

Service Manual



VSX-C301-S

ORDER NO.
RRV2741

AUDIO/VIDEO MULTI-CHANNEL RECEIVER

VSX-C301-S

VSX-C301-K

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

Model	Type	Power Requirement	Remarks
VSX-C301-S	MYXU	AC220-230V	
VSX-C301-K	MYXU	AC220-230V	
VSX-C301-S	NVXU	AC230V	



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

SAFETY INFORMATION



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

WARNING

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

Health & Safety Code Section 25249.6 – Proposition 65

NOTICE

(FOR CANADIAN MODEL ONLY)

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

REMARQUE

(POUR MODÈLE CANADIEN SEULEMENT)

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

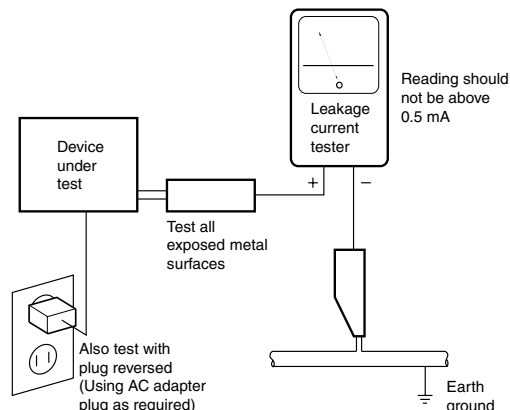
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

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

LEAKAGE CURRENT CHECK

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



AC Leakage Test

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

2. PRODUCT SAFETY NOTICE

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

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

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

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

[Important symbols for good services]

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

1. Product safety



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

2. Adjustments



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

3. Cleaning



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

4. Shipping mode and shipping screws



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

5. Lubricants, glues, and replacement parts



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

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1. SPECIFICATIONS

Amplifier section

Continuous Power Output (STEREO mode)

Front. 40 W + 40 W
(DIN 1 kHz, THD 1 %, 8 Ω)

Continuous Power Output (SURROUND mode)

Front. 50 W/ch (DIN 1 kHz, THD 1 %, 8 Ω)
Center. 50 W (DIN 1 kHz, THD 1 %, 8 Ω)
Surround. 50 W/ch (DIN 1 kHz, THD 1 %, 8 Ω)

RMS Power Output

Front. 75 W/ch (1 kHz, THD 10 %, 6 Ω)
Center. 75 W (1 kHz, THD 10 %, 6 Ω)
Surround. 75 W/ch (1 kHz, THD 10 %, 6 Ω)

- Above specifications are applicable when the power supply is 230V.

Audio section

Input (Sensitivity/Impedance) 200 mV/47 kΩ
Output (Level/Impedance)
VIDEO, DVR/TV. 200 mV/2.2 kΩ

Video section

Input (Sensitivity/Impedance) 1 Vp-p/75 Ω
Output (Level/Impedance). 1 Vp-p/75 Ω

FM tuner section

Frequency Range. 87.5 MHz to 108 MHz
Usable Sensitivity. Mono: 15.2 dBf, IHF (1.6 μV/ 75 Ω)
50 dB Quieting Sensitivity. Mono: 20.2 dBf
Stereo: 41.2 dBf
Signal-to-Noise Ratio. Mono: 76 dB (at 85 dBf)
Stereo: 72 dB (at 85 dBf)
Signal-to-Noise Ratio (DIN). Mono: 62 dB
Stereo: 58 dB

Distortion Stereo: 0.6 % (1 kHz)
Alternate Channel Selectivity 70 dB (400 kHz)
Stereo Separation. 40 dB (1 kHz)
Frequency Response 30 Hz to 15 kHz (±1dB)
Antenna Input (DIN) 75 Ω unbalanced

AM tuner section

Frequency Range. 531 kHz to 1,602 kHz (9 kHz step)
Sensitivity (IHF, Loop antenna). 350 μV/m
Selectivity 30 dB
Signal-to-Noise Ratio. 50 dB
Antenna. Loop antenna

Miscellaneous

Power Requirements

UK model AC 230 V, 50/60 Hz
European model. AC 220 – 230 V, 50/60 Hz
Power Consumption 150 W
In standby (AV Direct off) 0.4 W
Dimensions. 420 (W) × 70 (H) × 383 (D) mm
Weight (without package) 6.5 kg

Furnished parts

AM loop antenna 1
FM wire antenna. 1
Dry cell batteries (AA size IEC R6P) 2
Remote control unit. 1
Power cable 1
Speaker cable labels 1
Operating instructions. 1
Warranty card. 1

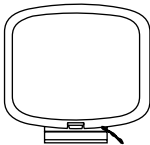
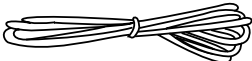
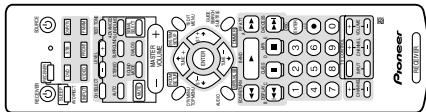
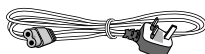
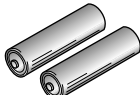
Note

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

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trademarks of Dolby Laboratories.

"DTS" and "DTS Digital Surround" are trademarks of
Digital Theater Systems, Inc.

Accessories

			
AM loop antenna (ATB7009)	FM wire antenna (ADH7030)	Power Cable (NVXU Type) (ADG1156)	Dry Cell Battery (R6P, AA) (VEM1010)
			

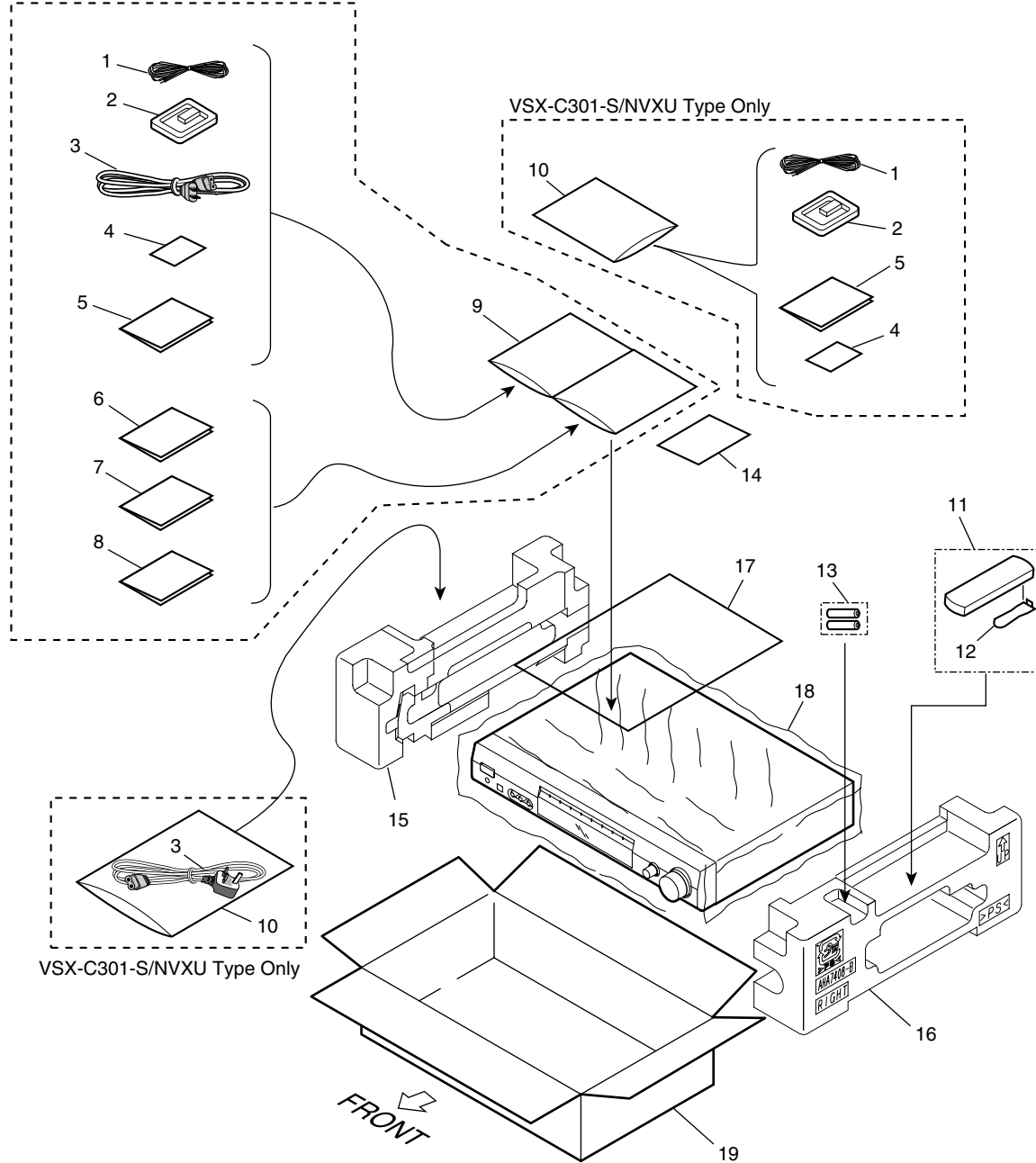
2. EXPLODED VIEWS AND PARTS LIST

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 ∇ 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

VSX-C301-S/MYXU and VSX-C301-K/MYXU Types Only



PACKING parts List

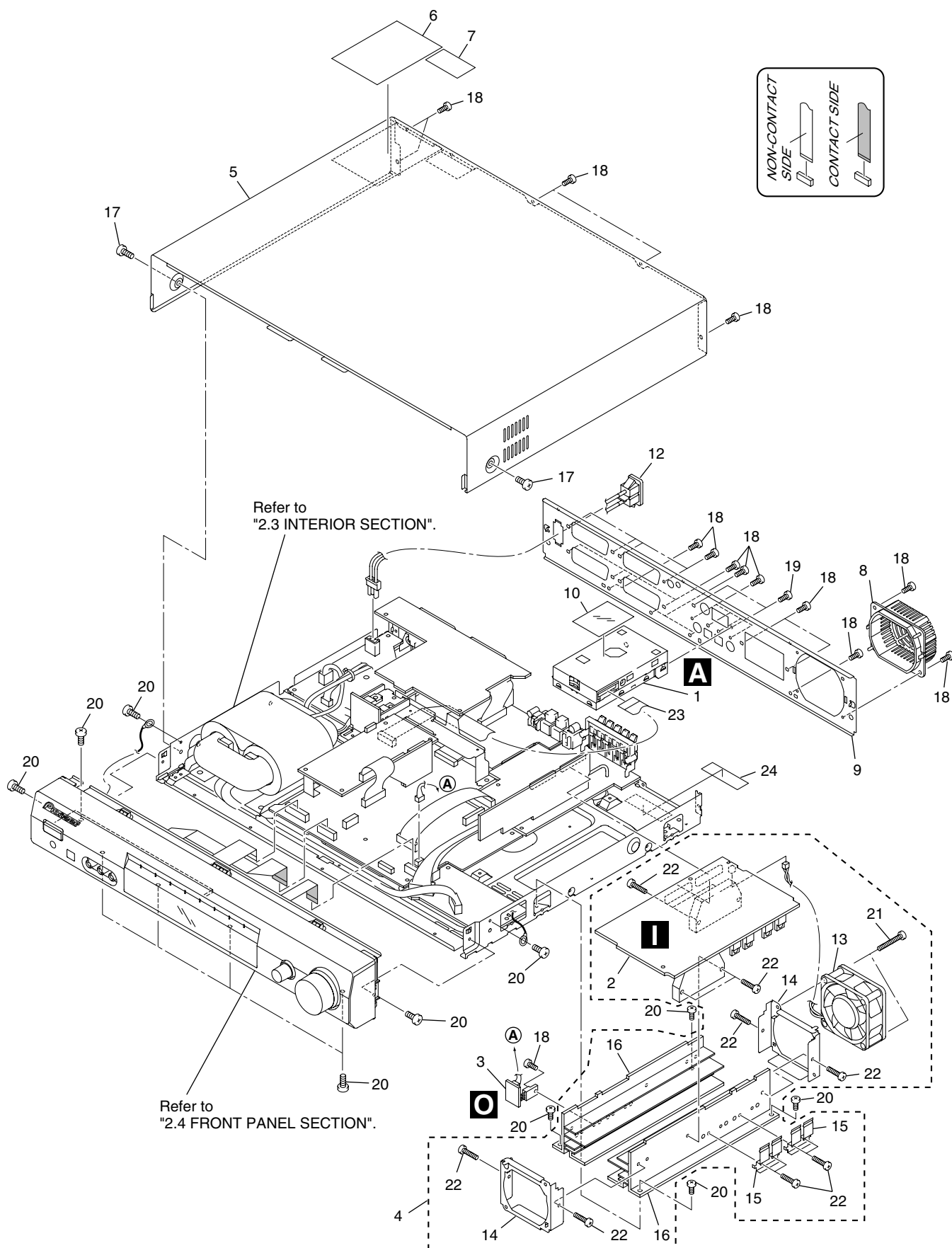
Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	FM Wire Antenna	ADH7030	10	Polyethylene Bag (0.03*230*340)	See Contrast table(2)
2	AM Loop Antenna	ATB7009	11	Remote Control Unit	AXD7348
⚠ 3	Power Cable	See Contrast table(2)	12	Battery Cover	AZA7424
4	Speaker Cable Label	ARW7163	NSP 13	Dry cell batteries (R6P,AA)	VEM1010
5	Operating instructions 301 (English)	ARB7276	NSP 14	Warranty Card	ARY7065
6	Operating instructions 301 (German)	See Contrast table(2)	15	Left Pad 301	AHA7407
7	Operating instructions 301 (French, Italian)	See Contrast table(2)	16	Right Pad 301	AHA7408
8	Operating instructions 301 (Dutch, Spanish)	See Contrast table(2)	17	Spacer	AHB7088
NSP 9	Polyethylene Bag (A4*2)	See Contrast table(2)	18	Packing Sheet	AHG7015
			19	Packing Case	See Contrast table(2)

