (When FMODE="1" and SEL44K="0", active High)
45	CLK44K	I	Master clock input of fs44.1kHz (33.8688MHz or 22.5792MHz)
46	CLK44KI	I	Crystal resonator input of fs44.1kHz (22.5792MHz)
47	CLK44KO	O	Crystal resonator output of fs44.1kHz (22.5792MHz)
48	SELOSC	I	L: CLK4XK input selection, H: crystal resonator I/O selection As for the crystal resonator, less than 30MHz are insured.

A

B

C

D

E

F

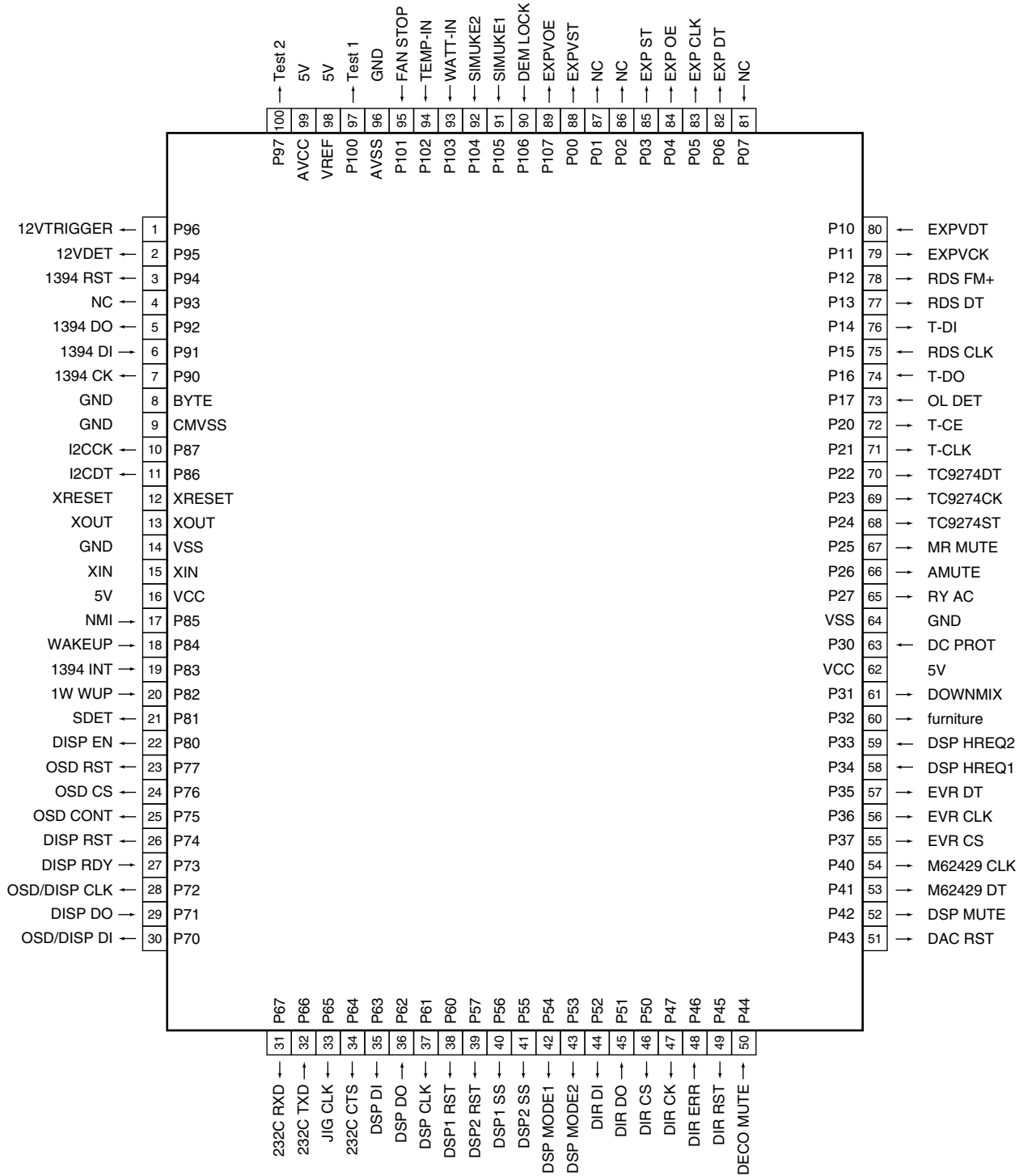
No.	Pin Name	I/O	Function
49	XRESET	I	Logic reset input Reset for L
50	OUTPUTEN	I	Pin for controlling the audio system output H: output, L: Hi-Z
51	FMODE	I	Flow mode control input at flow: H, at through: L
52	SELDTYPE0	I	Data type input 0 00: IEC60958, 01: MBLA
53	SELDTYPE1	I	Data type input 1 1X: SACD
54	SEL44K	I	Selecting signal of master clock input at flow L: CLK48K, H: CLK44K
55	FSSEL0	I	fs setting input 0 00: 44.1/48kHz, 01: 88.2/96kHz
56	FSSEL1	I	fs setting input 1 10: 176.4/192kHz, 11: 29.4/32kHz
57	VSSOUT	-	Digital GND
58	VDDOUT	-	Digital VDD (3.3V)
59	RXSTART	I	Trigger signal input of flow receiving start
60	SACDCHSEL	I	In a through mode, set to 1 in SACD 5 channel receiving. 0: 2ch*6 ch, 1: In 5ch flow receiving, a channel is distinguished automatically by ansillary data.
61	FMUTE	I	Forced mute control signal input Reflect to SDMUTE0.
62	FSTATE0	O	Status output 0 of memory in the flow
63	FSTATE1	O	Status output 1 of memory in the flow 00: Empty < 01: fast < 11: standard < 10: slow • full
64	FSTATE2	O	Status output 2 of flow receive data When received data type to be different from the set data type, active High.
65	TDI	I	Boundary Scan TAP pin
66	TDO	O	Boundary Scan TAP pin
67	TMS	I	Boundary Scan TAP pin
68	TCK	I	Boundary Scan TAP pin
69	TRST	I	Boundary Scan TAP pin
70	SACDMKIN	I	SACD bit clock input
71	SACDFRIN	I	SACD frame signal input
72	SACDD0IN	I	SACD data input 0 (ch1)
73	VSSCORE	-	Digital GND (for inside)
74	VDDCORE	-	Digital VDD (3.3V, for inside)
75	SACDD1IN	I	SACD data input 1 (ch2)
76	SACDD2IN	I	SACD data input 2 (ch3)
77	SACDD3IN	I	SACD data input 3 (ch4)
78	SACDD4IN	I	SACD data input 4 (ch5)
79	SACDD5IN	I	SACD data input 5 (ch6)
80	SACDDAIN	I	SACD ansillary data input
81	AMCLKIN	I	Master clock input (VCO) at through mode
82	SPDIFIN	I	IEC60958 input Data valid input at flow
83	SDMUTEIN	I	Mute flag input at through mode
84	SDERRIN	I	Data error flag input
85	VCOCLK2O	O	VCO clock output 2 (for 512fs)
86	VCOCLK1O	O	VCO clock output 1 (for 768fs)
87	REFSYT	I	PLL reference input (at passive filter)
88	DIVVCO	I	PLL VCO dividing input (at passive filter)
89	VCOEN	I	Built-in VCO control input Low: stop, High: oscillation
90	VSSCORE	-	Digital GND (for inside)
91	VDDCORE	-	Digital VDD (3.3V, for inside)
92	VSSOUT	-	Connect to analog GND
93	VSSPASS	-	Analog GND
94	VDDPASS	-	Analog VDD (3.3V)
95	LPOUT	O	Phase comparator output (analog)
96	LPIN	I	VCO control voltage input (analog)

No.	Pin Name	I/O	Function
97	VDDOUT	–	Connect to analog VDD (3.3V)
98	BCKIN	I	MBLA flow BCK input
99	LRCKIN	I	MBLA flow LRCK input
100	SDATA1IN	I	MBLA flow data input 1
101	SDATA2IN	I	MBLA flow data input 2
102	SDATA3IN	I	MBLA flow data input 3
103	SDATA0IN	I	MBLA flow data input 0
104	VSSOUT	–	Digital GND
105	VDDOUT	–	Digital VDD (3.3V)
106	SDA0	O	Address output for external SDRAM
107	SDA1	O	Address output for external SDRAM
108	SDA2	O	Address output for external SDRAM
109	SDA3	O	Address output for external SDRAM
110	SDA4	O	Address output for external SDRAM
111	SDA5	O	Address output for external SDRAM
112	SDA6	O	Address output for external SDRAM
113	SDA7	O	Address output for external SDRAM
114	SDA8	O	Address output for external SDRAM
115	SDA9	O	Address output for external SDRAM
116	SDA10	O	Address output for external SDRAM
117	SDA11	O	Address output for external SDRAM
118	SDA12	O	Address output for external SDRAM
119	SDA13	O	Address output for external SDRAM
120	SDD0	I/O	Data input/output for external SDRAM
121	SDD1	I/O	Data input/output for external SDRAM
122	SDD2	I/O	Data input/output for external SDRAM
123	SDD3	I/O	Data input/output for external SDRAM
124	SDD4	I/O	Data input/output for external SDRAM
125	SDD5	I/O	Data input/output for external SDRAM
126	SDD6	I/O	Data input/output for external SDRAM
127	SDD7	I/O	Data input/output for external SDRAM
128	VSSOUT	–	Digital GND
129	VDDOUT	–	Digital VDD (3.3V)
130	SDD8	I/O	Data input/output for external SDRAM
131	SDD9	I/O	Data input/output for external SDRAM
132	SDD10	I/O	Data input/output for external SDRAM
133	SDD11	I/O	Data input/output for external SDRAM
134	SDD12	I/O	Data input/output for external SDRAM
135	SDD13	I/O	Data input/output for external SDRAM
136	SDD14	I/O	Data input/output for external SDRAM
137	SDD15	I/O	Data input/output for external SDRAM
138	SDCKE	I/O	Data input/output for external SDRAM
139	SDCLK	O	Data input/output for external SDRAM
140	SDDQMU	O	Data input/output for external SDRAM
141	SDXRAS	O	XRAS output for external SDRAM
142	SDXCAS	O	XCAS output for external SDRAM
143	SDXWE	O	XWE output for external SDRAM
144	VSSOUT	–	Digital GND

# PEG040B8 (MAIN CONTROL ASSY: IC501)

## • Main Microcomputer

### A • Pin Assignment (Top view)



## ● Pin Function

No.	Pin Name	I/O	Pin Function	Active
1	12VTRIGGER	O	12V TRIGGER control port , "H" at ON	
2	12VDET	I	12V TRIGGER monitoring port	
3	1394 RST	O	Reset for 1394	
4	1394 CS	O	Standby for 1394 (Not used) "L" fixed.	
5	1394 DO	O	DO for 1394	
6	1394 DI	I	DI for 1394	
7	1394 CK	O	CK for 1394	
8	GND	-	Ground	
9	CNVSS	-	5.1kΩ pulldown	
10	I2CCK	O	Communication clock signal for video-chroma synchro. IC/YC sep. IC	
11	I2CDT	O	Communication data-out signal for video-chroma synchro. IC/YC sep. IC	
12	XRESET	-	Reset	
13	XOUT	-	Oscillator	
14	GND	-	Ground	
15	XIN	-	Oscillator	
16	5V	-	5V power supply	
17	NMI	I	Cannot use it as usual input port (100kΩ pullup)	
18	WAKEUP	I	AC pulse In (Wake up)	H
19	1394 INT	I	INT for 1394	
20	1W WUP	I	Wakeup signal at standby (from the display microcomputer) (pulldown)	H
21	SDET	I	S signal detection	
22	DISP EN	O	Communication enabling signal to the display microcomputer	H
23	OSD RST	O	OSD-IC reset signal L: reset, H: release reset	
24	OSD CS	O	OSD-IC chip select signal	H
25	OSD CONT.	O	At data transfer to the OSD-IC: "H"	
26	DISP RST	O	Display microcomputer reset signal L: reset, H: release reset (pulldown)	
27	DISP RDY	I	Communication enabling signal from the display microcomputer	H
28	OSD/DISP CLK	O	Communication clock signal with the OSD-IC/display microcomputer	
29	DISP DO	I	Communication data in signal with the display microcomputer (N ch open drain)	
30	OSD/DISP DI	O	Communication data out signal with the OSD-IC/display microcomputer (N ch open drain: pullup)	
31	232C RXD	O	For 232C rewriting (data output)	
32	232C TXD	I	For 232C rewriting (data input)	
33	CLK	O	Not used	
34	232C CTS	O	For 232C rewriting (communication permission)	
35	DSP DI	O	Communication data out signal with the DSP1 microcomputer	
36	DSP DO	I	Communication data in signal with the DSP2 microcomputer	
37	DSP CLK	O	Communication clock signal with the DSP microcomputer	
38	DSP1 RST	O	DSP1 microcomputer reset signal L: reset, H: release reset	
39	DSP2 RST	O	DSP2 microcomputer reset signal L: reset, H: release reset	
40	DSP1 SS	O	Slave select signal to DSP1 microcomputer	L
41	DSP2 SS	O	Slave select signal to DSP2 microcomputer	L
42	DSP MODE1	O	Mode selection of DSP1 microcomputer (ROM/RAM) H: ROM mode, L: RAM (PPP) mode	H
43	DSP MODE2	O	Mode selection of DSP2 microcomputer (ROM/RAM) H: ROM mode, L: RAM (PPP) mode	H
44	DIR DI	O	Communication data out signal with the DIR	
45	DIR DO	I	Communication data in signal with the DIR/DAC	
46	DIR CS	O	Communication chip select signal with the DIR/DAC	
47	DIR CK	O	Communication clock signal with the DIR/DAC	
48	DIR ERR	I	Lock/Unlock signal	
49	DIR RST	O	DIR reset signal	
50	DECO MUTE	I	Boot success detecting port of 1st DSP	

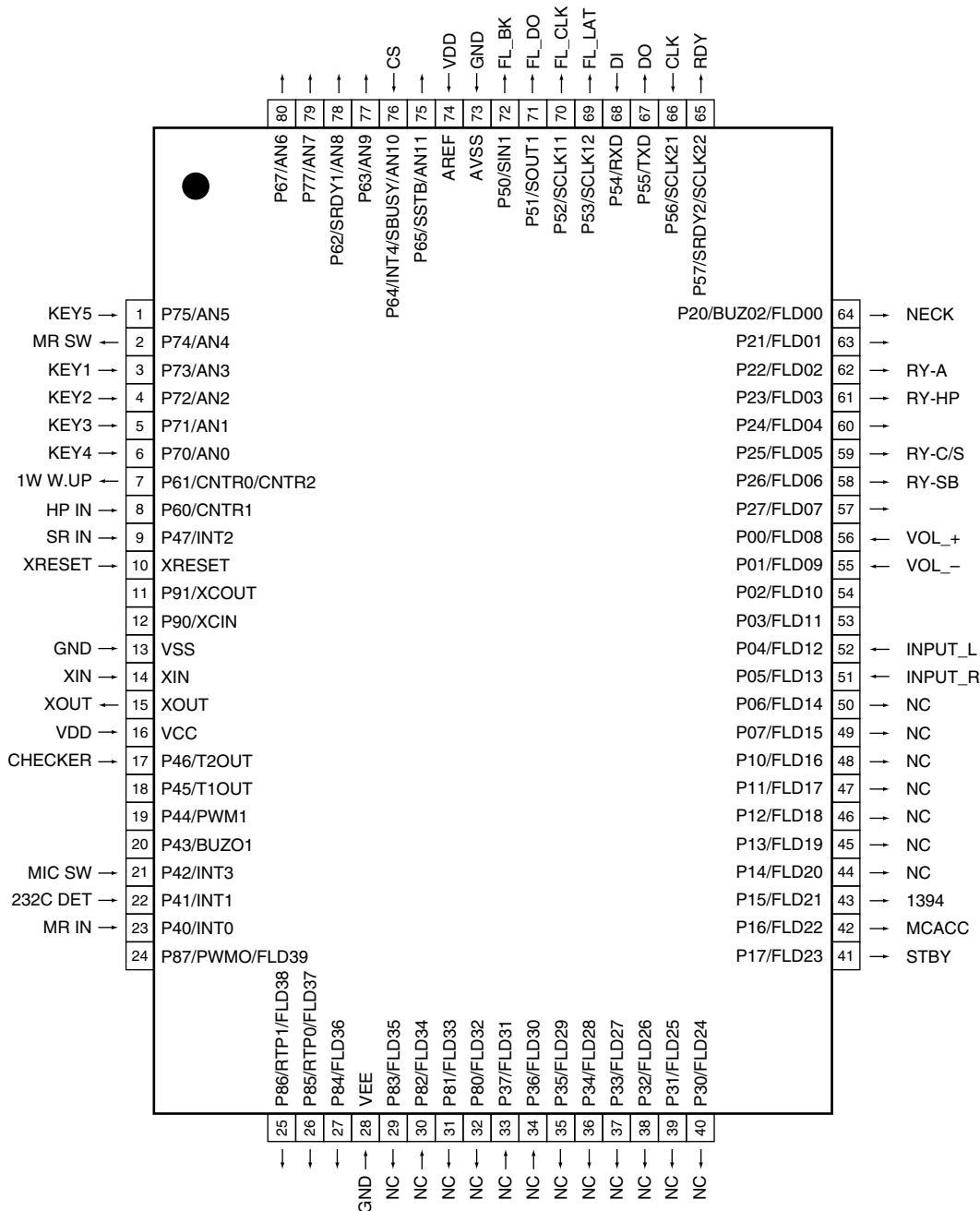
No.	Pin Name	I/O	Pin Function	Active
51	DAC RST	O	DAC/AD reset	
52	DSP MUTE	O	DSP Assy mute	H
53	M62429 DT	O	Data signal for multi room volume IC control	
54	M62429 CLK	O	Clock signal for multi room volume IC control	
55	EVR CS	O	Chip select signal for electronic volume	
56	EVR CLK	O	Clock signal for electronic volume	
57	EVR DT	O	Data signal for electronic volume	
58	DSP HREQ1	I	Error detection signal of DSP1 microcomputer	
59	DSP HREQ2	I	Error detection signal of DSP2 microcomputer	
60	furniture	O	Furniture control signal	
61	DOWNMIX	O	DSD analog down mix control signal	
62	5V	-	5V power supply	
63	DC PROT	I	DC detection L: Detection	L
64	GND	-	Ground	
65	RC-AC	O	AC relay ON/OFF	H
66	AMUTE	O	System mute L: Mute ON	L
67	MRMUTE	O	Multi room mute L: Mute ON	L
68	tc9274f-st	O	Function SW control (Strobe)	
69	tc9274f-ck	O	Function SW control (Clock)	
70	tc9274f-dt	O	Function SW control (Data)	
71	TUNER CLK	O	Clock signal of tuner control	
72	TUNER CE	O	Chip select signal of tuner control	
73	OL DET	I	Amp. overload detection L: Detection	L
74	TUNER DO	I	Data input signal of tuner control (pullup)	
75	RDS CLK	O	L" fixed	
76	TUNER DI	O	Data output signal of tuner control	
77	RDS DT	O	L" fixed	
78	RDS FM+	O	L" fixed	
79	EXPVCK	O	Control clock signal for VC extension IC	
80	EXPVDT	O	Control data signal for VC extension IC	
81	UARTSW	O	Not used, L" fixed	
82	EXP DT	O	Data signal of expansion IC control	
83	EXP CLK	O	Clock signal of expansion IC control	
84	EXP OE	O	Output enable signal of expansion IC control	
85	EXP ST	O	Chip clock signal of expansion IC control	
86	-	O	NC	
87	-	O	NC	
88	EXPVST	O	Control chip clock signal for VC extension IC	
89	EXPVOE	O	Control output enable signal for VC extension IC	
90	DEM LOCK	I	Not used	
91	SIMUKE1	I	Destination read 1	
92	SIMUKE2	I	Destination read 2	
93	WATT-IN	I	Wattage detection Level detection with A/D	A/D
94	TEMP-IN	I	Temperature detection Level detection with A/D	A/D
95	FAN STOP	I	Fan forced stop detection	H
96	AVSS	-	Connect to VSS	
97	TEST1	O	Test terminal	
98	VREF	-	Connect to VCC	
99	AVCC	-	Connect to VCC	
100	TEST2	O	Test terminal	



# PEG041B (DISPLAY ASSY: IC3000)

• Display Microcomputer

## • Pin Assignment (Top view)



## ● Pin Function

No.	Pin Name	I/O	Pin Function	No.	Pin Name	I/O	Pin Function
A 1	KEY5	I	KEY AD input	41	STANDBY	O	Standby LED
2	MR SW	O	Multi room input Pioneer/others L: Pioneer	42	MCACC	O	MCACC LED
3	KEY1	I	KEY AD input	43	1394	O	1394 LED
4	KEY2			44	NC	O	Non connection
5	KEY3			45	NC		
6	KEY4			46	NC		
7	1W WUP	O	1W correspondence main wakeup	47	NC		
8	HP	I	Headphone detection (active: H)	48	NC		
9	SR IN	I	Remote control input of main room	49	NC		
10	RESET	-	Reset input from the main microcomputer	50	NC		
B 11	NC	O	Non connection	51	INPUT_R	I	Input selector RIGHT
12	NC			52	INPUT_L	I	Input selector LEFT
13	Vss	-	Ground	53	NC	O	Non connection
14	XIN	-	Oscillator	54	NC	O	Non connection
15	XOUT	-	Oscillator	55	VOL_-	I	Volume - direction
16	Vcc	-	Power supply 5V	56	VOL_+	I	Volume + direction
17	CHECKER	I	Checker mode detection (10kΩ pulldown)	57	NC	O	Non connection
18	NC	O	Non connection	58	RY-SB	O	Surround back/SP-B relay ON/OFF (active: H)
19	NC			59	RY-C/S	O	C/S relay ON/OFF (active: H)
20	NC			60	NC	O	Non connection
C 21	MIC SW	I	MIC detection	61	RY-HP	O	Headphone relay ON/OFF (active: H)
22	232C DET	I	232C signal input detection	62	RY-A	O	Speaker A relay ON/OFF (active: H)
23	MR IN	I	Remote control input of sub room (active: H)	63	NC	O	Non connection
24	NC	O	Non connection	64	NECK	O	6/8Ω switch L: 6Ω, H: 8Ω, Initial: 8Ω
25	NC	O	Non connection	65	RDY	O	Communication ready with main UCOM
26	NC			66	CLK	O	Communication clock with main UCOM
27	NC			67	DO	O	Communication data out with main UCOM
28	VEE	-	Ground	68	DI	I	Communication data in with main UCOM
D 29	NC	O	Non connection	69	FL_LAT	O	FL DRV LAT
30	NC			70	FL_CLK	O	FL DRV CLK
31	NC			71	FL_DO	O	FL DRV DATA
32	NC			72	FL_BK	O	FL DRV BK
33	NC			73	AVSS	-	Ground
34	NC			74	VREF	-	5V reference voltage
35	NC			75	NC	O	Non connection
36	NC			76	CS	I	Communication CS with main UCOM
37	NC			77	NC	O	Non connection
38	NC			78	NC		
39	NC	79	NC				
E 40	NC			80	NC		

## ■ BU4094BCF (MAIN CONTROL ASSY: IC502)

### • Expansion IC

#### ● Pin Function

No.	Pin Name	Pin Function	Active
1	DEM_STP	Demodulator oscillation OFF/ON	H
2	DEM_RST	Demodulator reset L: RESET	L
3	MRH	TC9215C12(Pin 5) control	H
4	NC	Not used	
5	NJM2596_SW5	NJM2596 video control of main system	H
6	NJM2596_SW4		H
7	NJM2596_SW3		H
8	NJM2596_SW2		

## ■ BU4094BCF (MAIN CONTROL ASSY: IC503)

### • Expansion IC

#### ● Pin Function

No.	Pin Name	Pin Function	Active
1	OSD ON	ON at OSD on	H
2	TC9215_C34	Switch the DSP/DIRECT/MULTI CH IN of surround signal H: Multi ch input path	
3	PHONO GAIN	"H" at PHONO equalizer ON	H
4	DSDM	DSD DIRECT control	H
5	MUTE	"H" at Power ON processing and muting	H
6	FUNC	COMPONENT D4 Input selection (2 Input to 1 Output)	
7	FAN DRIVE	ON when rotates the FAN	H
8	LOFAN	Not used, "H" fixed	

## PCM2902EG (COAXIAL IN ASSY: IC1681) (VSX-56TXi only)

### • USB Codec IC

#### A • Pin Assignment (Top view)

28	27	26	25	24	23	22	21	20	19	18	17	16	15
SSPND	VDDI	DGND	DOUT	DIN	VCCXI	AGNDX	XTI	XTO	VCCP2I	AGNDP	VCCP1I	VOU <sub>TL</sub>	VOU <sub>TR</sub>
1	2	3	4	5	6	7	8	9	10	11	12	13	14
D+	D-	VBUS	DGNDU	HID0	HID1	HID2	SEL0	SEL1	VCCCI	AGNDC	VINL	VINR	VCOM

#### • Pin Function

No.	Pin Name	I/O	Pin Function
1	D+	I/O	USB differential input/output plus(1)
2	D-	I/O	USB differential input/output minus(1)
3	VBUS	I	Connect to USB power (VBUS)
4	DGNDU	-	Digital ground for USB transceiver
5	HID0	I	HID key state input (mute), active high(3)
6	HID1	I	HID key state input (volume up), active high(3)
7	HID2	I	HID key state input (volume down), active high(3)
8	SEL0	I	Must be set to high(6)
9	SEL1	I	Must be set to high(6)
10	VCCCI	-	Internal analog power supply for codec(4)
11	AGNDC	-	Analog ground for codec
12	VINL	I	ADC analog input for L-channel
13	VINR	I	ADC analog input for R-channel
14	VCOM	-	Common for ADC/DAC (VCCCI/2) (4)
15	VOU <sub>TR</sub>	O	DAC Analog output for R-channel
16	VOU <sub>TL</sub>	O	DAC analog output for L-channel
17	VCCP1I	-	Internal analog power supply for PLL(4)
18	AGNDP	-	Analog ground for PLL
19	VCCP2I	-	Internal analog power supply for PLL(4)
20	XTO	O	Crystal oscillator output
21	XTI	I	Crystal oscillator input(2)
22	AGNDX	-	Analog ground for oscillator
23	VCCXI	-	Internal analog power supply for oscillator(4)
24	DIN	I	S/PDIF input(5)
25	DOUT	O	S/PDIF output
26	DGND	-	Digital ground
27	VDDI	-	Internal digital power supply(4)
28	SSPND	O	Suspend flag, active low (Low: suspend, High: operational)

(1) LV-TTL level

(2) 3.3-V CMOS level input

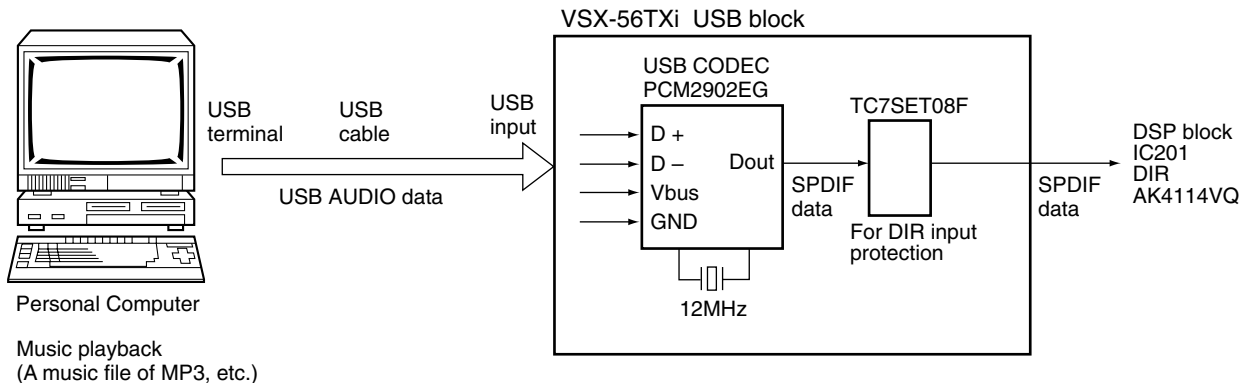
(3) 3.3-V CMOS level input with internal pulldown. This pin informs the PC of serviceable control signals such as mute, volume up, or volume down, which has no connection with the internal DAC or ADC directly. See the volume control and mute control section.

(4) Connect a decouple capacitor to GND

(5) 3.3-V CMOS level input with internal pulldown, 5 V tolerant

(6) TTL Schmitt trigger, 5 V tolerant

## ● Flow of USB Input Data



### About PCM2902EG

- With codec of USB BUS POWERED, power is supplied from Vbus of USB, and work. (work with a power supply of VSX-56TXi irrelatively.)
- Be USB codec, but analog I/O and digital (SPDIF) input are not using in VSX-56TXi.
- When only connects to PC and receiver (VSX-56TXi) is turned on, the output of TC7SET08F outputs.

## ● Help of Non-failure Decision

### Symptom when a sound is not output (Symptom is different by each OS)

- Confirm a driver whether PC is recognizing it. (With a device manager).
- Is a switch of sound source performed properly? (Control Panel, Sound or Multimedia)
- Is volume control of PC adjusted?
- How is other PC?
- In the state that does not change PC setting, is sound output in other VSX-56TXi?
- When uses CD-ROM and playback a music CD, and a sound is not output, is digital playback of CD-ROM checked?

### When contain noise

- There is a bug in early USB AUDIO driver of WINDOWS XP, and contain noise once for several minutes. (Correspond with WINDOWS UPDATE.)
- An affinity problem with chip set
- Adaptation problem with chip set (refer to next item)
- Performance issue of PC. (Release resident software as measures.)
- Noise when using the other software during music playback. (Do not guarantee or do not use the other software)
- Do contain the same noise even if changes the PC?

### Reference

Confirmation item of the USB part with Function checker.  
Supply a power supply (+5V: pin 3, GND: pin 4) of IC1681 (PCM2902EG), and connect D+ (pin1) to GND.  
Confirm that X1681 (ASS7047) starts oscillating.