(2) CONTRAST TABLE

VSX-C301-S/MYXU, VSX-C301-K/MYXU and VSX-C301-S/NVXU are constructed the same except for the following:

Mark	No.	Symbol and Description	VSX-C301-S/ MYXU	VSX-C301-K/ MYXU	VSX-C301-S/ NVXU
⚠	3	Power Cable	ADG1154	ADG1154	ADG1156
	6	Operating instructions 301 (German)	ARC7453	ARC7453	Not used
	7	Operating instructions 301 (French, Italian)	ARC7454	ARC7454	Not used
	8	Operating instructions 301 (Dutch, Spanish)	ARC7455	ARC7455	Not used
NSP	9	Polyethylene Bag (A4*2)	AHG7097	AHG7097	Not used
	10	Polyethylene Bag (0.03*230*340)	Not used	Not used	Z21-038
	19	Packing Case 301SMY	AHD8146	Not used	Not used
	19	Packing Case 301KMY	Not used	AHD8155	Not used
	19	Packing Case 301SNV	Not used	Not used	AHD8156

2.2 EXTERIOR SECTION



EXTERIOR SECTION parts List

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	FM/AM TUNER MODULE	AXQ7246	13	DC Fan Motor	AXM7025
2	6CH AMP Assy	AWM7786	14	Fan Plate	ANG7462
3	D5V Assy	AWX8224	15	FET Bracket A	ANG7418
NSP 4	AMP MODULE 6CH	AXQ7247			
5	Bonnet Case	See Contrast table(2)	NSP 16	Heat Sink	ANH7161
			17	Screw	See Contrast table(2)
6	Label	See Contrast table(2)	18	Screw	BBZ30P080FZK
7	License Label	ARW7220	19	Screw	PPZ30P100FZK
8	Fan Cover	AMR7446	20	Screw	BBZ30P060FMC
9	Rear Panel 301SMY	ANC8155			
10	Tuner Barrier	AEC7383	21	Screw	BBZ30P300FZK
			22	Screw	BBZ30P140FMC
11	•••••		23	J1905 13P FFC/60V	ADD7402
 12	AC Inlet Assy	VKP2116	NSP 24	Label	VRW1629

(2) CONTRAST TABLE

VSX-C301-S/MYXU, VSX-C301-K/MYXU and VSX-C301-S/NVXU are constructed the same except for the following:

Mark	No.	Symbol and Description	VSX-C301-S/ MYXU	VSX-C301-K/ MYXU	VSX-C301-S/ NVXU
	5	Bonnet Case S	AZN7934	Not used	AZN7934
	5	Bonnet Case K	Not used	AZN7935	Not used
	6	Label C301SMY	ARW7210	Not used	Not used
	6	Label C301KMY	Not used	ARW7211	Not used
	6	Label C301SNV	Not used	Not used	ARW7212
	17	Screw	BCZ40P060FNI	BCZ40P060FZK	BCZ40P060FNI

2.3 INTERIOR SECTION

A

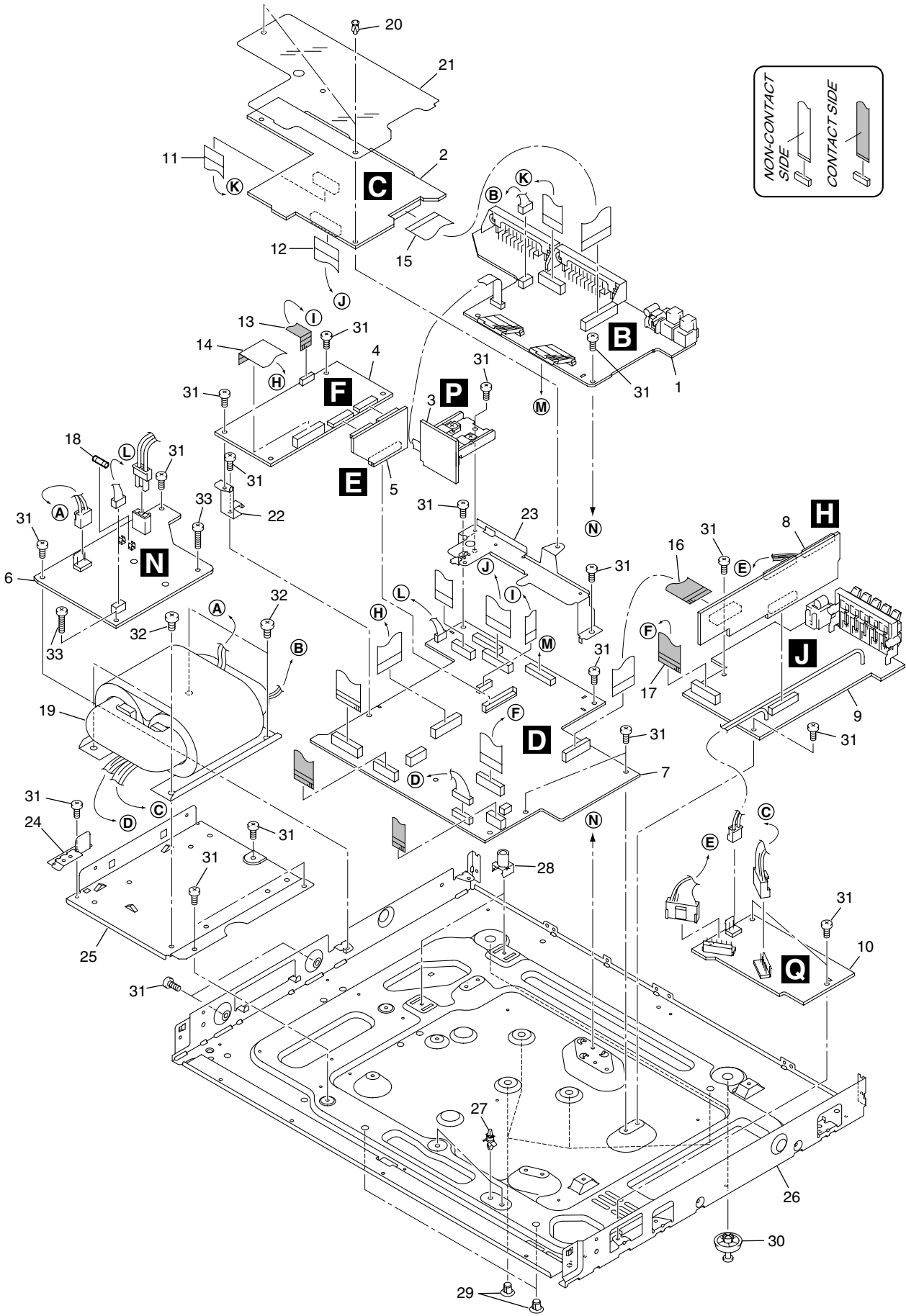
B

C

D

E

F



INTERIOR SECTION parts List

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
1	SCART-1F Assy	AWX8168
2	SCART-2F Assy	AWX8169
3	12V Assy	AWX8170
4	DSP Assy	AWX8241
5	DSP KAWA Assy	AWX8167
6	PRIMARY Assy	AWX8166
7	MOTHER Assy	AWX8171
8	AMP KAWA Assy	AWX8223
9	AMP OUT Assy	AWX8164
10	VHVL Assy	AWX8237
11	J1908 15P FFC/60V	ADD7408
12	J1911 19P FFC/60V	ADD7422
13	J1906 10P FFC/60V	ADD7405
14	J1909 19P FFC/60V	ADD7422
15	J1907 23P FFC/60V	ADD7407
16	J1901 17P FFC/60V	ADD7398
17	J1904 17P FFC/60V	ADD7401
 18	FU1 Fuse (T2.5A/250V)	REK1026
 19	T1 Power Transformer	ATS7346
20	Nylon Rivet	AEC7436
21	Scart Barrier	AEC7458
22	Core Stay A	ANG7447
23	Core Stay B	ANG7448
24	Jack Stay	ANG7450
25	Trans Frame	ANG7446
NSP 26	Under Base	ANA7151
27	PCB Support	AEC7365
28	PCB Mold	AMR2533
NSP 29	PC Support	VEC1749
30	Foot	REC-434
31	Screw	BBZ30P060FMC
32	Screw	BCZ40P060FNI
33	Screw	BBZ30P180FMC

2.4 FRONT PANEL SECTION

A

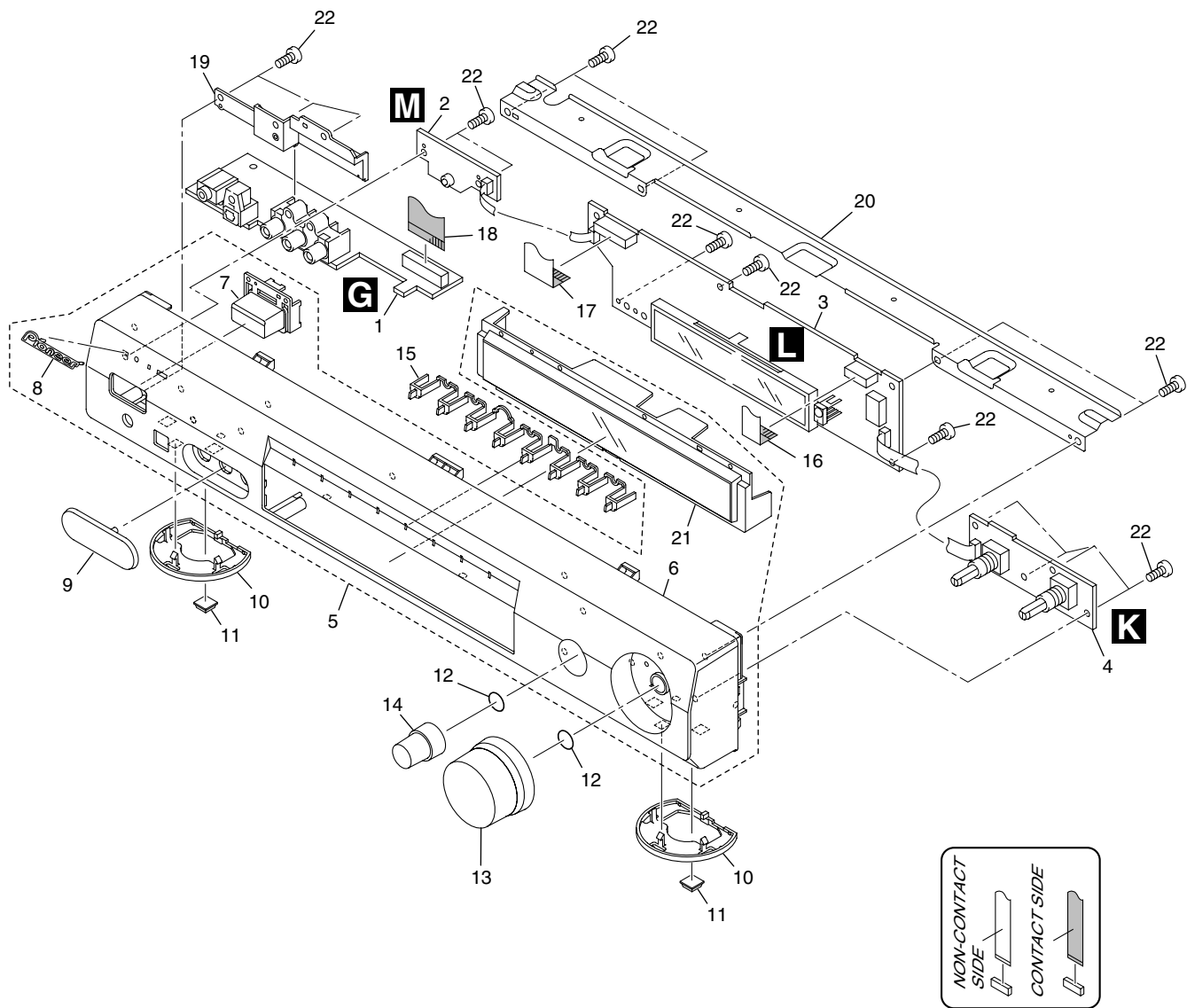
B

C

D

E

F



FRONT PANEL SECTION parts List

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	FRONT IN Assy	AWX8219	13	Volume Knob	See Contrast table(2)
2	POWER SW Assy	AWX8174	14	Select Knob	See Contrast table(2)
3	FRONT Assy	AWX8173	15	LED Lens 301	AAK8084
4	ENCODER Assy	AWX8175			
5	Front Panel Assy	See Contrast table(2)	16	J1903 9P FFC/60V	ADD7400
			17	J1902 15P FFC/60V	ADD7399
6	Front Panel	See Contrast table(2)	18	19P FFC/60V	ADD7422
NSP 7	Power Button	See Contrast table(2)	19	Jack Cover	AMR7447
8	PIONEER Name Plate	See Contrast table(2)	20	Front Frame	ANG7445
9	Front Input Cover	See Contrast table(2)			
10	Insulator Ring	AAK8091	NSP 21	Display Window 301	AAK8083
			22	Screw	PPZ30P080FMC
11	Rubber Foot	VEB1325			
12	VOL Ring	ABH7220			