#### Support OS

Windows	98 / 98SE / ME
Windows	2000 Professional
Windows	XP Home / Professional

## ● Adaptation Problem with Chip Set

### PCM2902EG caution of operation

Operating environment and findings of PCM2902EG

Evaluation PC: Libretto PAL2060 TNML made by Toshiba

- (1) CPU: Crusoe 600MHz made by Transmeta  
Use chip set: Transmeta N/B (North Bridge)  
M1533 (South Bridge) made by ALi  
OS: Windows ME
- (2) CPU: Celeron 566MHz made by Intel  
Use chip set: Aladdin Pro 5 (North Bridge) and M1533 (South Bridge) made by ALi  
OS: Windows ME
- (3) CPU: K6-2 400MHz made by AMD  
Use chip set: Aladdin 5 (North Bridge) and M1543 (South Bridge) made by ALi  
OS: Windows ME

When contain noise by a problem of the chip set side, there is a problem in the PC side because even other USB audio equipment contains noise.

Therefore, do not recommend use in the condition and environment as mentioned above.

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

• List of IC

TSB43CA42ZGW, SM5819AF, TA1270BF

■ TSB43CA42ZGW (1394 ASSY : IC201)

• iceLynx-Micro

● Pin Arrangement (Top view)

A

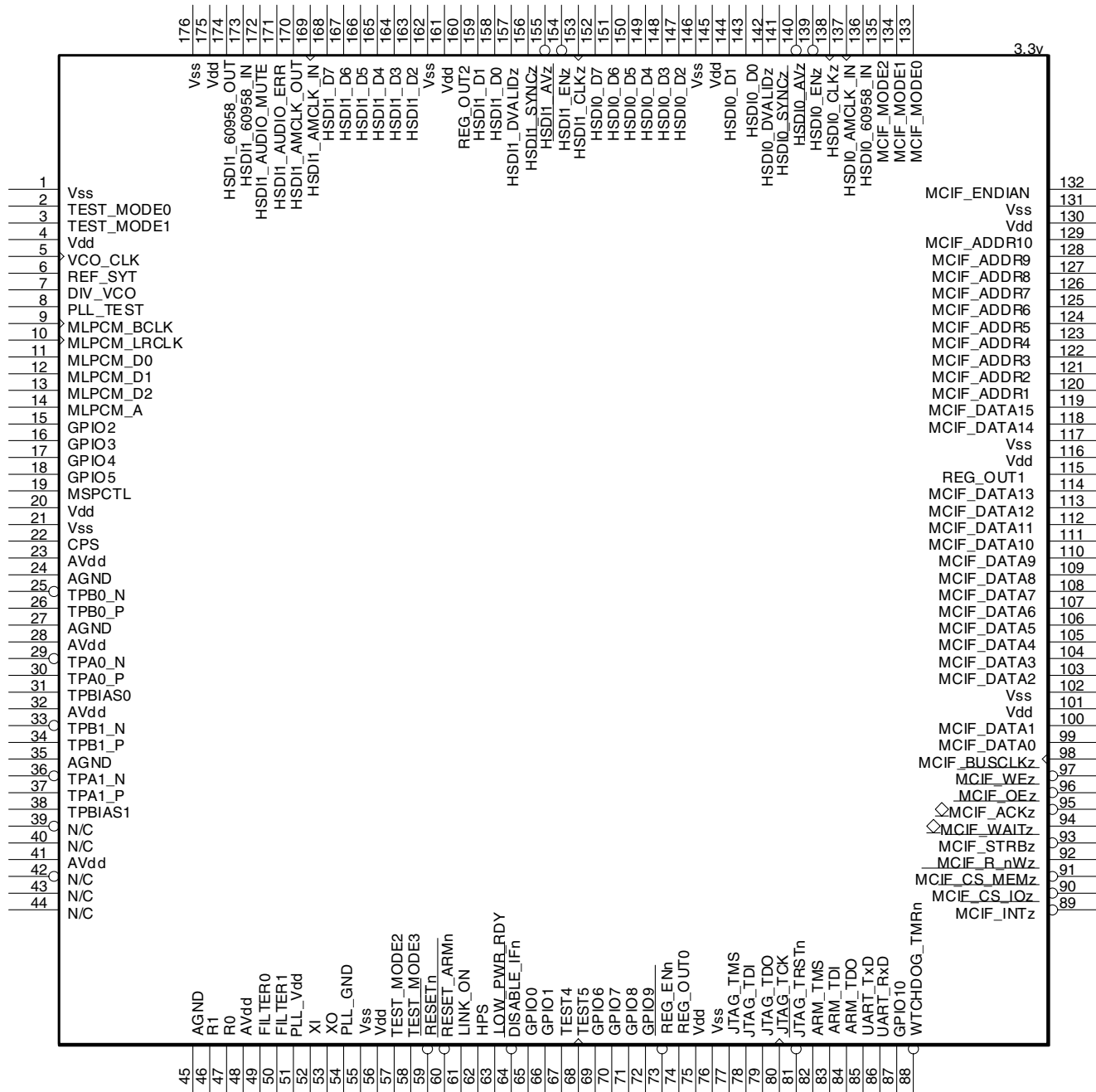
B

C

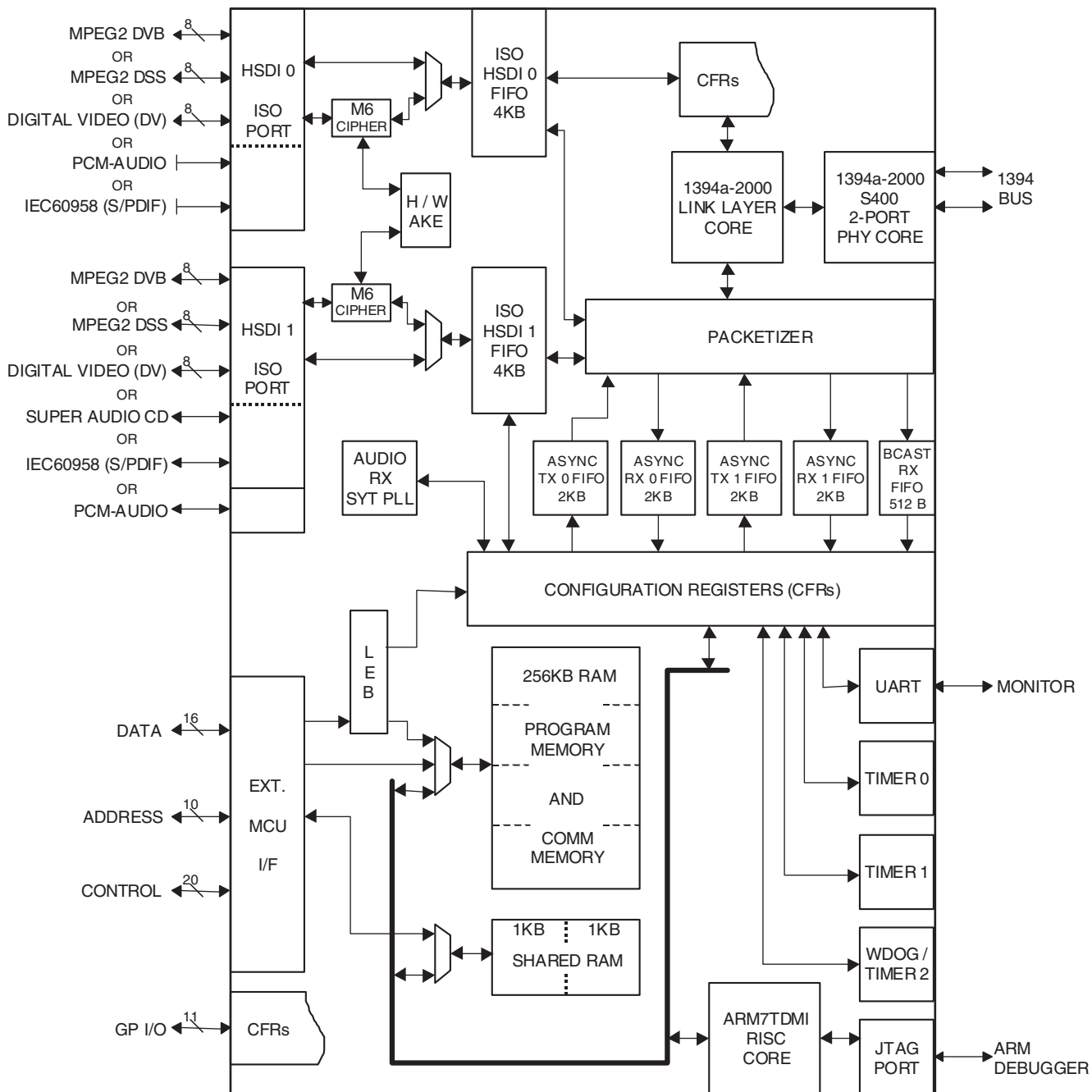
D

E

F



● Block Diagram



A  
B  
C  
D  
E  
F

## ● Pin Function

### Miscellaneous Pins

No.	Pin Name	I/O	Pin Function
64	DISABLE_IFn	I	Interface disable. When asserted, the interfaces are put into a high-Z state. Interfaces include: ex-CPU, HSDI, GPIO, and WTCH_DG_TMRn.
62	HPS	I	Host power status. This indicates the power status of the external system to iceLynx-Micro. A rising edge indicates the system CPU has been turned ON. (The internal ARM must wake up.) A falling edge indicates the system CPU has been turned OFF. (The internal ARM decides if power down is necessary.)
63	LOW_PWR_RDY	O	Output to system to indicate iceLynx-Micro is ready to go into a low power state. The ARM and WTCH_DG_TMRn control this pin.
88	WTCH_DG_TMRn	O	Watch dog timer (for the ARM). iceLynx-Micro hardware asserts this pin whenever ARM software has not updated the Timer2 register within the allowed time period.
60	RESET_ARMn	I	ARM reset. This signal resets the internal ARM processor.
59	RESETn	I	Device reset. This signal resets all logic. This includes the PHY, link core, memory, the ARM, and random logic.

### Power and Ground Pins

No.	Pin Name	I/O	Pin Function
1,21,55,76, 102,117,131, 146,162,176	VSS	–	Digital ground
24,27,35,45	AGND	–	Analog ground
54	PLL_GND	–	PLL ground
4,20,56,75, 101,116,130, 145,161,175	VDD	–	Digital power supply. Must be set to 3.3-V nominal.
23,28,32,41,48	AVDD	–	Analog power supply. Must be set to 3.3-V nominal.
51	PLL_VDD	–	PLL power supply. Must be set to 3.3-V nominal.

### Regulator Pins

No.	Pin Name	I/O	Pin Function
73	REG_ENn	I	Internal regulator enable. The iceLynx-Micro core voltage is 1.8 V. Internal regulators are used to regulate the 3.3-V VDD inputs to 1.8 V. This pin enables the regulators.
74	REG_OUT0	O	1.8-V regulator output. This pin must be connected to ground using a 0.1- $\mu$ F capacitor.
115	REG_OUT1	O	1.8-V regulator output. This pin must be connected to ground using a 0.1- $\mu$ F capacitor.
160	REG_OUT2	O	1.8-V regulator output. This pin must be connected to ground using a 0.1- $\mu$ F capacitor.

### External CPU Interface Pins

No.	Pin Name	I/O	Pin Function
95	MCIF_ACKz	I/O	MCIF acknowledge pin. Default active low. iceLynx-Micro asserts this signal if it has completed the MCIF request. This signal is driven when chip select (CS) is asserted. This signal is used for the following modes: <ul style="list-style-type: none"> <li>• 68000 + wait I/O access</li> <li>• I/O Type-3 MPC850</li> </ul>
120	MCIF_ADDR1	I	MCIF address 1 pin. This data pin is the least significant bit of the MCIF address bus. MCIF_ADDR0 is internally grounded. Only 16-bit addressing is allowed. MCIF_ADDR1 must be connected to the Address1 signal of the system CPU.



No.	Pin Name	I/O	Pin Function
121	MCIF_ADDR2	I	MCIF address 2 pin
122	MCIF_ADDR3	I	MCIF address 3 pin
123	MCIF_ADDR4	I	MCIF address 4 pin
124	MCIF_ADDR5	I	MCIF address 5 pin
125	MCIF_ADDR6	I	MCIF address 6 pin
126	MCIF_ADDR7	I	MCIF address 7 pin
127	MCIF_ADDR8	I	MCIF address 8 pin
128	MCIF_ADDR9	I	MCIF address 9 pin
129	MCIF_ADDR10	I	MCIF address 10 pin. This data pin is the most significant bit of the MCIF address bus.
98	MCIF_BUSCLKz	I	MCIF bus clock. This pin is only used for the MCIF synchronous mode. I/O Type-3 MPC850 and the memory access. This signal must be pulled high if not used.
90	MCIF_CS_IOz	I	MCIF chip select for all I/O MCIF modes.
91	MCIF_CS_MEMz	I	MCIF chip select for the memory MCIF mode.
99	MCIF_DATA0	I/O	MCIF data 0 pin. This data pin is the least significant bit of the MCIF data bus.
100	MCIF_DATA1	I/O	MCIF data 1 pin.
103	MCIF_DATA2	I/O	MCIF data 2 pin.
104	MCIF_DATA3	I/O	MCIF data 3 pin.
105	MCIF_DATA4	I/O	MCIF data 4 pin.
106	MCIF_DATA5	I/O	MCIF data 5 pin.
107	MCIF_DATA6	I/O	MCIF data 6 pin.
108	MCIF_DATA7	I/O	MCIF data 7 pin.
109	MCIF_DATA8	I/O	MCIF data 8 pin.
110	MCIF_DATA9	I/O	MCIF data 9 pin.
111	MCIF_DATA10	I/O	MCIF data 10 pin.
112	MCIF_DATA11	I/O	MCIF data 11 pin.
113	MCIF_DATA12	I/O	MCIF data 12 pin.
114	MCIF_DATA13	I/O	MCIF data 13 pin.
118	MCIF_DATA14	I/O	MCIF data 14 pin.
119	MCIF_DATA15	I/O	MCIF data 15 pin. This data pin is the most significant bit of the MCIF data bus.
132	MCIF_ENDIAN	I	MCIF endian pin. This sets the endianness for accesses between the external CPU and the internal iceLynx-Micro memory. This pin sets endianness for all MCIF modes. When set to 0, data is read/written to the ex-CPU exactly as it is stored in iceLynx-Micro memory. (Big endian) When set to 1, data is swapped on half-word and byte boundaries before it is read/written to the ex-CPU. (Little endian)
89	MCIF_INTz	O	MCIF Interrupt. This signal is push-pull (always asserted). It does not require a pull-up resistor.
133	MCIF_MODE0	I	MCIF mode 0. Used to select MCIF mode.
134	MCIF_MODE1	I	MCIF mode 1. Used to select MCIF mode.
135	MCIF_MODE2	I	MCIF mode 2. Used to select MCIF mode.
96	MCIF_OEz	I	MCIF output enable. Default active low. This input pin indicates if the system CPU wants to perform a MCIF read access. This signal is used for the following modes: • SH-3 I/O access • M16C/62 I/O access • Memory access This signal must be pulled high if not used.
92	MCIF_R_nWz	I	MCIF read/write pin. Default value for a read is 1. Default value for a write is 0.
93	MCIF_STRBz	I	MCIF strobe pin. Default active low. This pin is used (along with MCIF_CS_IOz) to validate the MCIF access. This signal is used for the following modes: • 68000 + wait I/O access • MPC850 I/O access When not used, this pin must be pulled high.
94	MCIF_WAITz	O	MCIF wait pin. Default active high. iceLynx-Micro asserts this signal if it is not ready to service an MCIF request. When not asserted, this signal is in a high-Z state. This signal is used for the following modes: • 68000 + wait I/O access • SH-3 I/O access • M16C/62 I/O access
97	MCIF_WEz	I	MCIF Write Enable. Default active low. This input pin indicates if the system CPU wants to perform a MCIF write access. This signal is used for the following modes: • SH-3 I/O access • M16C/62 I/O access • Memory access This signal must be pulled high if not used.

### Universal Asynchronous Receiver Transmitter Pins

No.	Pin Name	I/O	Pin Function
86	UART_RxD	I	UART receive port. Data from the system is input to the UART buffer using this pin.
85	UART_TxD	O	UART transmit port. Data from the UART buffer is output to the system using this pin.

### Joint Test Action Group (JTAG) and ARM Pins

No.	Pin Name	I/O	Pin Function
80	JTAG_TCK	I	JTAG clock pin. Both the boundary scan and ARM JTAG uses this input for the JTAG clock.
78	JTAG_TDI	I	JTAG test data input pin
79	JTAG_TDO	O	JTAG test data output pin
77	JTAG_TMS	I	JTAG test mode selector pin.
81	JTAG_TRSTn	I	JTAG reset pin. Both the boundary scan and ARM JTAG uses this input for the JTAG clock. <b>Note 1:</b> TSB43Cx43A/TSB43CA42 must have JTAG_TRSTn=0 for correct ARM interrupt operation. <b>Note 2:</b> JTAG_TRST must be asserted once after power-up for correct operation of the iceLynx-Micro.
83	ARM_TDI	I	ARM JTAG test data input pin
84	ARM_TDO	O	ARM JTAG test data output pin
82	ARM_TMS	I	ARM JTAG test mode selector pin

### General-Purpose Input/Out Pins (GPIO)

No.	Pin Name	I/O	Pin Function
65	GPIO0	I/O	GPIO0. Can be programmed as general-purpose input, general-purpose output, or specific function. Power-up default is input.
66	GPIO1	I/O	GPIO1. Can be programmed as general-purpose input, general-purpose output, or specific function. Power-up default is input.
15	GPIO2	I/O	GPIO2. Can be programmed as general-purpose input, general-purpose output, or specific function. Power-up default is input.
16	GPIO3	I/O	GPIO3. Can be programmed as general-purpose input, general-purpose output, or specific function. Power-up default is input.
17	GPIO4	I/O	GPIO4. Can be programmed as general-purpose input, general-purpose output, or specific function. Power-up default is input.
18	GPIO5	I/O	GPIO5. Can be programmed as general-purpose input, general-purpose output, or specific function. Power-up default is input.
69	GPIO6	I/O	GPIO6. Can be programmed as general-purpose input, general-purpose output, or specific function. Power-up default is input.
70	GPIO7	I/O	GPIO7. Can be programmed as general-purpose input, general-purpose output, or specific function. Power-up default is input.
71	GPIO8	I/O	GPIO8. Can be programmed as general-purpose input, general-purpose output, or specific function. Power-up default is input.
72	GPIO9	I/O	GPIO9. Can be programmed as general-purpose input, general-purpose output, or specific function. Power-up default is input.
87	GPIO10	I/O	GPIO10. Can be programmed as general-purpose input, general-purpose output, or specific function. Power-up default is input.

### Physical Layer Pins

No.	Pin Name	I/O	Pin Function
29	TPA0_N	I/O	Twisted pair A differential signal terminals. For an unused port, TPAN and TPAP signals are left open (i.e., TSB43CA42 for Port 2).
36	TPA1_N	I/O	
42	TPA2_N	I/O	
30	TPA0_P	I/O	
37	TPA1_P	I/O	
43	TPA2_P	I/O	

No.	Pin Name	I/O	Pin Function
25	TPB0_N	I/O	Twisted pair B differential signal terminals. For an unused port, TPBN and TPBP signals are left open (i.e., TSB43CA42 for Port 2).
33	TPB1_N	I/O	
39	TPB2_N	I/O	
26	TPB0_P	I/O	
34	TPB1_P	I/O	
40	TPB2_P	I/O	
31	TPBIAS0	I/O	Twisted pair bias output. These signals provide the 1.86-V nominal bias voltage needed for proper operation of the twisted pair driver and receivers for signaling an active connection to a remote node. For an unused port, TPBIAS is left unconnected (i.e., TSB43CA42 for Port 2).
38	TPBIAS1	I/O	
44	TPBIAS2	I/O	
46	R1	–	Current setting resistors. These pins are connected to external resistors to set the internal operating currents and cable driver output currents.
47	R0	–	
49	FILTER0	I/O	PLL filter terminals. These terminals are connected to an external capacitor to form a lag-lead filter required for stable operation of the internal frequency-multiplier PLL, which is using the crystal oscillator.
50	FILTER1	I/O	
52	XI	–	Crystal oscillator inputs. These terminals connect to a 24.576-MHz parallel resonant fundamental mode crystal.
53	XO	–	
22	CPS	I	Cable power status. This input to iceLynx-Micro detects if cable power is present. This pin must be connected to the cable power through 390-k $\Omega$ resistor.
19	MSPCTL	I	Maximum speed of PHY. When this signal is high; S100 and S200 operation. When this signal is low; S100, S200, and S400 operation.
61	LINKON	O	Link-on output. This signal is asserted whenever LPS is low and a link-on packet is received from the 1394 bus.

### High Speed Data Interface (HSDI) Port 0 Pins

No.	Pin Name	I/O	Pin Function
136	HSDI0_60958_IN	I	60958 data input
137	HSDI0_AMCLK_IN	I	Audio master clock input. This clock is used to decode the biphase encoding of 60958 data. This pin is also used to input the 1.5*BCLK for flow control mode.
140	HSDI0_AVz	O	HSDI port 0 available. Programmable. Default active low. For receive from 1394, this signal indicates if a 1394 packet is available in the receive buffer for reading. The HSDI_AV signal for MPEG2 data also depends on time stamp based release. For transmit to 1394, this signal indicates buffer level in HSDI TX modes 8 and 9 by programming a CFR. If the buffer level is above a programmed level, HSDI_AV will be asserted.
138	HSDI0_CLKz	I	HSDI port 0 clock. Programmable. Default rising edge sample. This clock is used to operate the HSDI port 0 logic. In parallel mode, the maximum clock is 27 MHz. In serial mode, the maximum clock is 70 MHz. This signal is output to HSDI1_CLKz in pass-through mode. This signal is used as HSDI0_MLPCM_BCLK for DVD-audio transmit.
143	HSDI0_D0	I/O	HSDI port 0 data 0 pin. Data 0 is the least significant bit on the HSDI data bus. In serial mode, only HSDI0_D0 is used. This signal is output to HSDI1_D0 in pass-through mode. This signal is used as HSDI0_MLPCM_D0 for DVD-audio transmit.
144	HSDI0_D1	I/O	HSDI port 0 Data 1 pin. This signal is output to HSDI1_D1 in pass-through mode. This signal is used as HSDI0_MLPCM_D1 for DVD-audio transmit.
147	HSDI0_D2	I/O	HSDI port 0 Data 2 pin. This signal is output to HSDI1_D2 in pass-through mode. This signal is used as HSDI0_MLPCM_D2 for DVD-audio transmit.
148	HSDI0_D3	I/O	HSDI port 0 Data 3 pin. This signal is output to HSDI1_D3 in pass-through mode. This signal is used as HSDI0_MLPCM_A for DVD-audio transmit.
149	HSDI0_D4	I/O	HSDI port 0 data 4 pin. This signal is output to HSDI1_D4 in pass-through mode
150	HSDI0_D5	I/O	HSDI port 0 data 5 pin. This signal is output to HSDI1_D5 in pass-through mode
151	HSDI0_D6	I/O	HSDI port 0 data 6 pin. This signal is output to HSDI1_D6 in pass-through mode
152	HSDI0_D7	I/O	HSDI port 0 data 7 pin. Data 0 is the most significant bit on the HSDI data bus. This signal is output to HSDI1_D7 in pass-through mode

No.	Pin Name	I/O	Pin Function
A 142	HSDI0_DVALIDz	I/O	HSDI port 0 data valid pin. Programmable. Default active high. This pin indicates if data on the HSDI data bus valid for reading or writing. For transmit to 1394, this signal is provided by the system with the data. For receive from 1394, iceLynx-Micro provides this signal with the data. For HSDI DV modes, this signal is used as HSDI0_FrameSync indicating DV frame boundary. This signal is output to HSDI1_DVALIDz in pass-through mode. If not used in transmit mode, this signal is pulled low.
139	HSDI0_ENz	I	HSDI port 0 enable. Programmable. Default active low. Input by the system to enable the HSDI for both transmit to and receive from 1394. If not used, this signal is pulled enabled (low or high depending on the polarity set). The application can use HSDI_DVALID or HSDI_SYNC to validate the HSDI data. This signal is used as HSDI0_MLPCM_LRCLK for DVD-audio transmit.
B 141	HSDI0_SYNCz	I/O	HSDI port 0 sync signal. Programmable. Default active high. This signal indicates the start of packet. For transmit to 1394, this signal is provided by the system with the data. For receive from 1394, iceLynx-Micro provides this signal with the data. This signal is output to HSDI1_SYNCz in pass-through mode. If not used in transmit mode, this signal is pulled low or high depending on the polarity.

### High Speed Data Interface (HSDI) Port 1 Pins

No.	Pin Name	I/O	Pin Function
C 169	HSDI1_AMCLK_IN	I	Audio master clock input. This clock is used to decode the biphas encoding of 60958 data. This pin also inputs the 1.5*BCK for flow control mode. MLPCM interface, HSDI1 audio port, and HSDI1 video port share IsoPathBuffer 1. Only one interface can access the buffer at a time.
170	HSDI1_AMCLK_OUT	O	Audio master clock output. This clock is derived from the VCO_CLK input. 60958 data output from iceLynx-Micro is biphas encoded using this clock.
171	HSDI1_AUDIO_ERR	O	Audio error signal. iceLynx-Micro asserts this signal whenever an audio error condition occurs. (Receive from 1394 only.)
172	HSDI1_AUDIO_MUTE	O	Audio mute status. iceLynx-Micro asserts this signal whenever an audio mute condition has occurred, and hardware has muted the HSDI1 audio interface. (Receive from 1394 only.)
173	HSDI1_60958_IN	I	60958 data input
174	HSDI1_60958_OUT	O	60958 data output This signal is also used as FLWCTRL_DVALID in flow control data valid mode.
D 155	HSDI1_AVz	O	HSDI port 1 available. Programmable. Default active low. For receive from 1394, this signal indicates if a 1394 packet is available in the receive buffer for reading. The HSDI_AV signal for MPEG2 data also depends on time stamp based release. For transmit to 1394, this signal indicates the buffer level in HSDI TX modes 8 and 9 by programming a CFR. This pin indicates buffer level in transmit mode by programming a CFR. If the buffer level is above a programmed level, HSDI_AV is asserted.
153	HSDI1_CLKz	I/O	HSDI port 1 clock. Programmable. Default rising edge sample. This clock is used to operate the HSDI port 1 logic. In parallel mode, the maximum clock is 27 MHz. In serial mode, the maximum clock is 70 MHz. This signal is used as HSDI1_SACD_BCLK for SACD transmit and receive. MLPCM interface, HSDI1 audio port, and HSDI1 video port share IsoPathBuffer 1. Only one interface can access the buffer at a time.
E 158	HSDI1_D0	I/O	HSDI port 1 data 0 pin. Data 0 is the least significant bit on the HSDI data bus. In serial mode, only HSDI0_D0 is used. This signal is used as HSDI1_SACD_D0 for SACD transmit and receive.
159	HSDI1_D1	I/O	HSDI port 1 data 1 pin. This signal is used as HSDI1_SACD_D1 for SACD transmit and receive.
163	HSDI1_D2	I/O	HSDI port 1 data 2 pin. This signal is used as HSDI1_SACD_D2 for SACD transmit and receive.

No.	Pin Name	I/O	Pin Function
164	HSDI1_D3	I/O	HSDI port 1 data 3 pin. This signal is used as HSDI1_SACD_D3 for SACD transmit and receive.
165	HSDI1_D4	I/O	HSDI port 1 data 4 pin. This signal is used as HSDI1_SACD_D4 for SACD transmit and receive.
166	HSDI1_D5	I/O	HSDI port 1 data 5 pin. This signal is used as HSDI1_SACD_D5 for SACD transmit and receive.
167	HSDI1_D6	I/O	HSDI port 1 data 6 pin. This signal is used as HSDI1_SACD_D6 for SACD transmit and receive.
168	HSDI1_D7	I/O	HSDI port 1 data 7 pin. Data 0 is the most significant bit on the HSDI data bus.
157	HSDI1_DVALIDz	I/O	HSDI port 1 data valid pin. Programmable. Default active high. This pin indicates if data on the HSDI data bus valid for reading or writing. For transmit to 1394, this signal is provided by the system with the data. For receive from 1394, iceLynx-Micro provides this signal with the data. For HSDI DV modes, this signal is used as HSDI0_FrameSync indicating DV frame boundary. If not used in transmit mode, this signal is pulled low.
154	HSDI1_ENz	I	HSDI port 1 enable. Programmable. Default active low. Input by the system to enable the HSDI for both transmit to and receive from 1394. If not used, this signal is pulled enabled (low or high depending on the polarity set). The application can use HSDI_DVALID or HSDI_SYNC to validate the HSDI data.
156	HSDI1_SYNCz	I/O	HSDI port 1 sync signal. Programmable. Default active high. This signal indicates the start of a packet. For transmit to 1394, this signal is provided by the system with the data. For receive from 1394, iceLynx-Micro provides this signal with the data. If not used in transmit mode, this signal is pulled low or high depending on the polarity. This signal is used as HSDI1_SACD_FRAME for SACD transmit and receive.