(2) CONTRAST TABLE

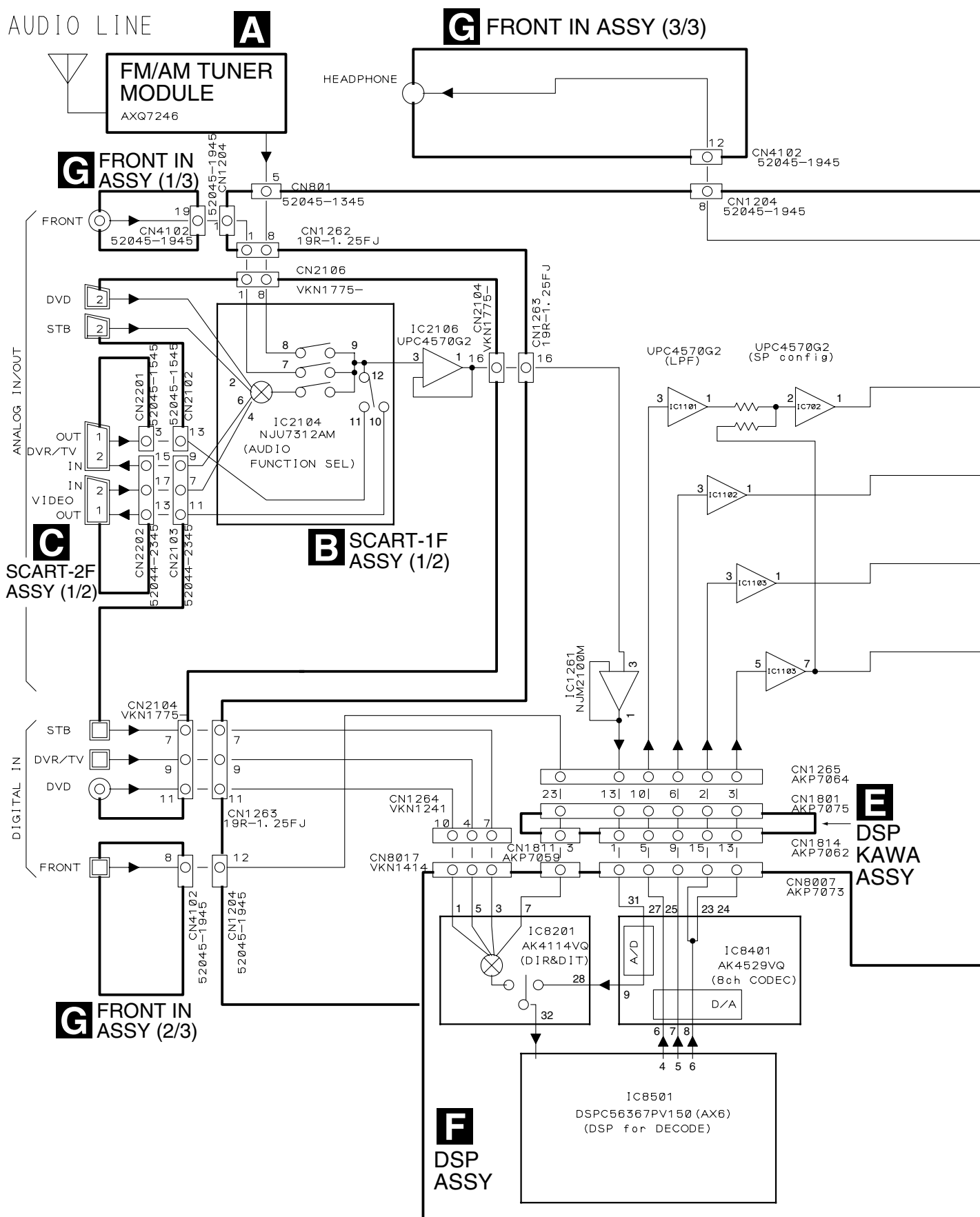
VSX-C301-S/MYXU, VSX-C301-K/MYXU and VSX-C301-S/NVXU are constructed the same except for the following:

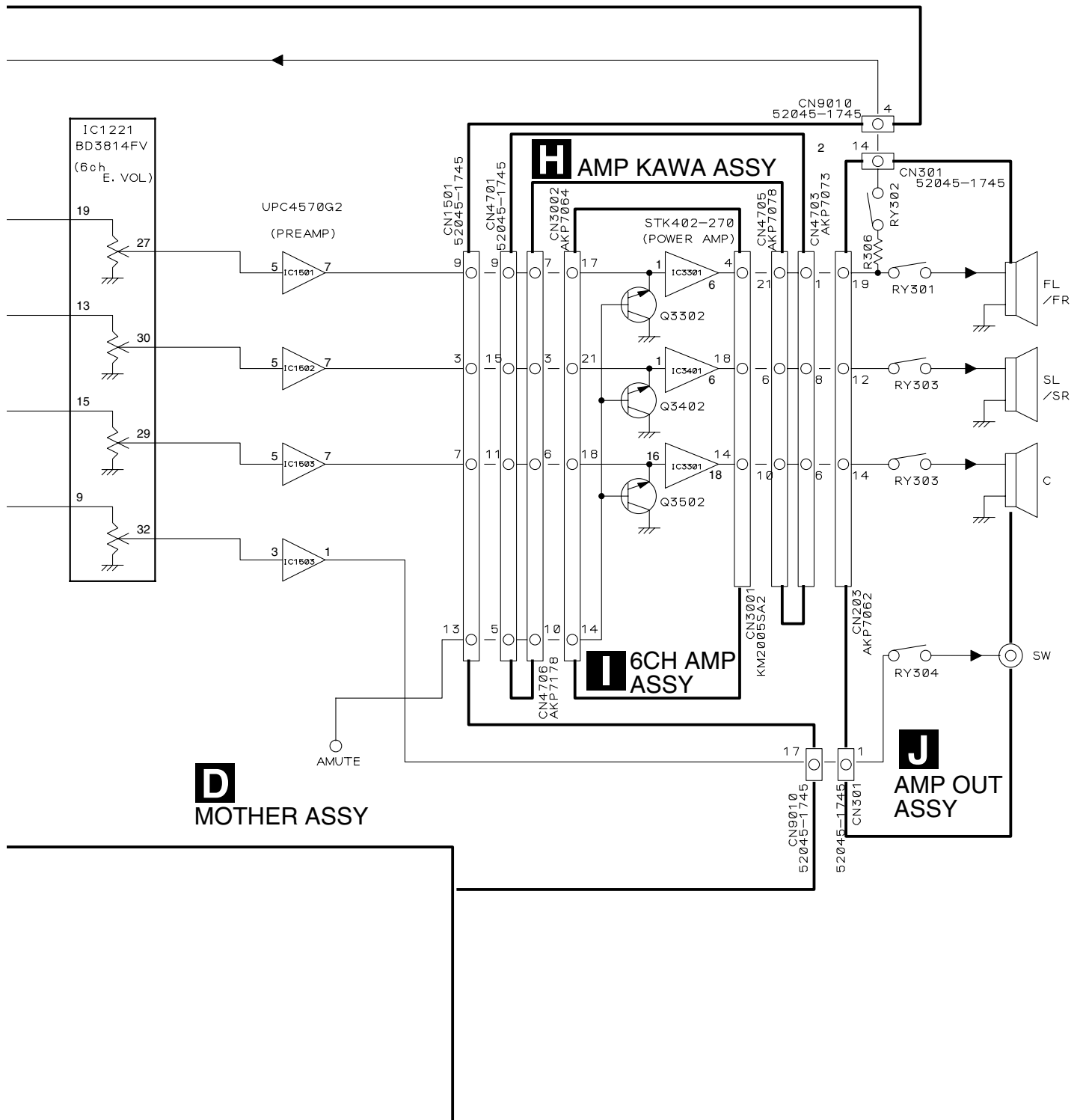
Mark	No.	Symbol and Description	VSX-C301-S/ MYXU	VSX-C301-K/ MYXU	VSX-C301-S/ NVXU
	5	Front Panel 301SMY Assy	AXG7184	Not used	AXG7184
	5	Front Panel 301KMY Assy	Not used	AXG7185	Not used
	6	Front Panel 301SMY	AMB7836	Not used	AMB7836
	6	Front Panel 301KMY	Not used	AMB7837	Not used
NSP	7	Power Button S	AAD7696	Not used	AAD7696
NSP	7	Power Button K	Not used	AAD7697	Not used
	8	PIONEER Name Plate	VAM1129	VAM1130	VAM1129
	9	Front Input Cover S	AAK8074	Not used	AAK8074
	9	Front Input Cover B	Not used	AAK8075	Not used
	13	Volume Knob S	AAB7252	Not used	AAB7252
	13	Volume Knob K	Not used	AAB7253	Not used
	14	Select Knob S	AAB7254	Not used	AAB7254
	14	Select Knob K	Not used	AAB7255	Not used