### DVD-Audio Interface Pins

No.	Pin Name	I/O	Pin Function
14	MLPCM_A	I/O	Audio MLPCM interface ancillary data. Ancillary data is input/output using this pin. For DVD-Audio, MLPCM_LRCLK determines if ancillary left or ancillary right data is present. This signal also functions as FLWCTL_A in flow control mode
9	MLPCM_BCLK	I/O	Audio MLPCM interface bit clock. Multiple functions: <ul style="list-style-type: none"> <li>• DVD audio BCK (I)</li> <li>• DVD audio BCK (O)</li> <li>• Flow control BCK (I/O)</li> </ul> MLPCM interface, HSDI1 audio port, and HSDI1 video port share IsoPathBuffer 1. Only one interface can access the buffer at a time.
11	MLPCM_D0	I/O	Audio MLPCM interface D0. Contains channel 1 and channel 2 information. MLPCM_LRCLK determines which channel is present. This signal also functions as FLWCTL_D0 in flow control mode.
12	MLPCM_D1	I/O	Audio MLPCM interface D1. Contains channel 3 and channel 4 information. MLPCM_LRCLK determines which channel is present. This signal also functions as FLWCTL_D0 in flow control mode
13	MLPCM_D2	I/O	Audio MLPCM interface D2. Contains channel 5 and channel 6 information. MLPCM_LRCLK determines which channel is present. This signal also functions as FLWCTL_D0 in flow control mode
10	MLPCM_LRCLK	I/O	Audio MLPCM interface left-right clock. Multiple functions: <ul style="list-style-type: none"> <li>• DVD audio LRCLK (I)</li> <li>• DVD audio LRCLK (O)</li> <li>• Flow control LRCLK (I/O)</li> </ul>

### Audio Phase Lock Loops Pins

No.	Pin Name	I/O	Pin Function
7	DIV_VCO	O	Output for external phase detector. This signal is the divided VCO_CLK. It used by the external phase detector to compare with the REF_SYT signal. The divide ratios are setup in CFR.
8	PLL_TEST	O	PLL test. This signal is used for internal TI testing and must be unconnected for normal operation.
6	REF_SYT	O	Output for external phase detector. This signal represents the SYT match for received audio or DV packets. The phase detector uses it as input to detect differences between the SYT match and the VCO clock.
5	VCO_CLK	I	Input from VCO. This signal generates internal audio and DV clocks for receive clock recovery. Audio frequency: 33.868 MHz or 36.864 MHz. DV frequency: 30.72 MHz, 27 MHz

### Test Mode Pins

No.	Pin Name	I/O	Pin Function
2	TEST_MODE0	I/O	Test mode. Used for internal TI testing. Must be pulled low for normal operation.
3	TEST_MODE1	I/O	
57	TEST_MODE2	I/O	
58	TEST_MODE3	I/O	
67	TEST4	I/O	Factory test pin.
68	TEST5	I/O	Must tie to low for normal operation. Recommend connection to ground through a 1 k $\Omega$ resistor.



## ● Pin Function

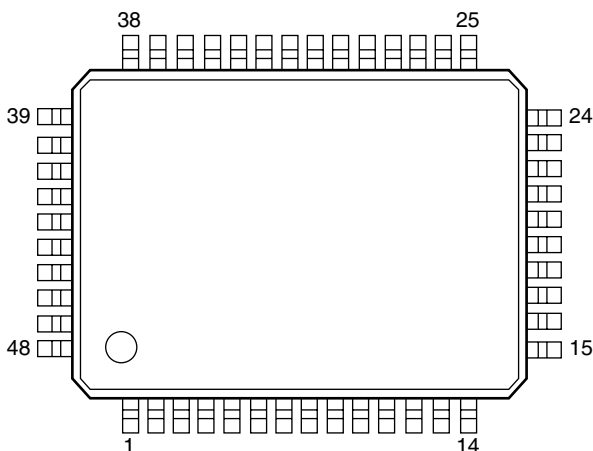
No.	Name	I/O	Function
1	VDDL	–	Core power supply
2	SEL1FS	I	PCM output rate select 1 L: 2fs/4fs, H: fs
3	SEL4FS	I	PCM output rate select 2 L: 2fs, H: 4fs
4	SELEXT	I	fs/2fs/4fs output and external data output select L: fs/2fs/4fs data, H: external data (EXI**)
5	DSGAIN	I	DSD signal gain setting L: 100% modulation = 0dB, H: 50% modulation = 0dB
6	XMTPCM	I	PCM output mute control input L: Mute ON, H: Mute OFF
7	VDDH	–	I/O power supply
8	TEST1	I	Test input 1 (must be open or tie LOW for normal operation)
9	TEST2	I	Test input 2 (must be open or tie LOW for normal operation)
10	TEST3	I	Test input 3 (must be open or tie LOW for normal operation)
11	TOUT1	O	Test output 1
12	VSS	–	Ground
13	VDDL	–	Core power supply
14	DIRPCK	I	PCM output PBCK/PLRCK I/O select L: Output (master mode), H: Input (slave mode)
15	FMTPCM	I	PCM output format select L: MSB-first left-justified 32-bit, H: IIS 32-bit
16	VSS	–	Ground
17	MCKOUT	O	System clock output (selected by SELEXT)
18	VDDH	–	I/O power supply
19	PBCK	I/O	PCM output BCK bit clock
20	PLRCK	I/O	PCM output LRCK word clock
21	POSLR	O	PCM data output: surround left/right-channel
22	POCSW	O	PCM data output: center/subwoofer channel
23	POFLR	O	PCM data output: front left/right-channel
24	VSS	–	Ground
25	VDDL	–	Core power supply
26	TOUT2	O	Test output 2
27	MCK	I	Master clock input: 512fs (22.5792MHz, fs = 44.1kHz)
28	VSS	–	Ground
29	EXIMCK	I	External system clock input
30	VDDH	–	I/O power supply
31	EXIBCK	I	External PCM data BCK bit clock input
32	EXILRCK	I	External PCM data LRCK word clock input
33	EXISLR	I	External PCM data input: surround left/right-channel
34	EXICSW	I	External PCM data input: center/subwoofer channel
35	EXIFLR	I	External PCM data input: front left/right-channel
36	VSS	–	Ground
37	VDDL	–	Core power supply
38	DSBCK	I/O	DSD data input bit clock. Controlled by DIRDSCK
39	DSIFL	I	DSD data input: front left-channel
40	DSIFR	I	DSD data input: front right-channel
41	DSICT	I	DSD data input: center channel
42	DSISW	I	DSD data input: subwoofer channel
43	DSISL	I	DSD data input: surround left-channel
44	DSISR	I	DSD data input: surround right-channel
45	DIRDSCK	I	DSBCK I/O select L: input (slave), H: output (master)
46	SYNC	I	Forced synchronization input (active-HIGH edge)
47	INIT	I	Initialization input: Active-LOW, Resync on L -> H
48	VSS	–	Ground



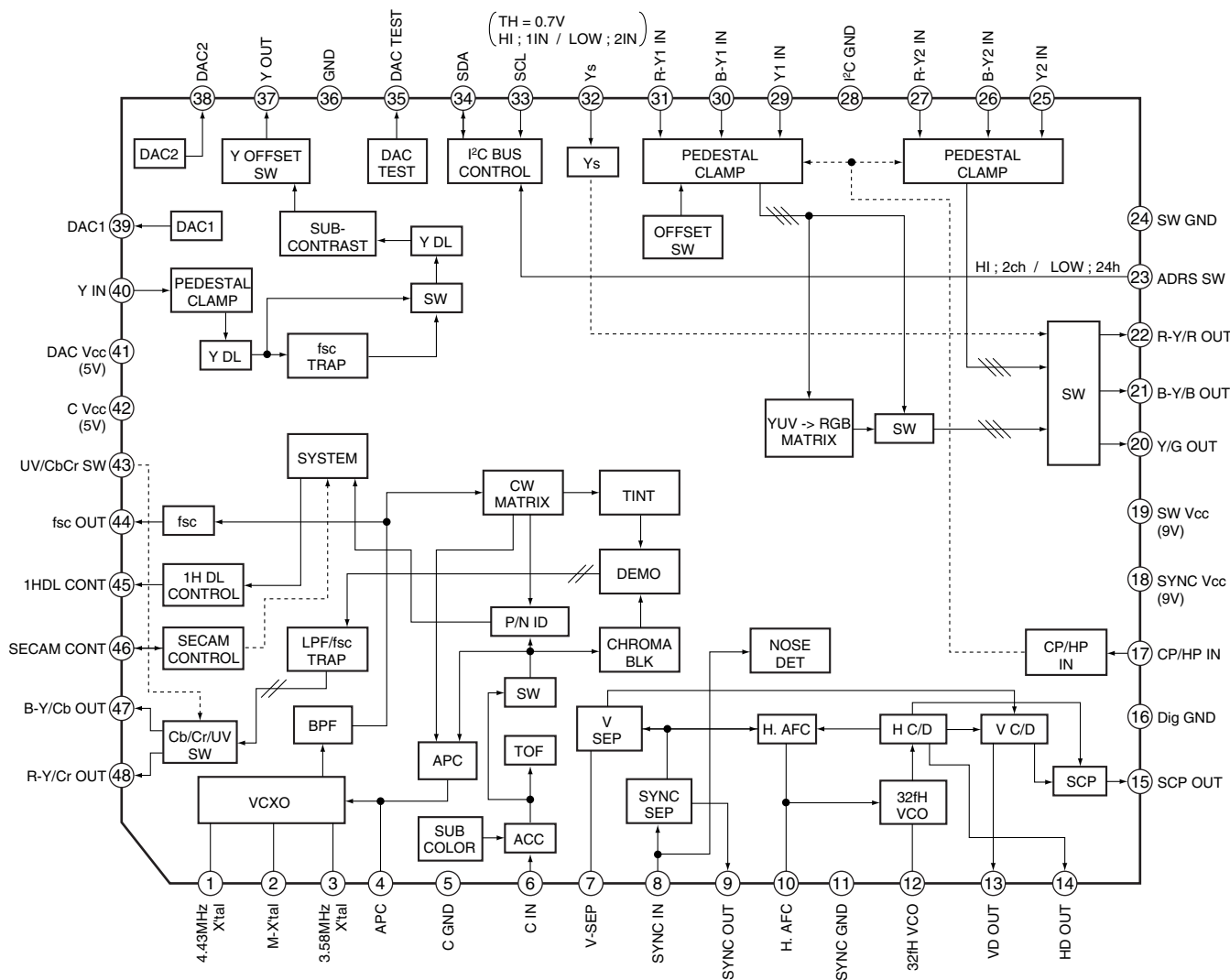
# TA1270BF (VIDEO CONVERT ASSY : IC3514)

• PAL/NTSC Video Chroma and Sync Processing System for PIP/POP/PAP

## • Pin Arrangement (Top view)



## • Block Diagram



## ● Pin Function

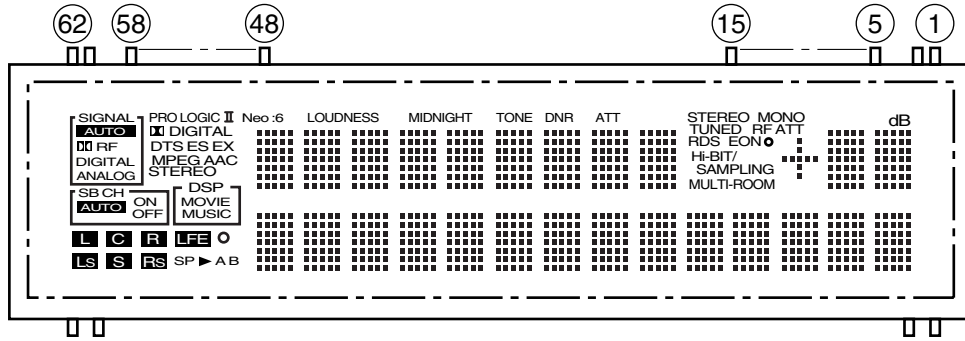
No.	Name	Function
1	X'tal-1	Connect crystal. Serial capacitance can vary oscillator frequency $f_0$ ; parallel capacitance can vary oscillator adjustment range.
2	X'tal-2	
3	X'tal-3	
4	APC filter	Connect APC filter for CHROMA demodulation. The voltage of this pin determines the VCXO oscillator frequency.
5	C GND	CHROMA processor GND pin
6	CHROMA input	CHROMA input pin. Input CHROMA signal after Y / C separation.
7	V-SEP	Connect vertical sync separation filter.
8	Sync input	Sync separator circuit input pin. Input via the clamp capacitor.
9	Sync output	Outputs sync signal separated using the sync separator circuit. Open collector output. Connect a pull-up resistor.
10	AFC filter	Connect a horizontal AFC filter. The voltage of this pin determines the horizontal output frequency.
11	SYNC GND	Sync processor GND pin
12	32 fH VCO	Connect a ceramic oscillator for horizontal oscillation.
13	VP output	Vertical pulse output pin
14	HD output	Outputs HD pulse processed by the AFC. HD output phase or pulse width can be changed by bus setting.
15	SCP output	Outputs sand castle pulse (SCP). The output signals are clamp pulse, horizontal blanking pulse, and vertical blanking pulse. The minimum load resistance is 3 k $\Omega$ .
16	Dig GND	Logic block GND pin
17	CP / HP input	Input pin for CP / HP pulse used to operate the SW circuit. CP is used as clamp pulse ; HP as blanking pulse.
18	SYNC Vcc	Vcc pins for sync processor block and SW block. Connect 9 V (Typ.).
19	SW Vcc	
20	Y / G output	Output Y / B-Y / R-Y or R / G / B. YUV / RGB output is switched by bus setting.
21	B-Y / B output	
22	R-Y / R output	
23	ADRS SW	Pin used to switch slave addresses. GND – 24H, VCC – 2CH
24	SW GND	Switch block GND pin
25	Y2 input	Y2 / B-Y2 / R-Y2 (YUV2 input) or R2/ G2 / B2 input pin. Input via capacitor used for clamp operation.
26	B-Y2 input	
27	R-Y2 input (YUV2)	
28	I <sup>2</sup> C GND	I <sup>2</sup> C block GND pin
29	Y1 input	Y1 / B-Y1 / R-Y1 (YUV1 input) or R1/ G1 / B1 input pin. Input via capacitor used for clamp operation.
30	B-Y1 input	
31	R-Y1 input (YUV1)	
32	Ys	High-speed switch for switching input pins 25, 26, and 27 (YUV2) and input pins 29, 30, and 31 (YUV1). The threshold is 0.7 V.
33	SCL	I <sup>2</sup> C Bus SCL pin
34	SDA	I <sup>2</sup> C Bus SDA pin
35	DAC TEST	DAC monitor pin for IC shipping inspection.
36	GND	GND pin
37	Y output	Outputs Y signal which passed fsc trap (trap is set on or off by Bus) and Y delay line circuit.
38	DAC2	1 bit DAC output pins
39	DAC1	
40	Y input	Composite video signal or Y signal input pin. Input via the clamp capacitor.
41	DAC Vcc	Vcc pins for DAC block and CHROMA processing block. Connect 5V (Typ.).
42	C Vcc	
43	UV / CbCr SW	UV / CbCr demodulation switch. OPEN – UV GND – CbCr CbCr demodulation is effective for NTSC only.
44	fsc output	Outputs crystal oscillator fsc. The pin voltage goes high only when 3.58NTSC is received.
45	1HDL CONT	Outputs PAL / SECAM / NTSC identification result. Adjust to DC and connect output to 1H DL IC.
46	SECAM CONT	I / O pin used to control SECAM demodulator IC. If 250 $\mu$ A or more flows from this pin, SECAM is determined.
47	B-Y / Cb output	Outputs B-Y (U) signal or Cb signal. Incorporates LPF to reject carrier.
48	R-Y / Cr output	Outputs R-Y (V) signal or Cr signal. Incorporates LPF to reject carrier. Pulling up the pin with 10 k $\Omega$ monitors CHROMA signal after ACC and TOF circuits (before demo input).

## 7.2.2 DISPLAY

### AAV7087 (DISPLAY ASSY : V3000)

#### FL DISPLAY

#### Pin Assignment

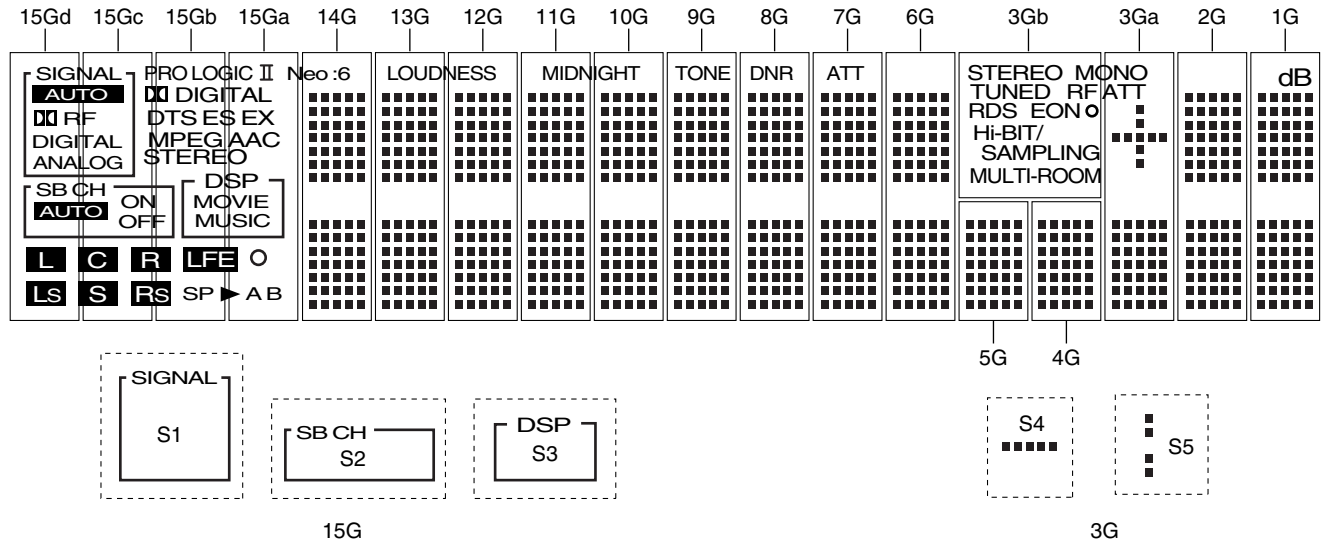


#### Pin Connection

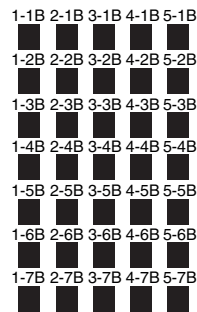
Pin No.	62	61	60	59	58	57	56	55	54	53	52	51	50	49	48	47-3	2	1
Connection	F2	F2	NP	NP	GND	GND	NC	VH	NC	VDD	BK	LAT	CLK	SI	SO	NP	F1	F1

- NOTE
- |  |  |  |
|--|--|--|
| 1) F1, F2..... Filament                | 6) VDD..... Logic Voltage Supply pin                 | 10) CLK..... Shift Register Clock                            |
| 2) NP..... No pin (5-15 cut it by 2mm) | 7) NC..... No connection                             | 11) SI..... Serial Data Input                                |
| 3) DL..... Datum Line                  | (NC pin should be electrically open on the PC board) | 12) SO..... Serial Data Output                               |
| 4) GND..... GND pin                    | 8) BK..... Driver Output Blanking                    | (to be open, if don't use)                                   |
| 5) VH..... High Voltage Supply pin     | 9) LAT..... Latch Control Input                      | 13) Field of vision is a minimum of 21° from the lower side. |

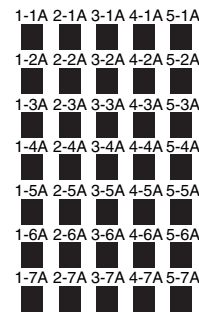
#### Grid Assignment



#### Segment Designation



(Lower stage)  
(14G to 1G)



(Upper stage)  
(14G to 6G, 2G, 1G)

• Anode Connection

	15Gd-15Ga	14G	13G	12G	11G	10G	9G	8G	7G	6G	5G	4G	3Gb, 3Ga	2G	1G
P1	Neo:6		LOUDNESS		MIDNIGHT		TONE		DNR	ATT	-	-	STEREO	-	dB
P2	PROLOGIC	1-1A	1-1A	1-1A	1-1A	1-1A	1-1A	1-1A	1-1A	1-1A	-	-	MONO	1-1A	1-1A
P3	II	2-1A	2-1A	2-1A	2-1A	2-1A	2-1A	2-1A	2-1A	2-1A	-	-	TUNED	2-1A	2-1A
P4	S1	3-1A	3-1A	3-1A	3-1A	3-1A	3-1A	3-1A	3-1A	3-1A	-	-	RF ATT	3-1A	3-1A
P5	AUTO	4-1A	4-1A	4-1A	4-1A	4-1A	4-1A	4-1A	4-1A	4-1A	-	-	RDS	4-1A	4-1A
P6	RF	5-1A	5-1A	5-1A	5-1A	5-1A	5-1A	5-1A	5-1A	5-1A	-	-	EON	5-1A	5-1A
P7	DIGITAL	1-2A	1-2A	1-2A	1-2A	1-2A	1-2A	1-2A	1-2A	1-2A	-	-	○	1-2A	1-2A
P8	ANALOG	2-2A	2-2A	2-2A	2-2A	2-2A	2-2A	2-2A	2-2A	2-2A	-	-	HI-BIT/ SAMPLING	2-2A	2-2A
P9	DIGITAL	3-2A	3-2A	3-2A	3-2A	3-2A	3-2A	3-2A	3-2A	3-2A	-	-	S4	3-2A	3-2A
P10	DTS	4-2A	4-2A	4-2A	4-2A	4-2A	4-2A	4-2A	4-2A	4-2A	-	-	S5	4-2A	4-2A
P11	ES	5-2A	5-2A	5-2A	5-2A	5-2A	5-2A	5-2A	5-2A	5-2A	-	-	-	5-2A	5-2A
P12	EX	1-3A	1-3A	1-3A	1-3A	1-3A	1-3A	1-3A	1-3A	1-3A	-	-	-	1-3A	1-3A
P13	MPEG	2-3A	2-3A	2-3A	2-3A	2-3A	2-3A	2-3A	2-3A	2-3A	-	-	-	2-3A	2-3A
P14	AAC	3-3A	3-3A	3-3A	3-3A	3-3A	3-3A	3-3A	3-3A	3-3A	-	-	-	3-3A	3-3A
P15	STEREO	4-3A	4-3A	4-3A	4-3A	4-3A	4-3A	4-3A	4-3A	4-3A	-	-	-	4-3A	4-3A
P16	S2	5-3A	5-3A	5-3A	5-3A	5-3A	5-3A	5-3A	5-3A	5-3A	-	-	-	5-3A	5-3A
P17	AUTO	1-4A	1-4A	1-4A	1-4A	1-4A	1-4A	1-4A	1-4A	1-4A	-	-	-	1-4A	1-4A
P18	ON	2-4A	2-4A	2-4A	2-4A	2-4A	2-4A	2-4A	2-4A	2-4A	-	-	-	2-4A	2-4A
P19	OFF	3-4A	3-4A	3-4A	3-4A	3-4A	3-4A	3-4A	3-4A	3-4A	-	-	-	3-4A	3-4A
P20	S3	4-4A	4-4A	4-4A	4-4A	4-4A	4-4A	4-4A	4-4A	4-4A	-	-	-	4-4A	4-4A
P21	MOVIE	5-4A	5-4A	5-4A	5-4A	5-4A	5-4A	5-4A	5-4A	5-4A	-	-	-	5-4A	5-4A
P22	MUSIC	1-5A	1-5A	1-5A	1-5A	1-5A	1-5A	1-5A	1-5A	1-5A	-	-	-	1-5A	1-5A
P23	L	2-5A	2-5A	2-5A	2-5A	2-5A	2-5A	2-5A	2-5A	2-5A	-	-	-	2-5A	2-5A
P24	C	3-5A	3-5A	3-5A	3-5A	3-5A	3-5A	3-5A	3-5A	3-5A	-	-	-	3-5A	3-5A
P25	R	4-5A	4-5A	4-5A	4-5A	4-5A	4-5A	4-5A	4-5A	4-5A	-	-	-	4-5A	4-5A
P26	LS	5-5A	5-5A	5-5A	5-5A	5-5A	5-5A	5-5A	5-5A	5-5A	-	-	-	5-5A	5-5A
P27	S	1-6A	1-6A	1-6A	1-6A	1-6A	1-6A	1-6A	1-6A	1-6A	-	-	-	1-6A	1-6A
P28	RS	2-6A	2-6A	2-6A	2-6A	2-6A	2-6A	2-6A	2-6A	2-6A	-	-	-	2-6A	2-6A
P29	LFE	3-6A	3-6A	3-6A	3-6A	3-6A	3-6A	3-6A	3-6A	3-6A	-	-	-	3-6A	3-6A
P30	○	4-6A	4-6A	4-6A	4-6A	4-6A	4-6A	4-6A	4-6A	4-6A	-	-	-	4-6A	4-6A
P31	SP ▶	5-6A	5-6A	5-6A	5-6A	5-6A	5-6A	5-6A	5-6A	5-6A	-	-	-	5-6A	5-6A
P32	A	1-7A	1-7A	1-7A	1-7A	1-7A	1-7A	1-7A	1-7A	1-7A	-	-	-	1-7A	1-7A
P33	B	2-7A	2-7A	2-7A	2-7A	2-7A	2-7A	2-7A	2-7A	2-7A	-	-	-	2-7A	2-7A
P34	-	3-7A	3-7A	3-7A	3-7A	3-7A	3-7A	3-7A	3-7A	3-7A	-	-	-	3-7A	3-7A
P35	-	4-7A	4-7A	4-7A	4-7A	4-7A	4-7A	4-7A	4-7A	4-7A	-	-	-	4-7A	4-7A
P36	-	5-7A	5-7A	5-7A	5-7A	5-7A	5-7A	5-7A	5-7A	5-7A	-	-	-	5-7A	5-7A
P37	-	1-1B	1-1B	1-1B	1-1B	1-1B	1-1B	1-1B	1-1B	1-1B	1-1B	1-1B	1-1B	1-1B	1-1B
P38	-	2-1B	2-1B	2-1B	2-1B	2-1B	2-1B	2-1B	2-1B	2-1B	2-1B	2-1B	2-1B	2-1B	2-1B
P39	-	3-1B	3-1B	3-1B	3-1B	3-1B	3-1B	3-1B	3-1B	3-1B	3-1B	3-1B	3-1B	3-1B	3-1B
P40	-	4-1B	4-1B	4-1B	4-1B	4-1B	4-1B	4-1B	4-1B	4-1B	4-1B	4-1B	4-1B	4-1B	4-1B
P41	-	5-1B	5-1B	5-1B	5-1B	5-1B	5-1B	5-1B	5-1B	5-1B	5-1B	5-1B	5-1B	5-1B	5-1B
P42	-	1-2B	1-2B	1-2B	1-2B	1-2B	1-2B	1-2B	1-2B	1-2B	1-2B	1-2B	1-2B	1-2B	1-2B
P43	-	2-2B	2-2B	2-2B	2-2B	2-2B	2-2B	2-2B	2-2B	2-2B	2-2B	2-2B	2-2B	2-2B	2-2B
P44	-	3-2B	3-2B	3-2B	3-2B	3-2B	3-2B	3-2B	3-2B	3-2B	3-2B	3-2B	3-2B	3-2B	3-2B
P45	-	4-2B	4-2B	4-2B	4-2B	4-2B	4-2B	4-2B	4-2B	4-2B	4-2B	4-2B	4-2B	4-2B	4-2B
P46	-	5-2B	5-2B	5-2B	5-2B	5-2B	5-2B	5-2B	5-2B	5-2B	5-2B	5-2B	5-2B	5-2B	5-2B
P47	-	1-3B	1-3B	1-3B	1-3B	1-3B	1-3B	1-3B	1-3B	1-3B	1-3B	1-3B	1-3B	1-3B	1-3B
P48	-	2-3B	2-3B	2-3B	2-3B	2-3B	2-3B	2-3B	2-3B	2-3B	2-3B	2-3B	2-3B	2-3B	2-3B
P49	-	3-3B	3-3B	3-3B	3-3B	3-3B	3-3B	3-3B	3-3B	3-3B	3-3B	3-3B	3-3B	3-3B	3-3B
P50	-	4-3B	4-3B	4-3B	4-3B	4-3B	4-3B	4-3B	4-3B	4-3B	4-3B	4-3B	4-3B	4-3B	4-3B
P51	-	5-3B	5-3B	5-3B	5-3B	5-3B	5-3B	5-3B	5-3B	5-3B	5-3B	5-3B	5-3B	5-3B	5-3B
P52	-	1-4B	1-4B	1-4B	1-4B	1-4B	1-4B	1-4B	1-4B	1-4B	1-4B	1-4B	1-4B	1-4B	1-4B
P53	-	2-4B	2-4B	2-4B	2-4B	2-4B	2-4B	2-4B	2-4B	2-4B	2-4B	2-4B	2-4B	2-4B	2-4B
P54	-	3-4B	3-4B	3-4B	3-4B	3-4B	3-4B	3-4B	3-4B	3-4B	3-4B	3-4B	3-4B	3-4B	3-4B
P55	-	4-4B	4-4B	4-4B	4-4B	4-4B	4-4B	4-4B	4-4B	4-4B	4-4B	4-4B	4-4B	4-4B	4-4B
P56	-	5-4B	5-4B	5-4B	5-4B	5-4B	5-4B	5-4B	5-4B	5-4B	5-4B	5-4B	5-4B	5-4B	5-4B
P57	-	1-5B	1-5B	1-5B	1-5B	1-5B	1-5B	1-5B	1-5B	1-5B	1-5B	1-5B	1-5B	1-5B	1-5B
P58	-	2-5B	2-5B	2-5B	2-5B	2-5B	2-5B	2-5B	2-5B	2-5B	2-5B	2-5B	2-5B	2-5B	2-5B
P59	-	3-5B	3-5B	3-5B	3-5B	3-5B	3-5B	3-5B	3-5B	3-5B	3-5B	3-5B	3-5B	3-5B	3-5B
P60	-	4-5B	4-5B	4-5B	4-5B	4-5B	4-5B	4-5B	4-5B	4-5B	4-5B	4-5B	4-5B	4-5B	4-5B
P61	-	5-5B	5-5B	5-5B	5-5B	5-5B	5-5B	5-5B	5-5B	5-5B	5-5B	5-5B	5-5B	5-5B	5-5B
P62	-	1-6B	1-6B	1-6B	1-6B	1-6B	1-6B	1-6B	1-6B	1-6B	1-6B	1-6B	1-6B	1-6B	1-6B
P63	-	2-6B	2-6B	2-6B	2-6B	2-6B	2-6B	2-6B	2-6B	2-6B	2-6B	2-6B	2-6B	2-6B	2-6B
P64	-	3-6B	3-6B	3-6B	3-6B	3-6B	3-6B	3-6B	3-6B	3-6B	3-6B	3-6B	3-6B	3-6B	3-6B
P65	-	4-6B	4-6B	4-6B	4-6B	4-6B	4-6B	4-6B	4-6B	4-6B	4-6B	4-6B	4-6B	4-6B	4-6B
P66	-	5-6B	5-6B	5-6B	5-6B	5-6B	5-6B	5-6B	5-6B	5-6B	5-6B	5-6B	5-6B	5-6B	5-6B
P67	-	1-7B	1-7B	1-7B	1-7B	1-7B	1-7B	1-7B	1-7B	1-7B	1-7B	1-7B	1-7B	1-7B	1-7B
P68	-	2-7B	2-7B	2-7B	2-7B	2-7B	2-7B	2-7B	2-7B	2-7B	2-7B	2-7B	2-7B	2-7B	2-7B
P69	-	3-7B	3-7B	3-7B	3-7B	3-7B	3-7B	3-7B	3-7B	3-7B	3-7B	3-7B	3-7B	3-7B	3-7B
P70	-	4-7B	4-7B	4-7B	4-7B	4-7B	4-7B	4-7B	4-7B	4-7B	4-7B	4-7B	4-7B	4-7B	4-7B
P71	-	5-7B	5-7B	5-7B	5-7B	5-7B	5-7B	5-7B	5-7B	5-7B	5-7B	5-7B	5-7B	5-7B	5-7B