3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

3.1 BLOCK DIAGRAM

3.1.1 AUDIO BLOCK



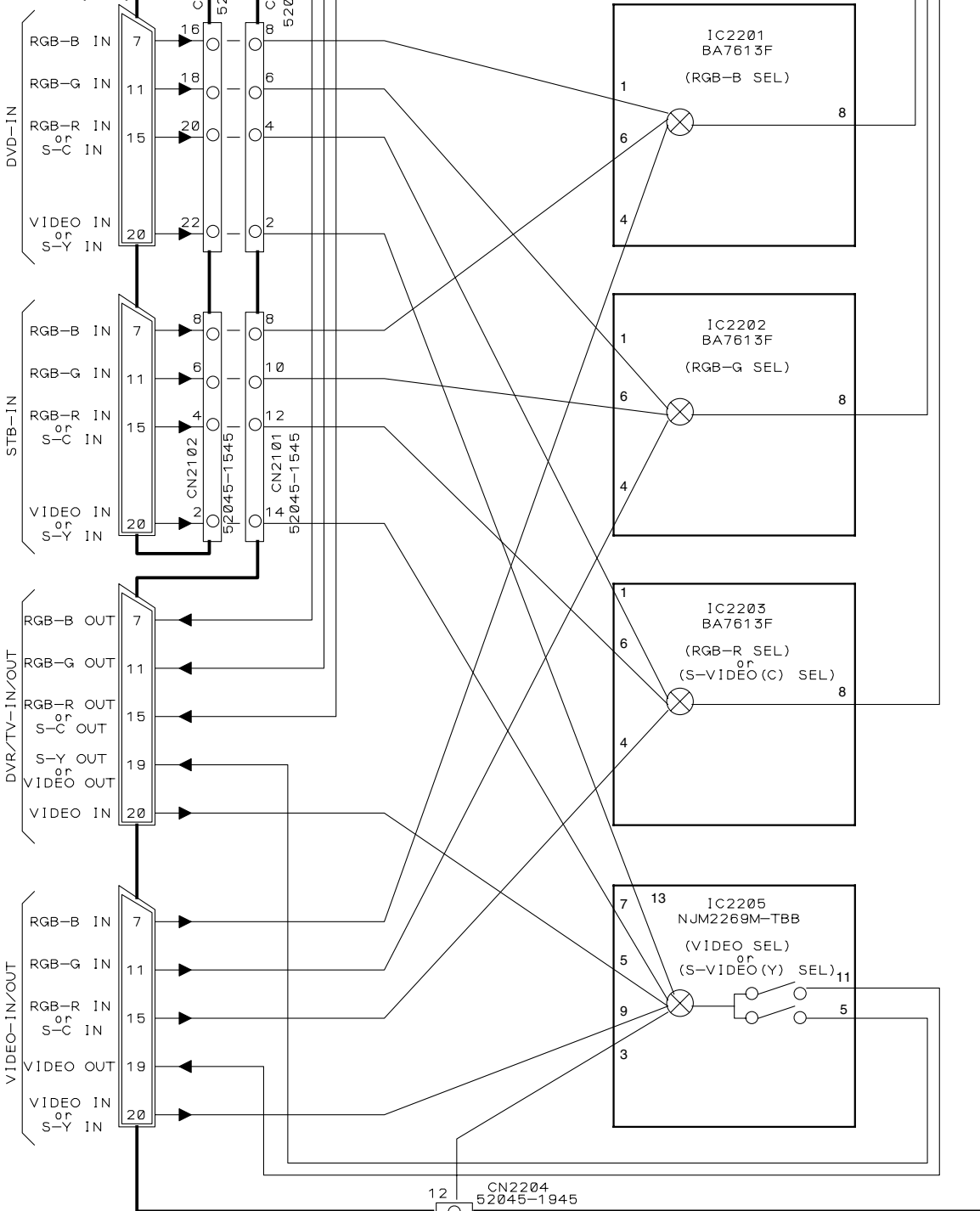


3.1.2 VIDEO AND POWER SUPPLY BLOCKS

VIDEO LINE

B SCART-1F ASSY (2/2)

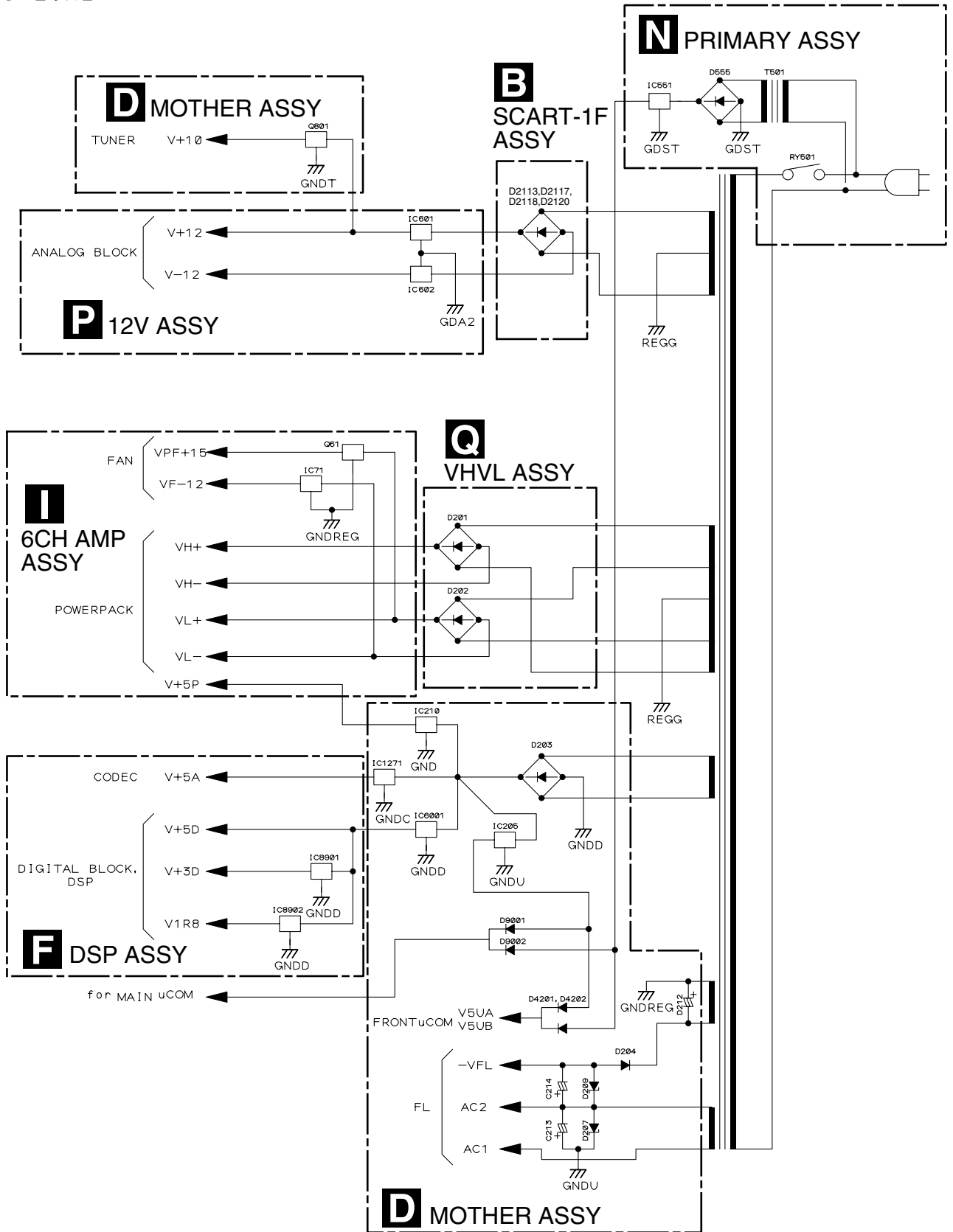
C SCART-2F ASSY (2/2)



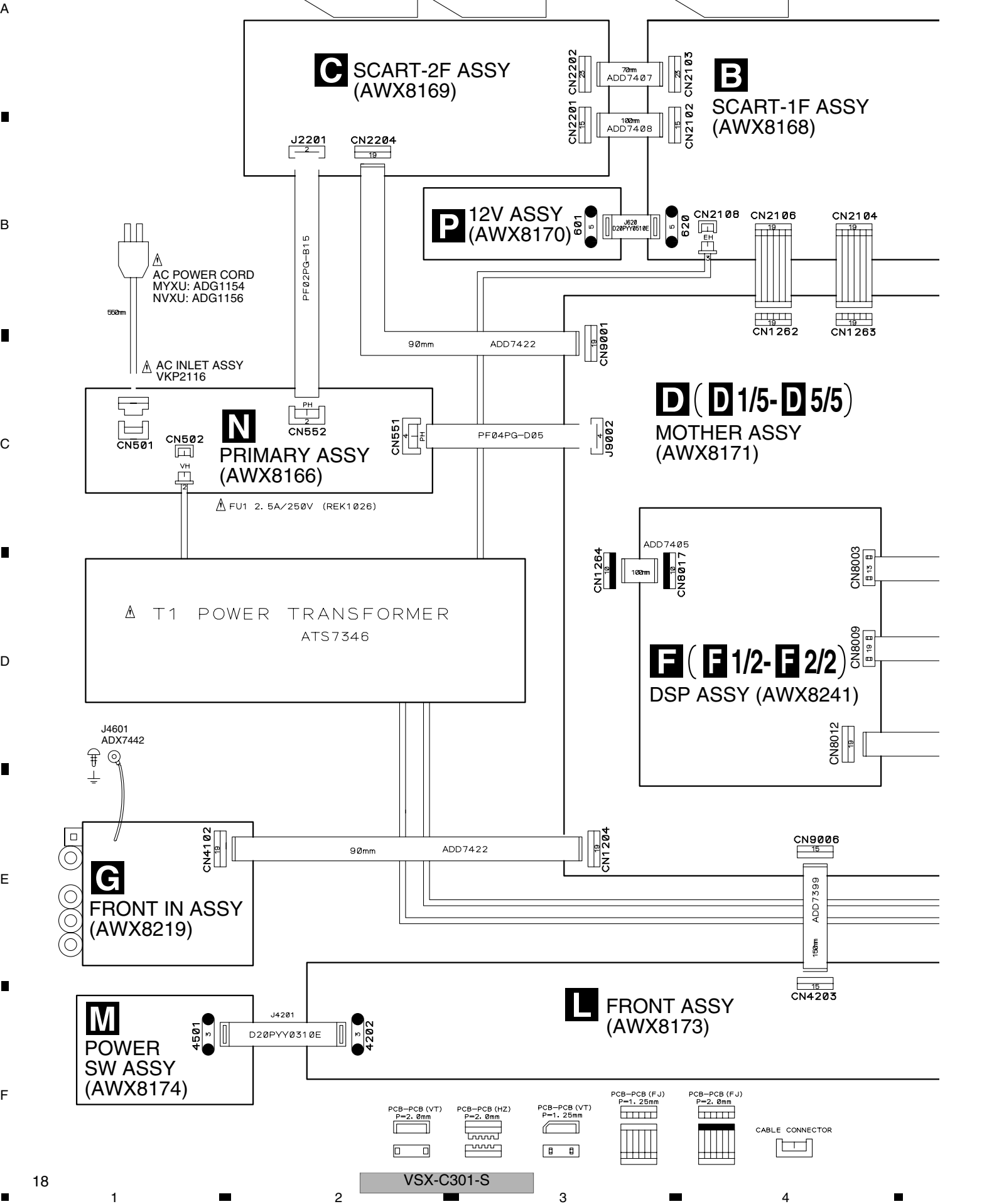
G FRONT IN ASSY (2/3)

D MOTHER ASSY

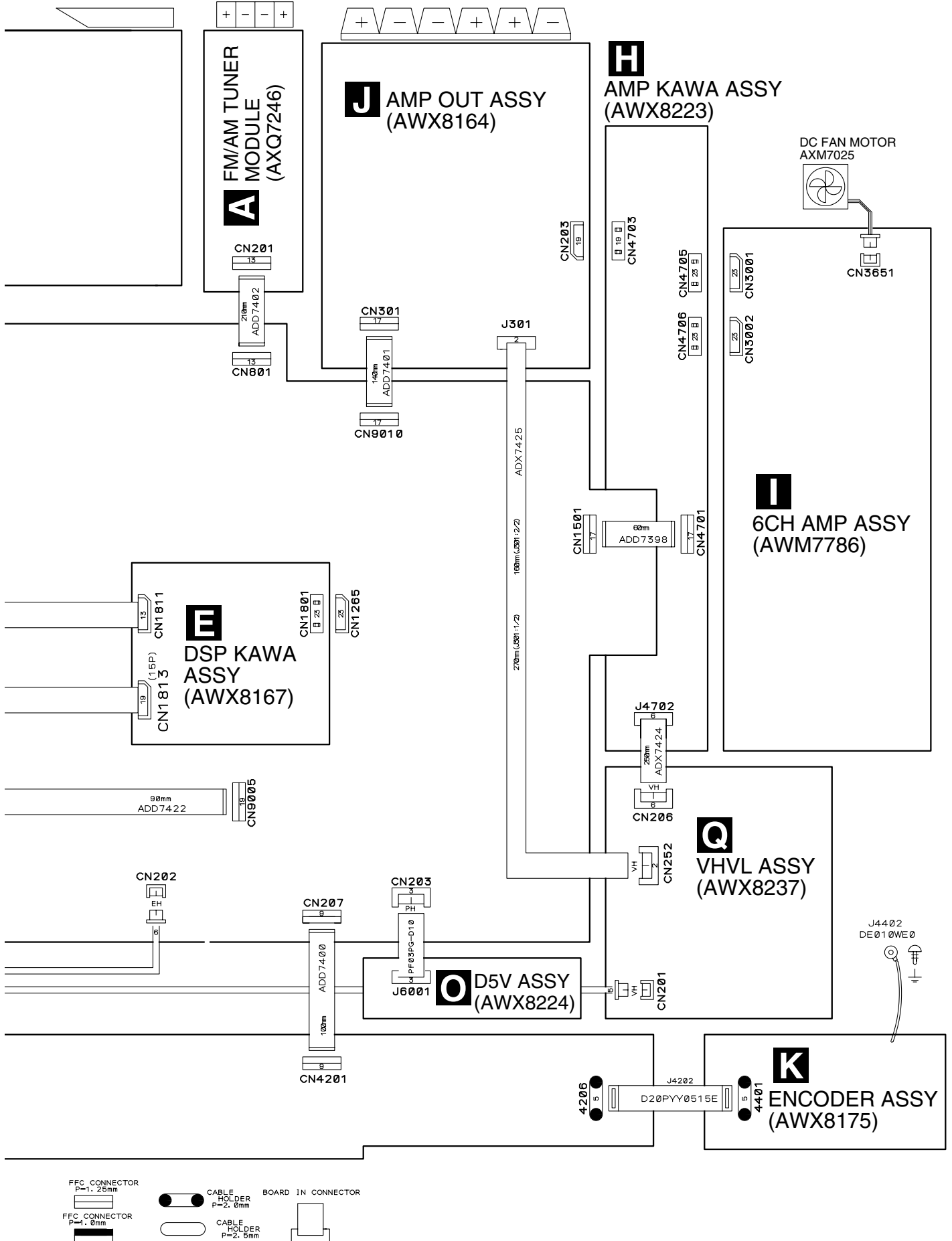
AC LINE



3.2 OVERALL WIRING DIAGRAM



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



Notes

1. RESISTORS

Indicated in Ω , $1/16W \pm 5\%$ Tolerance unless otherwise noted K;K Ω , M;M Ω .