### • Anode Timing Chart

	15Gd-15Ga	14G	13G	12G	11G	10G	9G	8G	7G	6G	5G	4G	3Gb, 3Ga	2G	1G
P1	T18		T17		T16		T9	T8	T7	-	-	-	T3	-	T1
P2	T15	T14	T13	T12	T11	T10	T9	T8	T7	T6	-	-	T3	T2	T1
P11	T15	T14	T13	T12	T11	T10	T9	T8	T7	T6	-	-	T3	T2	T1
P12	T15	T14	T13	T12	T11	T10	T9	T8	T7	T6	-	-	-	T2	T1
P12	T15	T14	T13	T12	T11	T10	T9	T8	T7	T6	-	-	-	T2	T1
P33	-	T14	T13	T12	T11	T10	T9	T8	T7	T6	-	-	-	T2	T1
P71	-	T14	T13	T12	T11	T10	T9	T8	T7	T6	-	-	-	T2	T1

## 7.3 CLEANING

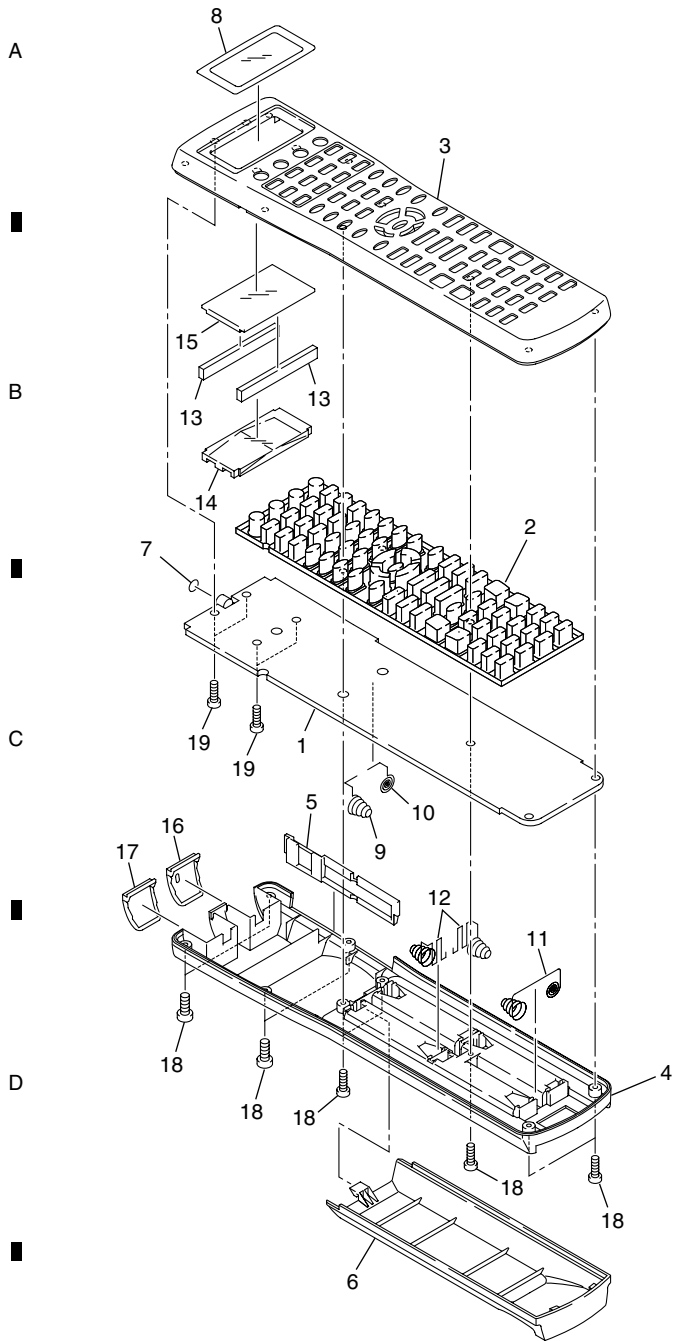


Before shipping out the product, be sure to clean the following positions by using the prescribed cleaning tools:

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

# 7.4 REMOTE CONTROL UNIT

## 7.4.1 EXPLODED VIEWS AND PARTS LIST (VSX-56TXi : AXD7325)



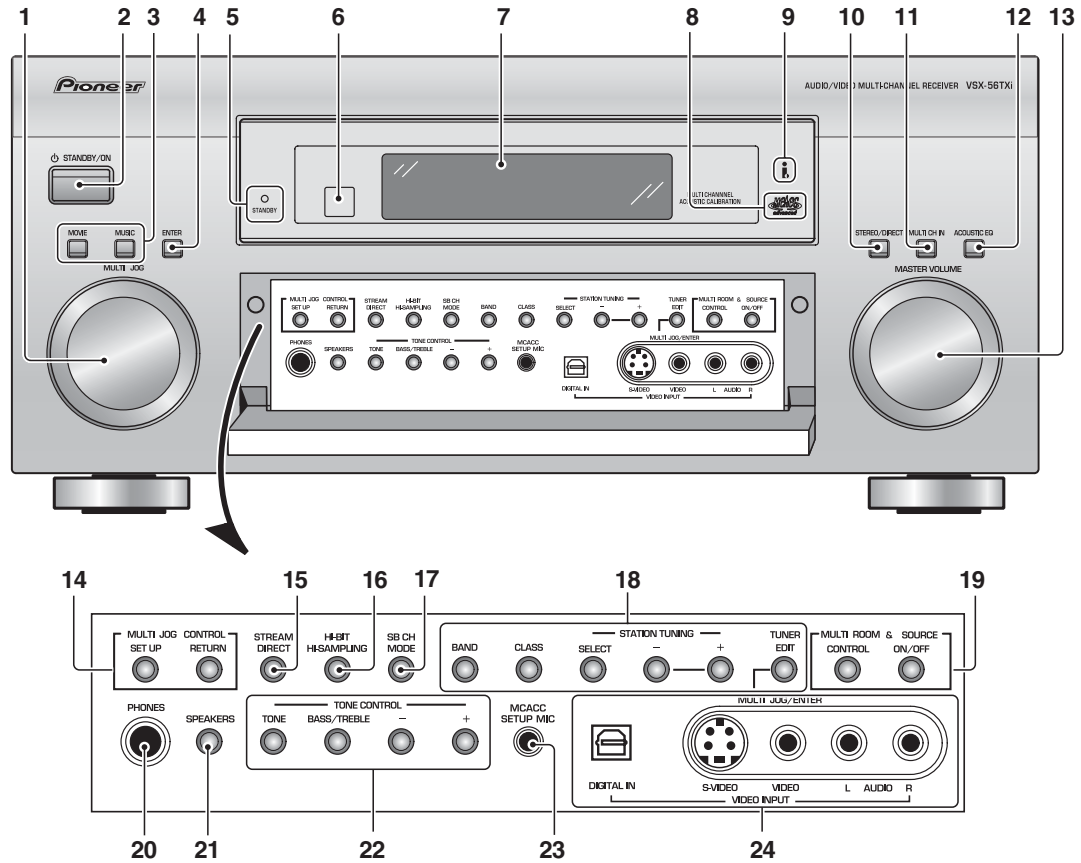
Mark No.	Description	Part No.
1	PCB Assy	AZC7301
2	Rubber Key	AZA7425
3	Case A	AZN7905
4	Case B	AZN7892
5	Frame	AZN7908
6	Battery Cover	AZN7896
7	MIC Cap	AZN7909
8	Name Plate	201RRC-314-01L
9	Terminal A	411RRC-212-01G
10	Terminal B	411RRC-213-01G
11	Battery Terminal	413RRC-143-01R
12	Spring	413RRC-171-01G

Mark No.	Description	Part No.
13	Connector	423RRC-046-01G
14	Plate	481RRC-018-01G
15	Shield Plate	801RRC-020-01L
16	Filter A	811RRC-109-01G
17	Filter B	811RRC-110-01G
18	Screw	A-BA2008-225002
19	Screw	A-BJ2006

# 8. PANEL FACILITIES

## 8.1 FRONT PANEL

Front panel



**1 MULTI JOGdial**

Depending on the operation, you can use this to select an input source or listening mode, as well as for tuner and system settings. It can often be used instead of the remote control ▲/▼ (cursor up/down) buttons.

**2 STANDBY/ON**

Press **STANDBY/ON** to switch the receiver on or into standby.

**3 Surround listening mode buttons**

Use to select the **MOVIE** and **MUSIC** surround listening modes.

**4 ENTER**

Use to confirm your selection (with the **MULTI JOGdial**).

**5 STANDBYindicator**

Lights when the receiver is in standby.

**6 Remote sensor**

Receives the signals from the remote control.

**7 Display**

**8 Advanced MCACCindicator**

Lights when Acoustic Calibration EQ is on (Acoustic Calibration EQ is automatically set to **ALL CH ADJUST** after the Auto Surround Setup has been completed).

**9 i.LINK indicator**

Lights when an i.LINK-audio-equipped component is selected.

**10 STEREO/DIRECT**

Switches the receiver into **STEREO** mode if it was in a different listening mode or toggles between **DIRECT** and **STEREO**.

**11 MULTI CH IN**

Press to select the component connected to the **MULTI CH IN** terminals (for example, a DVD-Audio player).

**12 ACOUSTIC EQ**

Press to select an acoustic calibration EQ setting.

**13 MASTER VOLUME** dial

Adjusts the volume.

**14 MULTI JOG CONTROL**

Use the **SET UP** button to access the System Setup menu, and **RETURN** to exit the current menu screen.

**15 STREAM DIRECT**

Press to switch on/off Auto playback.

**16 HI-BIT/HI-SAMPLING**

Use this to switch the audio scaler on or off.

**17 SB CH MODE**

Use to select the surround/virtual back channel mode.

**18 TUNER controls**

Use the front panel tuner controls for tuning into stations and recalling station presets.

**BAND**

Press to select the AM or FM band.

**CLASS**

Press repeatedly to switch the preset station classes.

**SELECT**

Switches between the station memory and frequency select mode when using the **-/+** buttons.

**-/+**

Selects station memories or frequencies when using the tuner.

**TUNER EDIT**

Press to memorize and name a station for recall with the **MULTI JOG** dial.

**19 MULTI ROOM & SOURCE controls**

If you've made multi-room connections use these controls to control the sub room from the main room.

**CONTROL**

Use together with the **MULTI JOG** dial to select the function or use with the **MASTER VOLUME** to select the volume of the sub room.

**ON/OFF**

Use to switch the multi-room feature on or off.

**20 PHONES jack**

Use to connect headphones (no sound will be heard through the speakers).

**21 SPEAKERS**

Depending on the surround back speaker setting, press either to switch the speaker system or simply to switch it off.

**22 TONE CONTROL****TONE**

Press to switch the tone controls on or off (bypass).

**BASS/TREBLE**

Use to select whether the bass or treble will be adjusted.

**+/-**

Use to adjust the frequency setting.

**23 MCACC SETUP MIC jack**

Use to connect the supplied microphone.

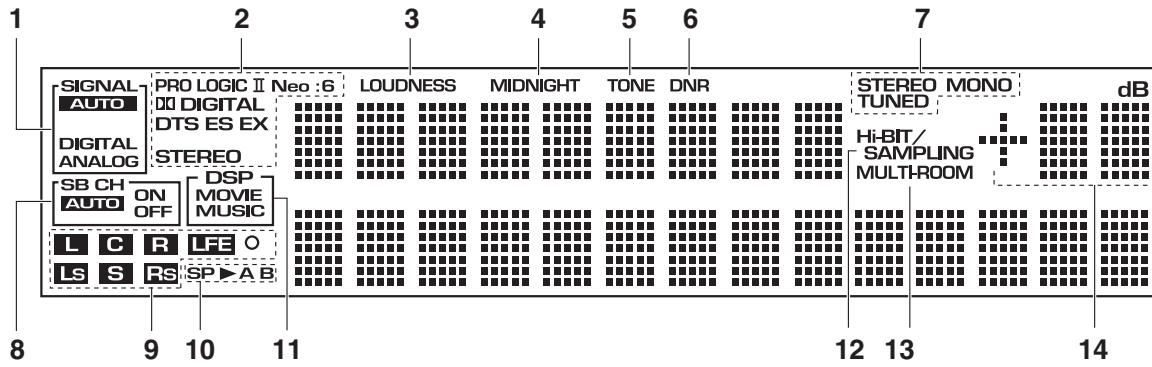
**24 VIDEO INPUT jacks**

- **DIGITAL IN** – Connect a game console, portable DVD player, video camera (etc.), that has an optical digital connection.
- **S-VIDEO** – Connect a video camera (etc.), that has an S-video out.
- **VIDEO / AUDIO (L/R)** – Connect a video camera, etc. that has standard RCA video/audio outputs.



## 8.2 DISPLAY

### Display



#### 1 SIGNAL indicators

Light to indicate the currently selected input signal. **AUTO** lights when the receiver is set to select the input signal automatically.

#### 2 Digital format indicators

- **PRO LOGIC II** – Lights during Dolby Pro Logic II and Pro Logic IIx processing.
- **Neo:6** – Lights during Neo:6 processing with 2-channel sources.
- **DIGITAL** – Lights when a Dolby Digital signal is detected.
- **DTS** – Lights when a DTS signal is detected.
- **ES** – Lights when a DTS-ES signal is detected.
- **EX** – Lights when a Dolby Digital EX signal is detected.
- **STEREO** – Lights during 2-channel playback.

#### 3 LOUDNESS

Lights when Loudness listening is active.

#### 4 MIDNIGHT

Lights when Midnight listening is active.

#### 5 TONE

Lights when the tone control is switched on.

#### 6 DNR

Lights when digital noise reduction is switched on.

#### 7 Tuner indicators

##### STEREO

Lights when listening to a stereo FM broadcast in auto/stereo mode.

##### MONO

Lights when the tuner MPX mode is set to mono.

##### TUNED

Lights when tuned to a broadcast.

#### 8 SB CH

Indicates the surround back channel (or Virtual Surround Back) setting (**AUTO**, **ON** or **OFF**).

#### 9 Program format indicators

These change according to which channels are active in Dolby, DTS, DVD-A and SACD sources.

**LS**, **S** and **RS** will light at the same time to indicate 6.1 channel sources.

- **L** – Left front channel
- **C** – Center channel
- **R** – Right front channel
- **LS** – Left surround channel
- **S** – Surround channel (mono) or surround back channel
- **RS** – Right surround channel
- **LFE** – Low frequency effects channel
- **O** – Lights when an LFE signal is detected

#### 10 Speaker indicators

Lights to indicate the current speaker system, **A** and/or **B**.

#### 11 Listening mode indicators

Shows **MOVIE** or **MUSIC** when a surround listening mode is selected. **DSP** will light with a box around it when one of the advanced (DSP) listening modes is selected.

#### 12 Hi-BIT/SAMPLING

Lights when the audio scaler is switched on.

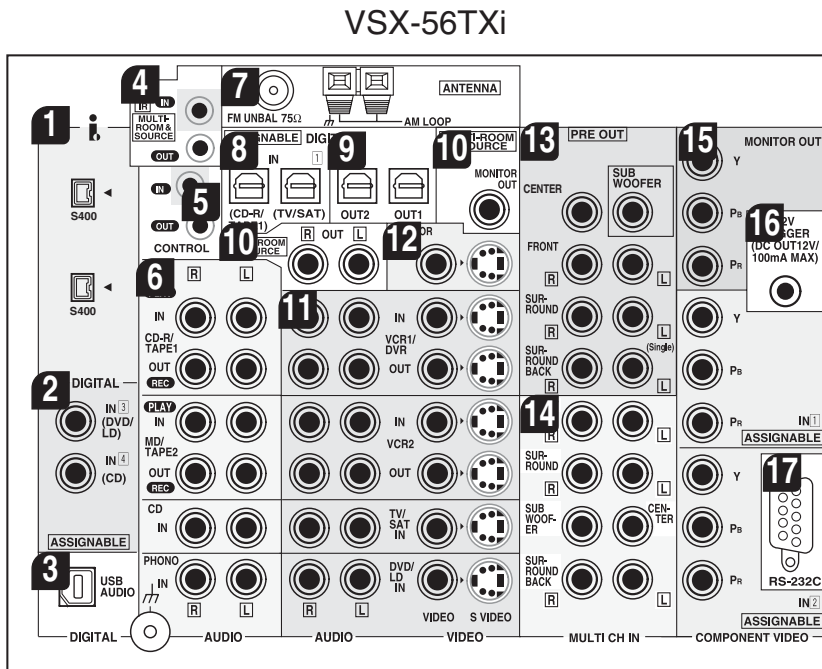
#### 13 MULTI-ROOM

Lights when the multi room feature is active.

#### 14 Volume level indicator

## 8.3 REAR PANEL

### Rear panel



#### 1 i.LINK connectors

Two S400-type i.LINK connectors allow you to connect this receiver to other compatible i.LINK audio devices for high-resolution, multichannel digital audio input/output.

#### 2 Digital audio coaxial inputs

Two coaxial digital audio inputs for connecting digital audio sources to this receiver. All the inputs are freely assignable to input functions for maximum flexibility.

#### 3 USB audio input

The USB audio input allows you to use your PC as a playback source for audio.

#### 4 IR input/output

An IR connection allows you to connect an external remote control sensor, when your component system is in a closed cabinet or shelving unit, for example.

#### 5 Control input/output

Mini-plug terminals for connection to other Pioneer components to enable you to control all your equipment from a single remote sensor.

#### 6 Stereo analog audio source inputs/outputs

Four sets of analog audio jacks for connection to audio sources such as CD players, tape decks and turntables. The **CD-R/TAPE1** and **MD/TAPE2** functions also feature outputs for recording.

- The grounding (⏏) terminal is for use with turntables that require it.

#### 7 Antenna terminals

Connections for AM and FM radio antennas.

#### 8 Digital audio optical inputs

Two optical digital audio inputs for connecting digital audio sources to this receiver. All the inputs are freely assignable to input functions for maximum flexibility.

#### 9 Digital audio outputs

Two optical digital audio outputs for connecting to a CD-R, MD or other digital recorder.

#### 10 Multi-room and source outputs

The analog audio outputs are for connection to a second amplifier in a separate room. The **MULTI-ROOM & SOURCE** composite video output is for connection to a second monitor or TV in a separate room.

#### 11 Audio/video source inputs

Each of the six source input functions has stereo analog audio jacks, a composite video jack and an S-video jack for basic connections. On top of these, you can assign digital audio and component video jacks to input functions as necessary. As well as audio/video inputs, the two input functions **VCR 1/DVR** and **VCR 2** also have audio/video outputs for recording.

#### 12 Monitor video outputs

Two video outputs consisting of a standard composite video output and an S-video output, for connection to monitors and TVs.

#### 13 Multichannel pre-amplifier outputs

Multichannel pre-amp outputs that you can use to connect separate amplifiers for center, surround, surround back and subwoofer channels.

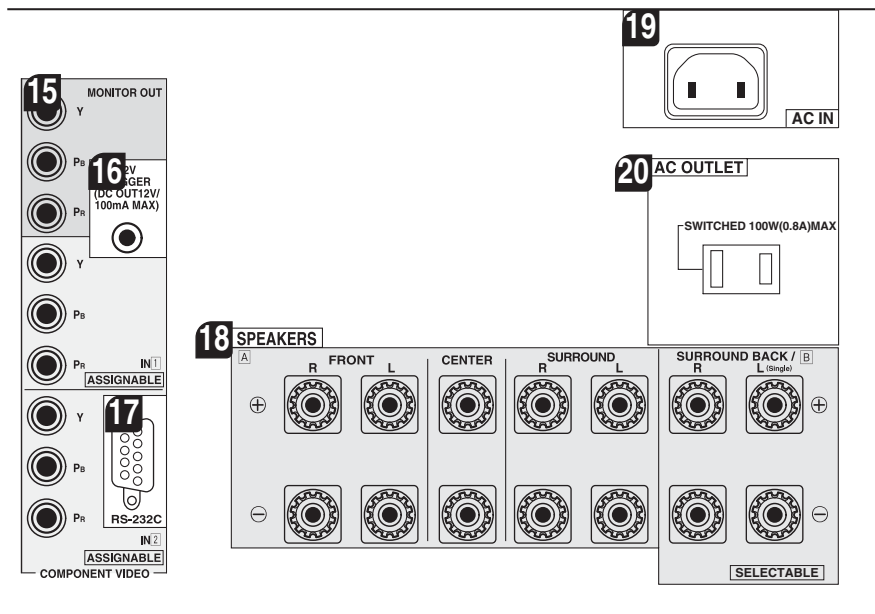
#### 14 Multichannel analog audio inputs

7.1 channel analog inputs for connection to a component with multichannel analog outputs.

#### 15 Component video inputs/output

The two component video inputs are freely assignable to any of the audio/video input functions. The component video output is for connection to a monitor or TV.

## VSX-56TXi

**16 12V trigger jack**

This terminal outputs DC 12V according to the input functions (100 mA max.).

**17 RS-232C connector**

This port is provided for connecting a personal computer for graphical output when using Advanced MCACC.

**18 Speaker terminals**

These are the main speaker terminals for front, center, surround and surround back speakers.

**19 AC power inlet**

Connect the supplied power cord here.

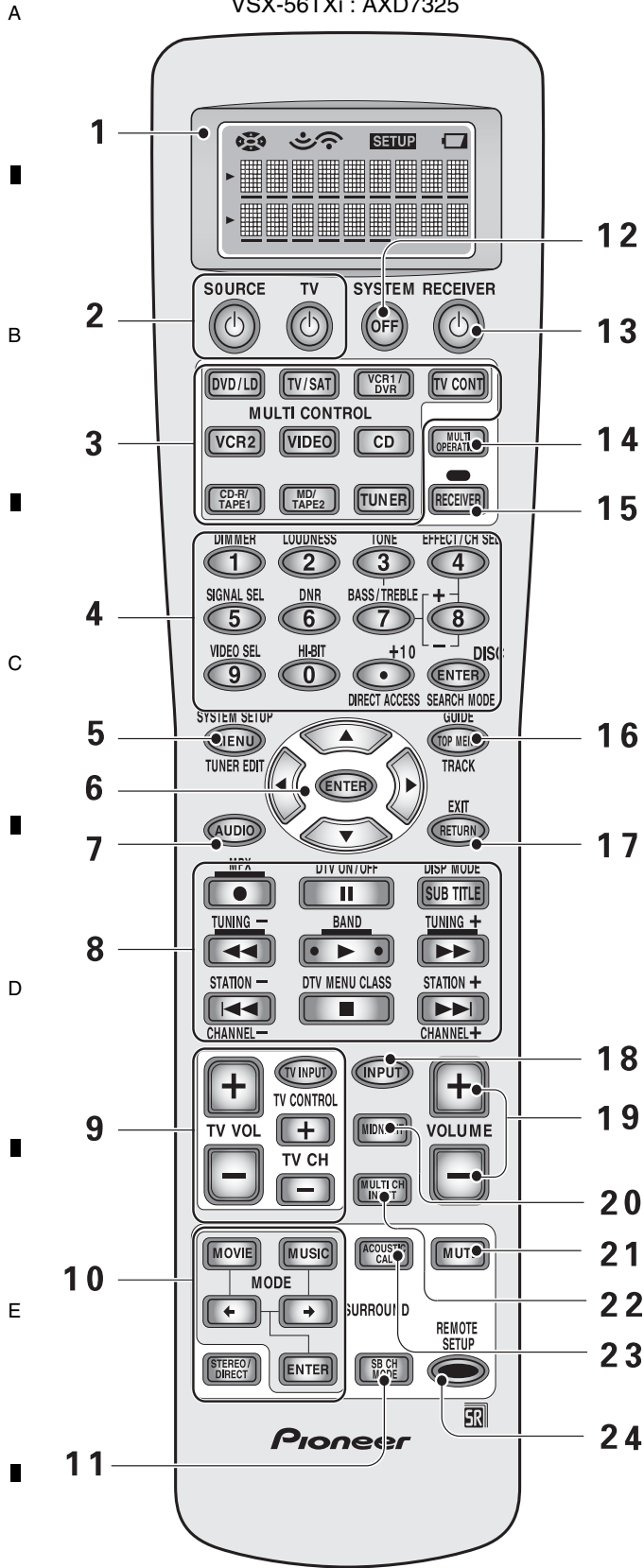
**20 AC power outlet (Switched 100W max.)**

This 120V AC power outlet can be used to power another component in your setup (up to 100 W). Power to this outlet is switched off when the receiver is in standby.

# 8.4 REMOTE CONTROL UNIT

This page describes the buttons on the remote control used to operate the receiver.

VSX-56TXi : AXD7325



## 1 Remote Control Display Screen

## 2 SOURCE button

Use this button to turn on/off other components. You must input the preset code in order to use this function.

## TV button

This is a dedicated TV button. Use it to turn on/off your TV.

## 3 MULTI CONTROL buttons

These buttons are the basic controls that switch the mode of the receiver and the remote control, which allows you to control your other components.

**TV CONT:** Press so that the remote control can operate the TV control commands.

## 4 Number buttons

These can be used for many purposes depending on the mode of the remote control.

When in receiver mode the buttons operate as below:

### DIMMER button

Use to adjust the brightness of the receiver's display.

### LOUDNESS button

Switches the LOUDNESS mode on or off.

### TONE button

This button switches between TONE on and off, which bypasses the tone circuitry.

### BASS/TREBLE buttons

Use to select whether the bass or treble will be adjusted.

### (+/-) buttons

Use to adjust the TONE level, effect level, channel level and sound delay as well as make Dolby Pro Logic II MUSIC parameter settings.

### EFFECT/CH SEL button

Switches between the different channels so you can add volume individually to each channel with the + and - buttons. Also selects EFFECT mode, Dolby Pro Logic II MUSIC parameters and sound delay settings.

You can then use the + and - buttons to make these adjustments.

### SIGNAL SEL button

Press repeatedly to select one of the following:

**AUTO** – If there are analog and digital signals input, the receiver automatically selects the digital signal.

**DIGITAL** – To select an optical or coaxial digital signal.

**ANALOG** – To select an analog signal.

**DNR (DIGITAL NR) button**

Switches the DIGITAL NR on or off.

**VIDEO SEL button**

Use to toggle between the different video input possibilities.

**HI-BIT button**

Use this button to switch the AUDIO SCALER on or off.

**5 SYSTEM SETUP button**

Use for all system setups, including the speaker and sound systems. For more information see "Setting Up for Surround Sound".  
For a DVD player use this button to bring up the DVD menu and for a tuner use this button in the same way as the TUNER EDIT button.

**6 ▲/▼/◀/▶/ENTER buttons**

These buttons can be used for a variety of operations in the SYSTEM SETUP menu.  
These buttons are used to control the menus for other components when in those modes (DVD, digital TV tuner, satellite tuner, cable tuner, etc.). In TUNER mode, they can select a station and/or a frequency.

**7 AUDIO button**

Use to switch the audio tracks of a DVD when in DVD mode.

**8 Command button for other components**

Use these buttons to control other components you selected with the MULTI CONTROL buttons. You must input the preset code in order use this function.

**9 TV CONTROL buttons**

The following buttons are used to control the TV only and can be used once they are preset to control your TV.

**TV INPUT:** Press to select the input source for the TV.

**TV CH +/- :** Use these buttons to change the channel of the TV.

**TV VOL +/- :** Press to control the volume of the TV.

**10 Listening mode buttons**

**SURROUND buttons (MOVIE, MUSIC, ◀⇒ & ENTER):**

**MOVIE:** Press to put the receiver into MOVIE listening mode.

**MUSIC:** Press to put the receiver into MUSIC listening mode.

**◀⇒:** Use to select the MOVIE or MUSIC listening mode.

**ENTER:** Use this button to enter information concerning the listening modes.

**STEREO/DIRECT:** Switches the receiver into STEREO mode if it was in a different sound mode or toggles between DIRECT and STEREO mode.

**11 SB CH MODE button**

Use this button to turn the surround back channels ON/OFF/AUTO or switch the virtual surround back mode between ON/OFF/AUTO.

**12 SYSTEM OFF button**

This button turns off components in two ways. First, when pressed it will turn off all PIONEER components. Secondly, any component that has programmed into the SYSTEM OFF settings will be turned off.

**13 ⏻ RECEIVER (STANDBY/ON) button**

Press to turn power of the receiver on or to standby (off).

**14 MULTI OPERATION button**

Use this button to start the multi operation mode.

**15 RECEIVER button**

Use this button to switch the remote control into receiver mode in order to get certain receiver functions or do receiver setups.

**16 TOP MENU/GUIDE button**

Use to find stations or menus on a digital TV tuner. For a DVD player use this button to bring up the DVD menu.

**17 RETURN button**

When you are in a receiver setup operation this button will go back one step in the SYSTEM SETUP procedure. When you are using your DVD menu screen this button acts the same as the DVD player's "Return" button. When you are using cable tuners, satellite tuners or digital TV tuners this button will either exit you from the menu screen or act like a "Return" button above, depending on the maker of the unit.

**18 INPUT button**

Press to select an input source. The button will cycle through all the possible sources including USB, PHONO and i.LINK components.

**19 VOLUME (+/-) buttons**

Use to raise or lower the volume of the receiver.

**20 MIDNIGHT button**

Switches the MIDNIGHT listening mode on or off.

**21 MUTE button**

Press to mute or restore the volume.

**22 MULTI CH INPUT button**

Use this button to select the component you have hooked up to the MULTI CH IN terminals (for example, a DVD-Audio player).

**23 ACOUSTIC CAL button**

Press to switch on/off and select the type of acoustic calibration EQ.

**24 REMOTE SETUP button**

Use to customize the remote control functions and the remote control itself. (See "Setting Up the Remote Control to Control Other Components").