2. CAPACITORS

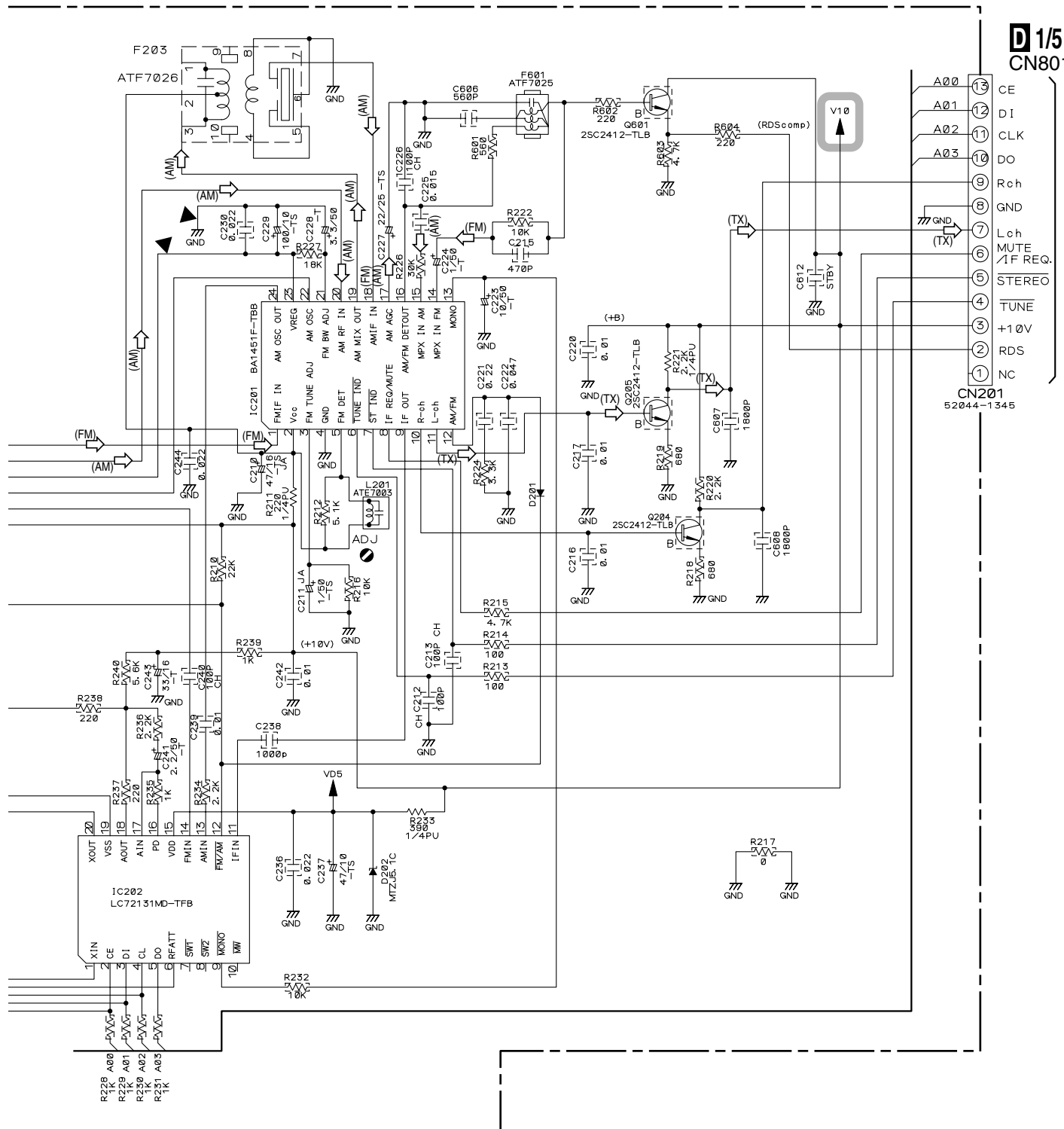
Indicated in Capacity (μF)/VOLTAGE (V) unless otherwise noted P;PF.

3. DIODES

No mark diode is 1SS133.

 : The power supply is shown with the marked box.

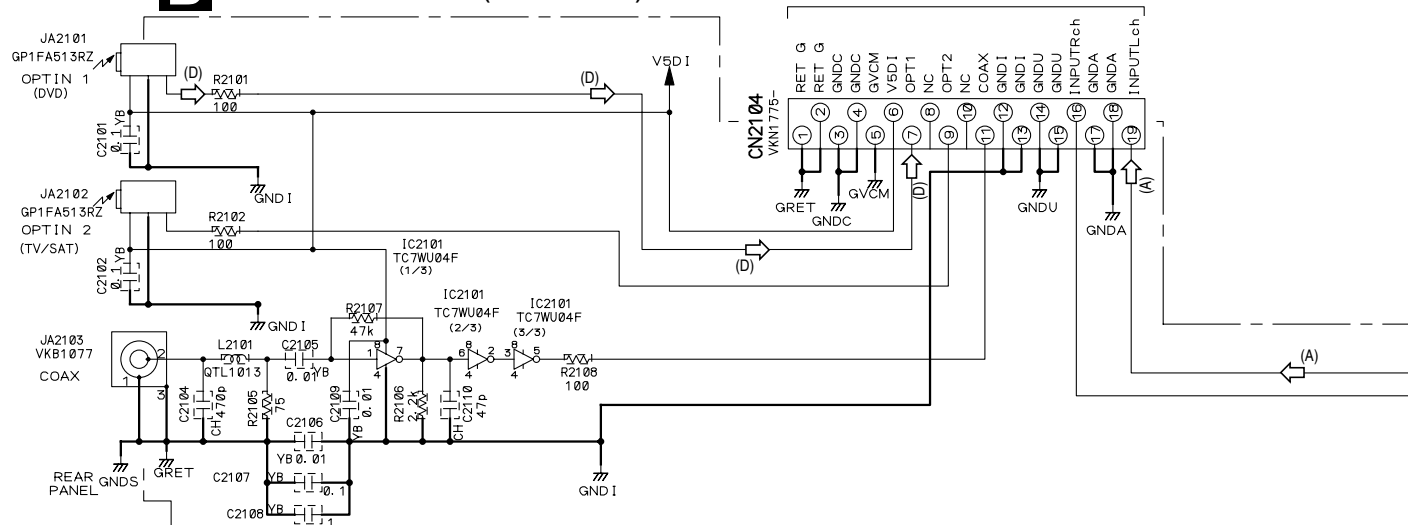
(TX) : AUDIO SIGNAL ROUTE (TUNER)
(AM) : AM SIGNAL ROUTE
(FM) : FM SIGNAL ROUTE



3.4 SCART-1F ASSY

B SCART-1F ASSY (AWX8168)

D 2/5 CN1263

 π

STATUS & ASPECT

DVD-IN

- N. C.
- Rch
- N. C.
- GND A
- GND V (B)
- Lch
- BLUE

CONTROL

- GND V (G)
- GREEN
- N. C.
- GND V (RorC)
- GND V (BR)
- REDORC
- BRANKING
- GND V
- GND V (YorV)
- N. C.
- YorVIDEO
- GND V

The diagram shows a circuit with a battery at the top. A wire from the positive terminal goes down and then right to a junction. From this junction, one wire goes down through a resistor to the negative terminal. Another wire goes right to a second junction. From the second junction, one wire goes down through a switch and a lamp in series to the negative terminal. Another wire goes right to the negative terminal.

STB-IN

- N. C.
 - Rch
- N. C.
 - GNDA
 - GNDV (B)
 - Lch
 - BLUE
- STATUS & ASPECT
 - GNDV (G)
 - CONTROL
 - GREEN
- N. C.
 - GNDV (RorC)
 - GNDV (BR)
 - RedorC
 - BRANKING
 - GNDV
 - GNDV (YorV)
 - N. C.
 - YorVIDEO
 - GNDV

C CN2201

C CN2202

VSX-C301-S

 : The power supply is shown with the marked box.

NOTE -

1. RESISTORS

Unit: k-k Ω , M-M Ω or Ω unless otherwise noted.
Rated power: 1/16W unless otherwise noted.
Tolerance: (J) $\pm$ 5% unless otherwise noted.

2. CAPACITORS

Unit: μ F or nF unless otherwise noted.
 Ratings: Capacity (μ F)/Voltage(V) unless otherwise noted.
 Rated Voltage: 50V except for electrolytic capacitors.
 AT:CEAT JA:CEJA JQ:CEJQ YB:CKSR YB:CKSR YB:CKSR
 CH:CCSRCH

3. DIODES

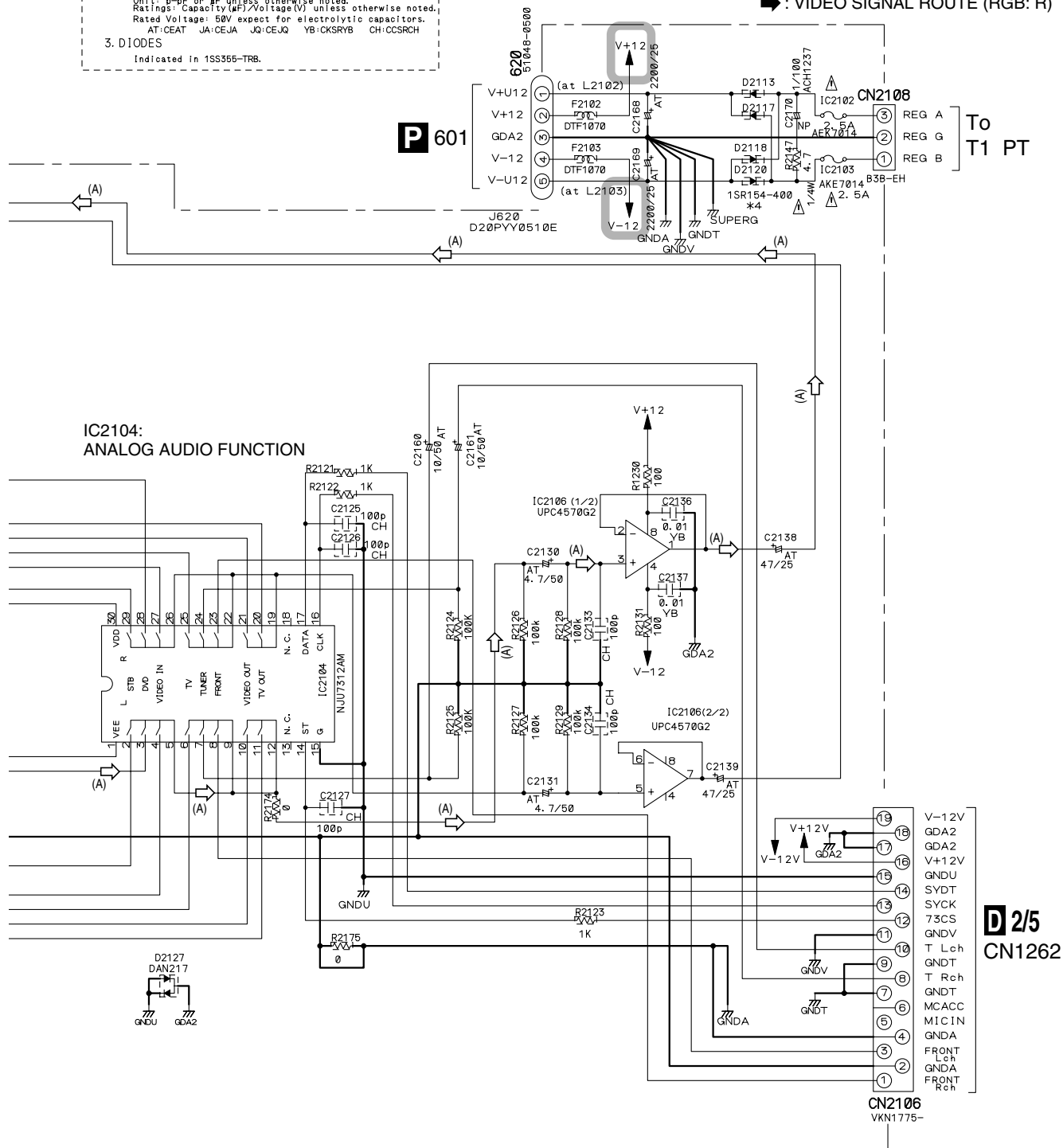
Indicated in 1SS355-TRB.

^(A) ➡ : AUDIO SIGNAL ROUTE (ANALOG)

^(D) ➡ : AUDIO SIGNAL ROUTE (DIGITAL)

(C) ➡ : VIDEO SIGNAL ROUTE (COMPOSITE)

(R) ➡ : VIDEO SIGNAL ROUTE (RGB: R)



IC2104: ANALOG AUDIO FUNCTION

D 2/5
CN1262

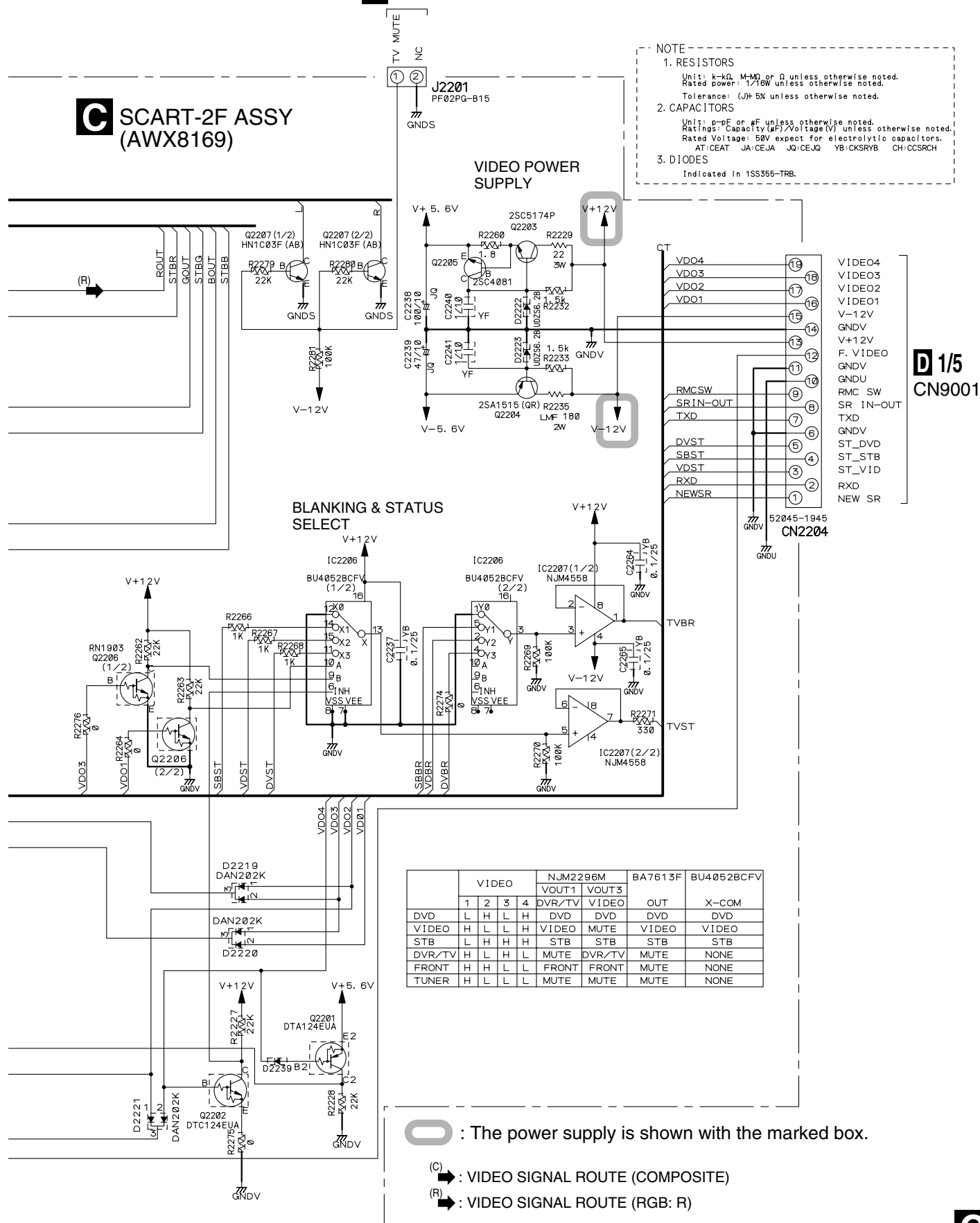
**CAUTION : FOR CONTINUED PROTECTION
AGAINST RISK OF FIRE.
REPLACE ONLY WITH SAME TYPE
NO. 49102.5 FOR IC2101 AND IC2102
MED. BY LITTELFUSE INC.**

4

C

N CN552

C SCART-2F ASSY (AWX8169)



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

(C) : VIDEO SIGNAL ROUTE (COMPOSITE)

(R) : VIDEO SIGNAL ROUTE (RGB: R)

4

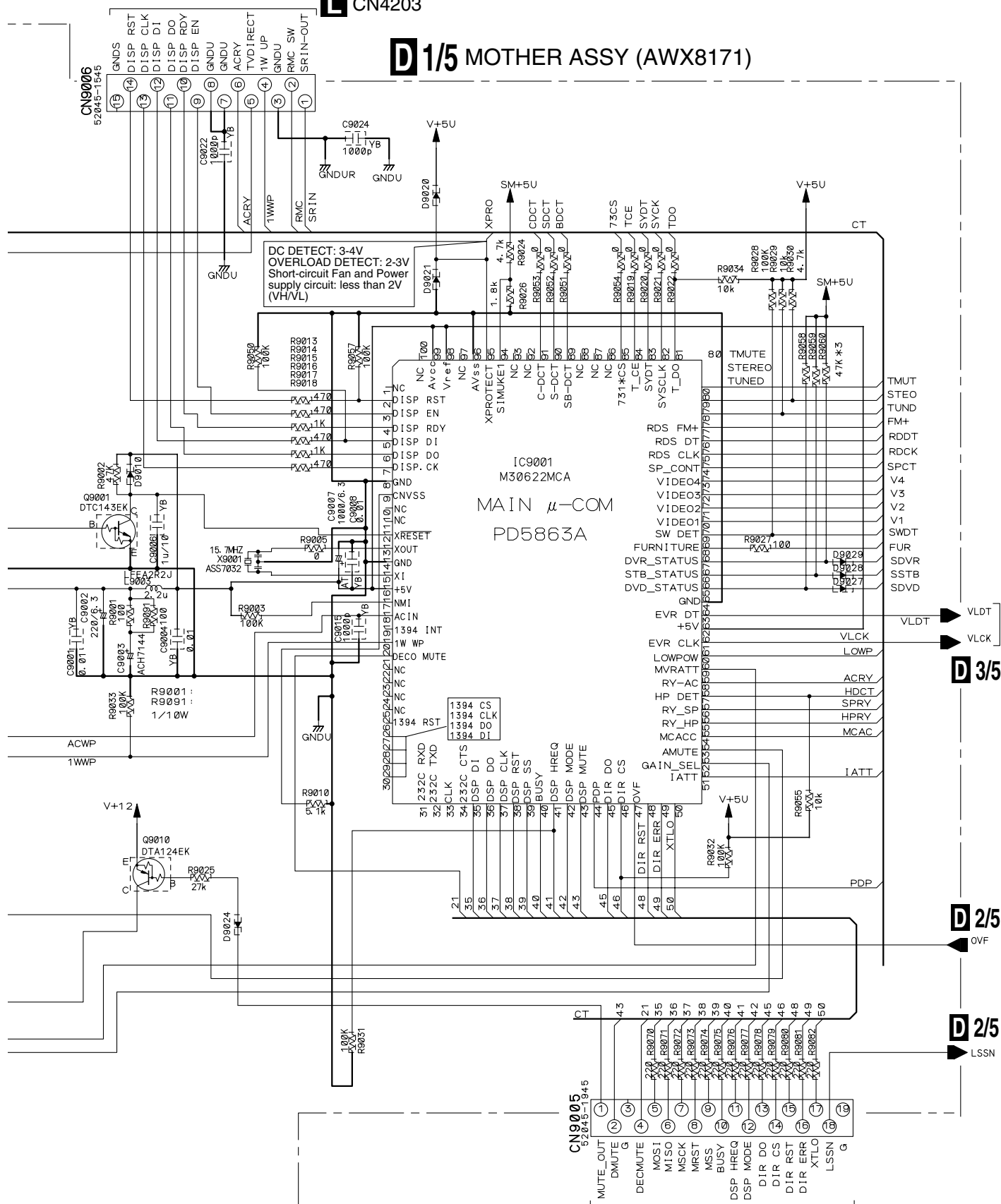


Indicated in 1SS355-TRB.

N CN551

L CN4203

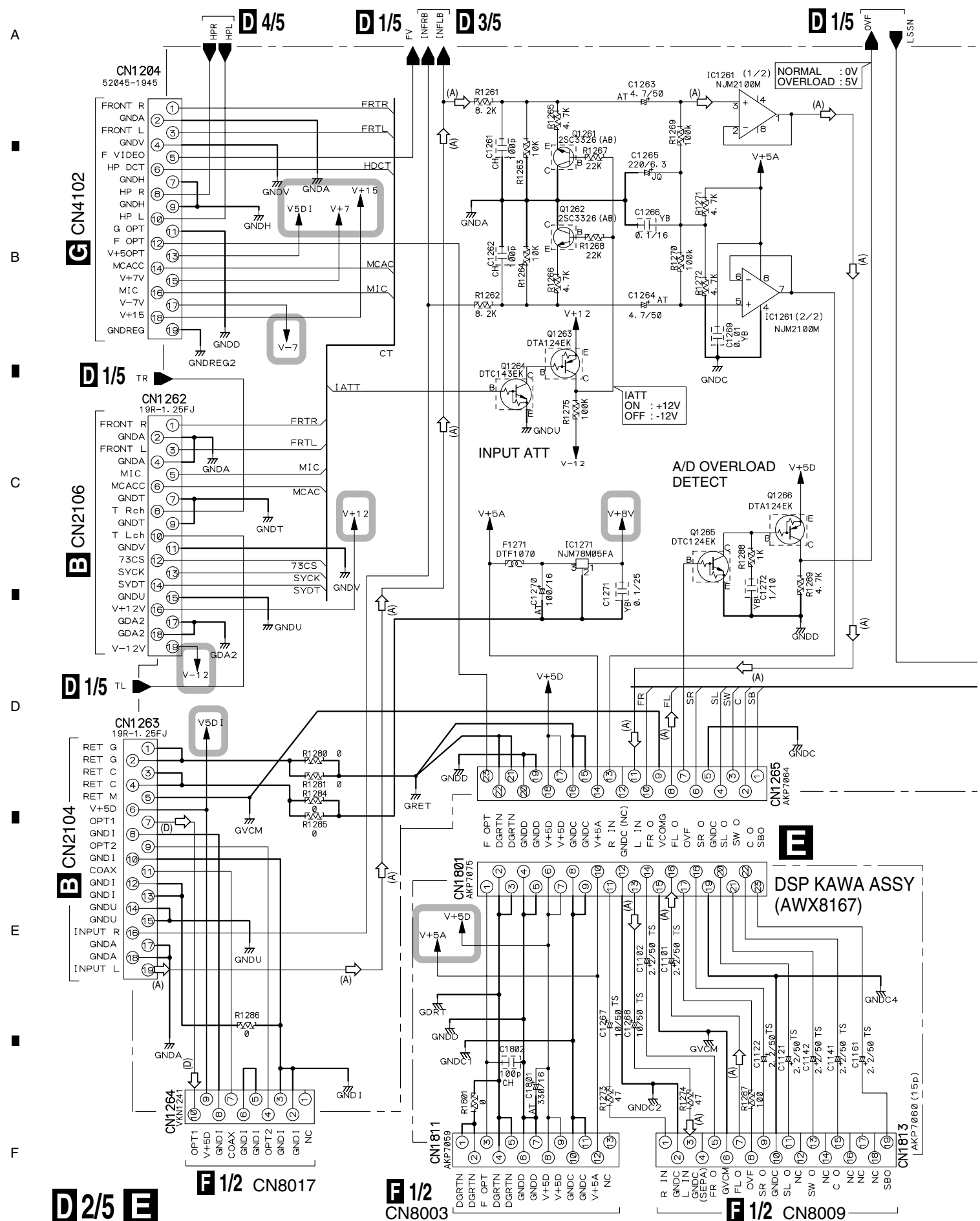
D 1/5 MOTHER ASSY (AWX8171)

**F 2/2** CN8012

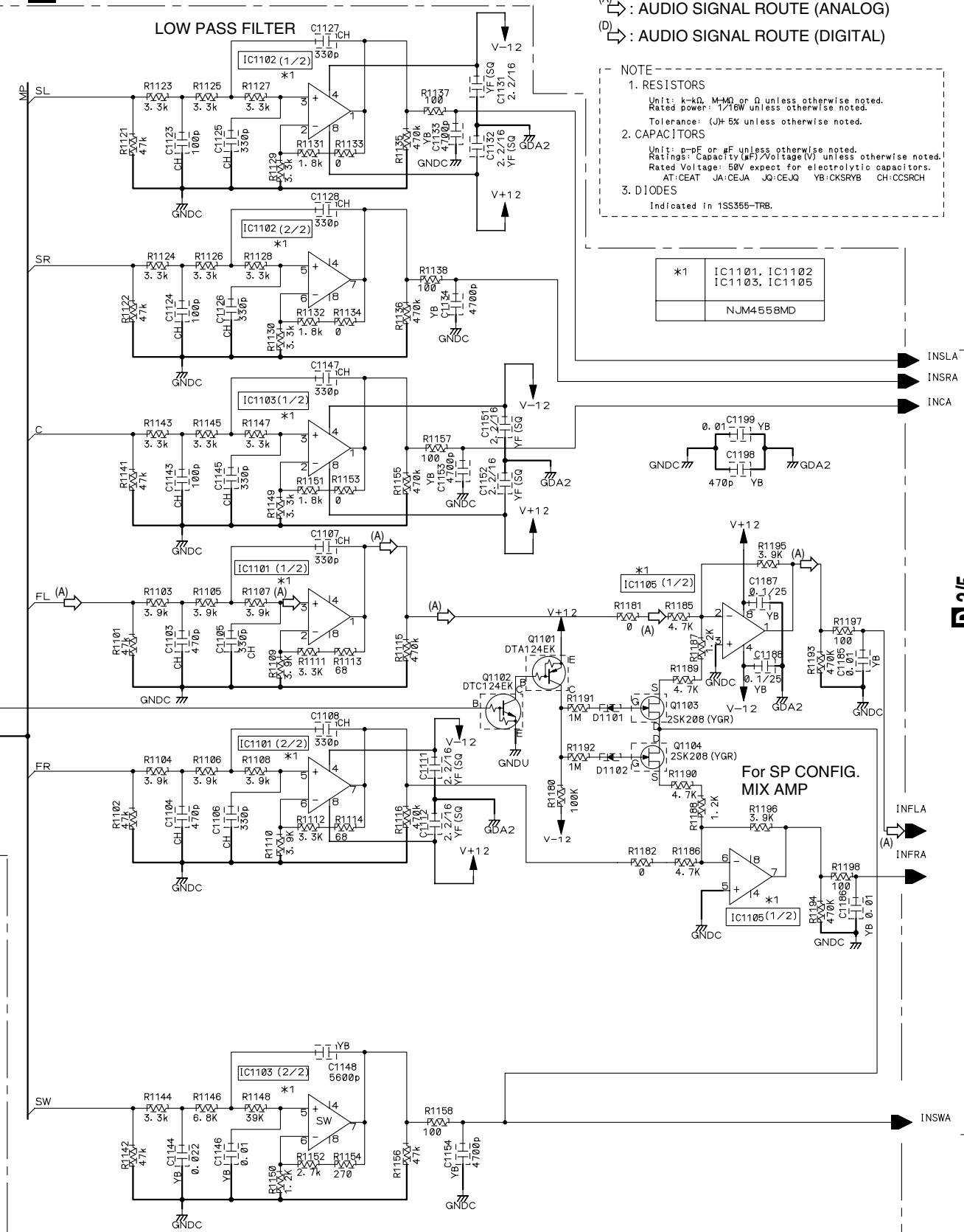
D 1/5

VSX-C301-S

3.7 MOTHER ASSY (2/5) and DSP KAWA ASSY



D2/5 MOTHER ASSY (AWX8171)



: The power supply is shown with the marked box.

D2/5

3.8 MOTHER ASSY (3/5)

A

B

C

D

E

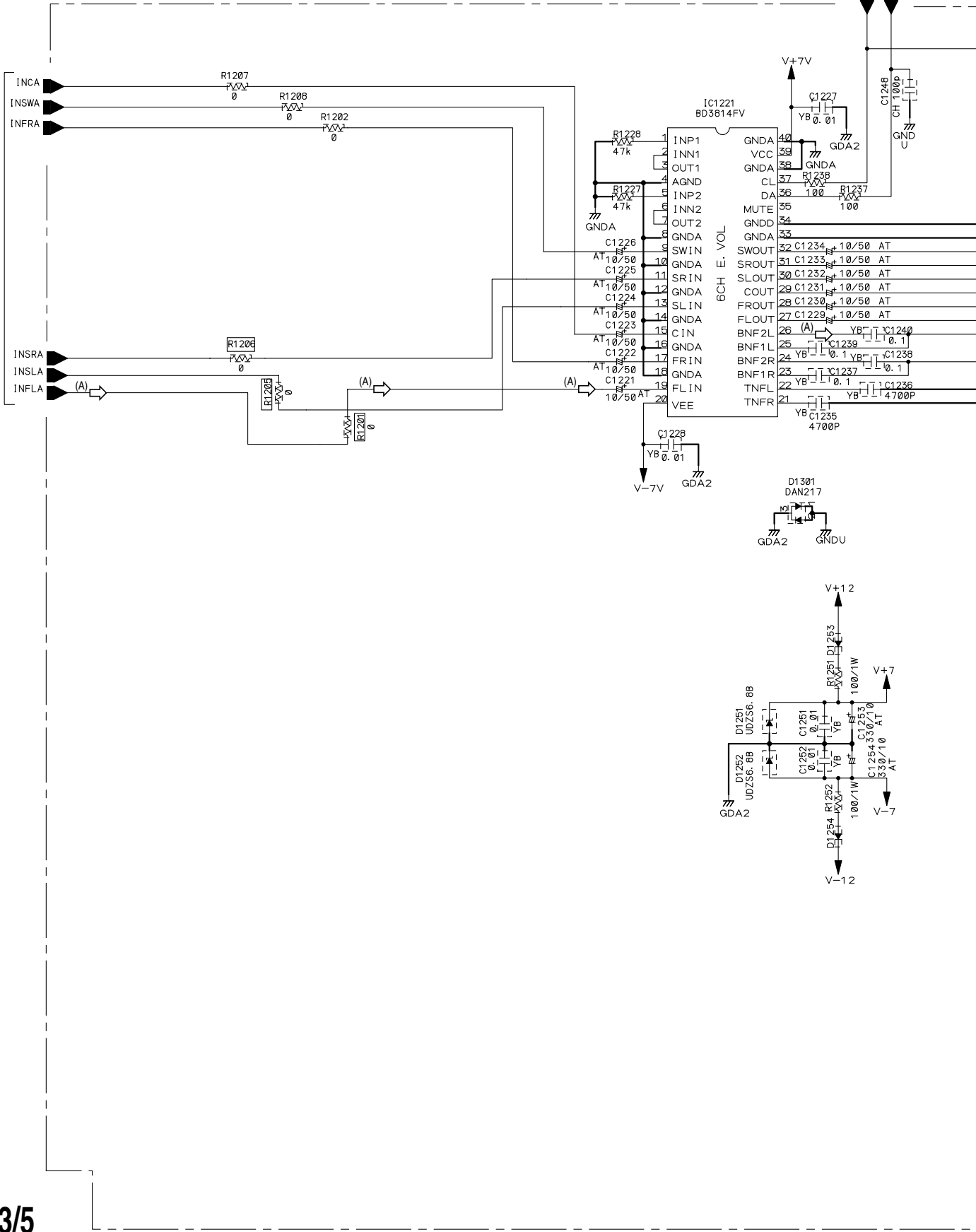
F

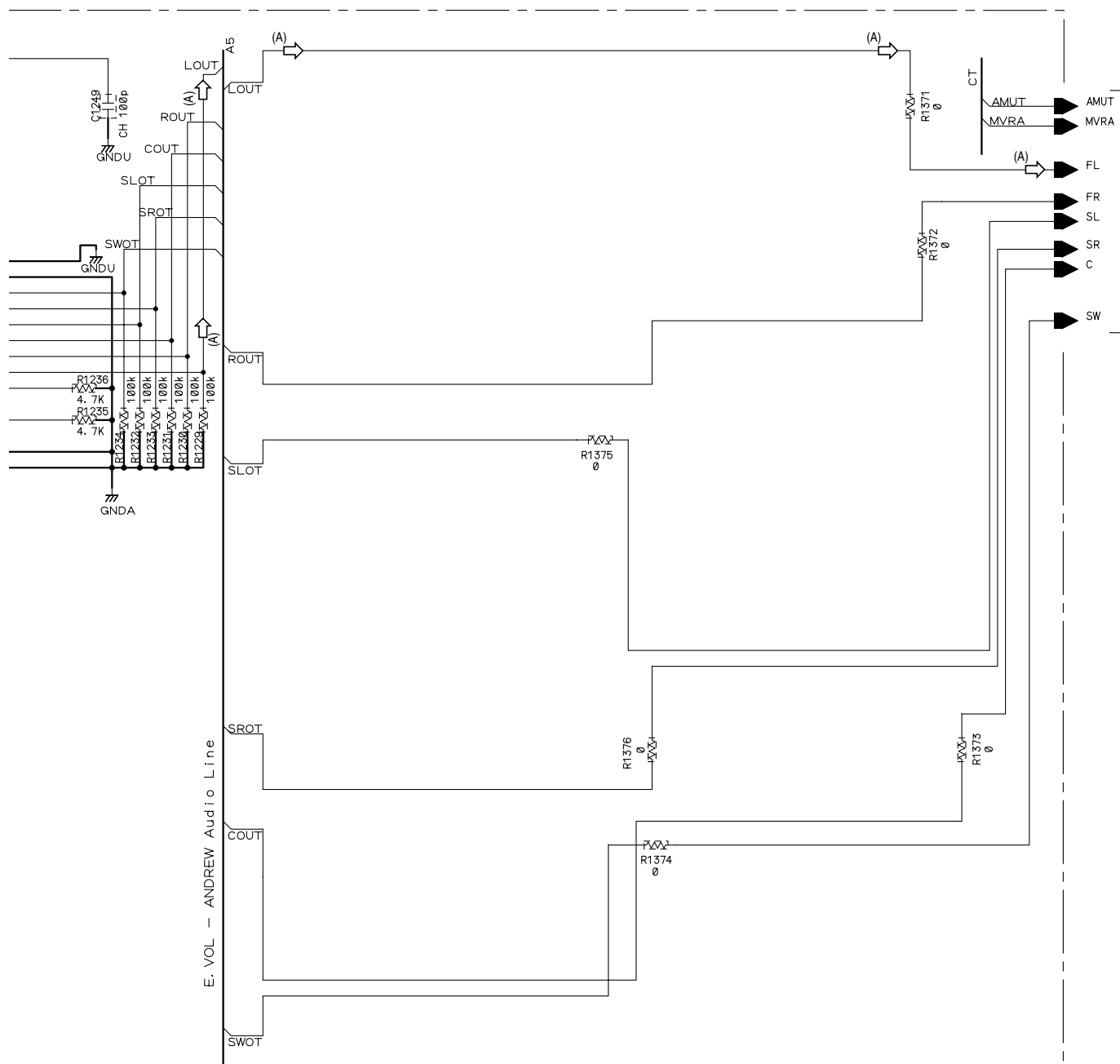
D 3/5 MOTHER ASSY (AWX8171)

D 1/5

D 2/5

D 3/5





NOTE

1. RESISTORS

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

2. CAPACITORS

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

3. DIODES

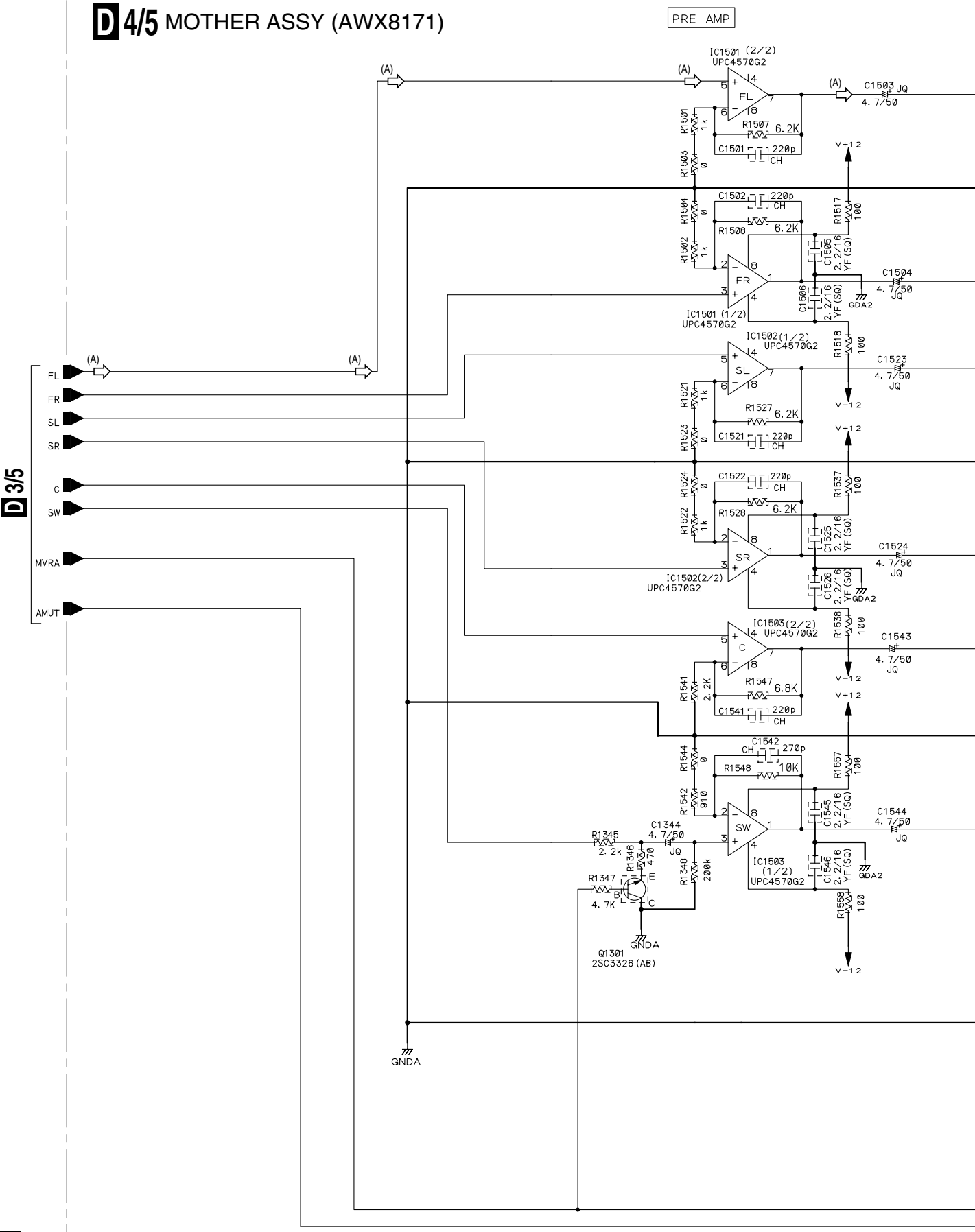
AT:CEAT JA:CEJA JQ:CEJQ YB:CKSR YB:CKSR YB:CKSR
 CH:CCSRCH

Indicated in 1SS355-TRB.

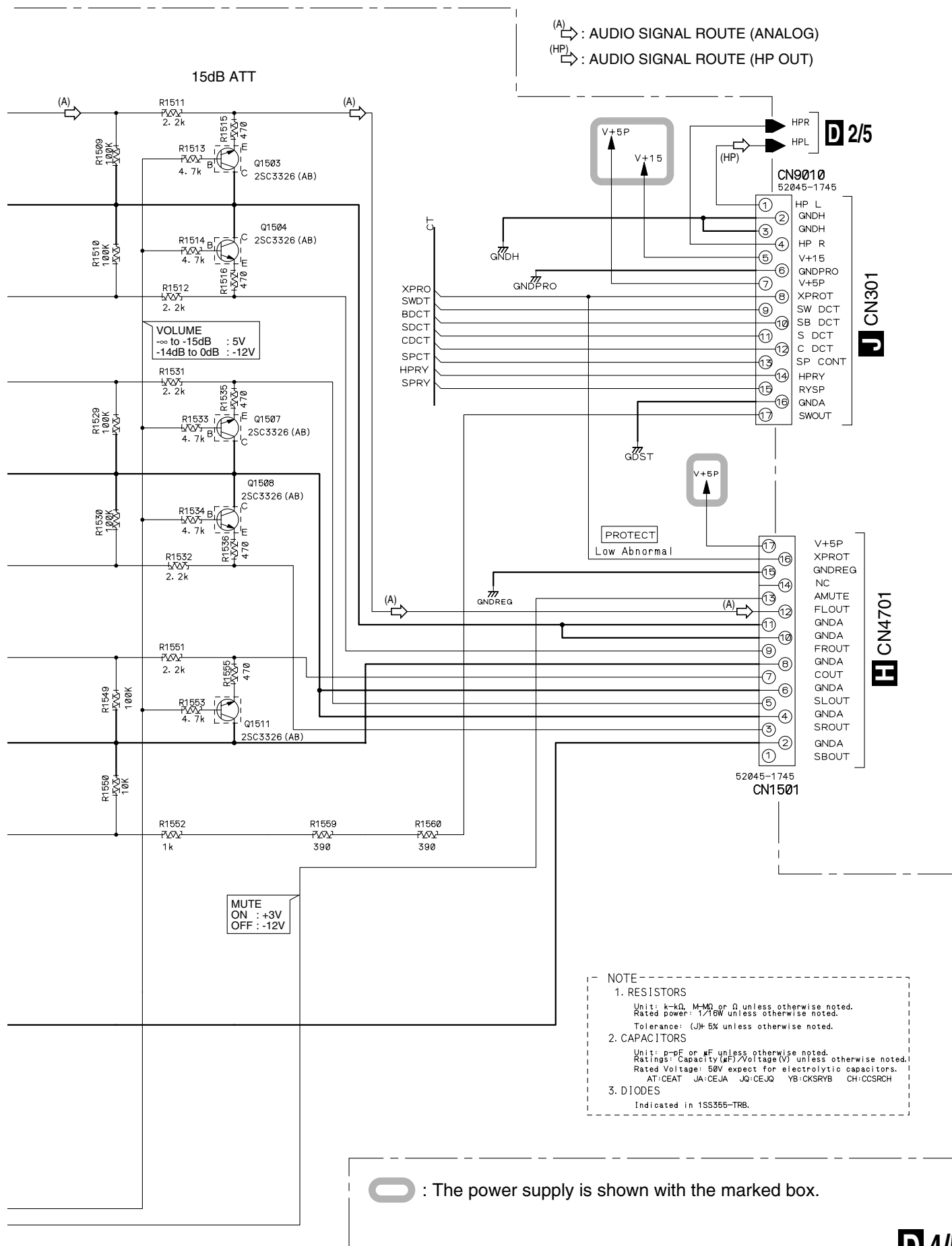
(A) $\Rightarrow$: AUDIO SIGNAL ROUTE (ANALOG)

3.9 MOTHER ASSY (4/5)

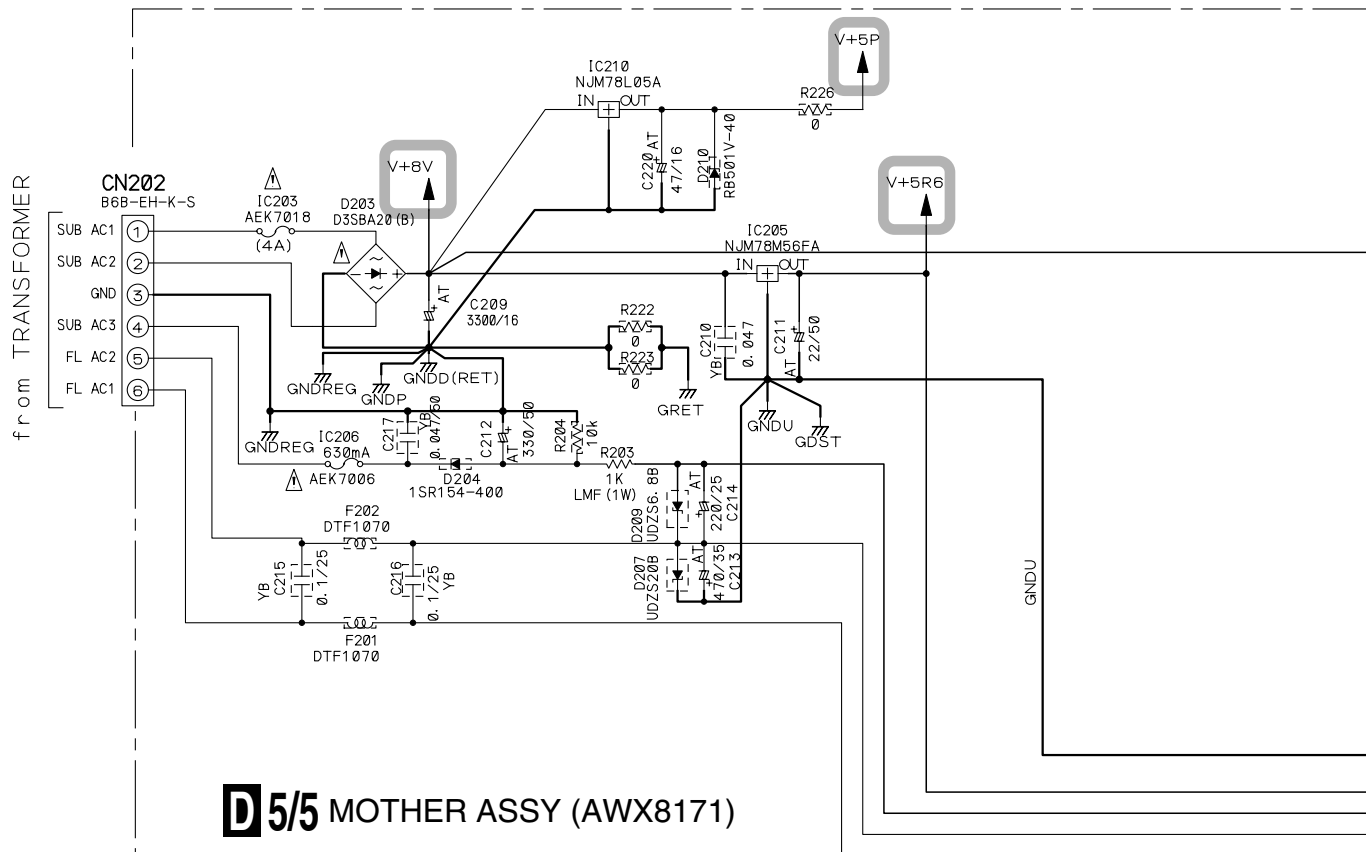
D 4/5 MOTHER ASSY (AWX8171)



D 4/5



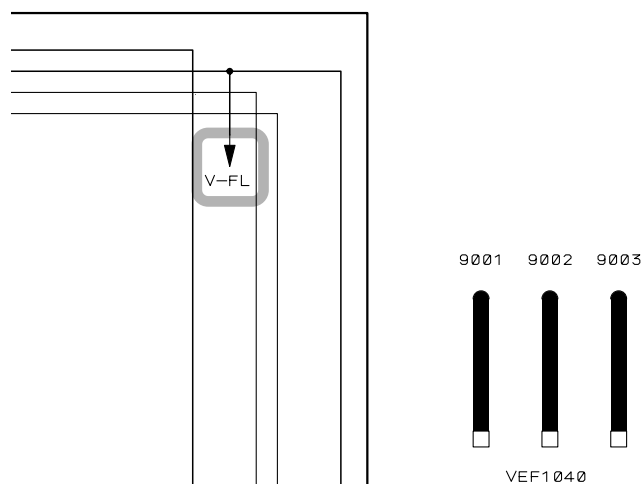
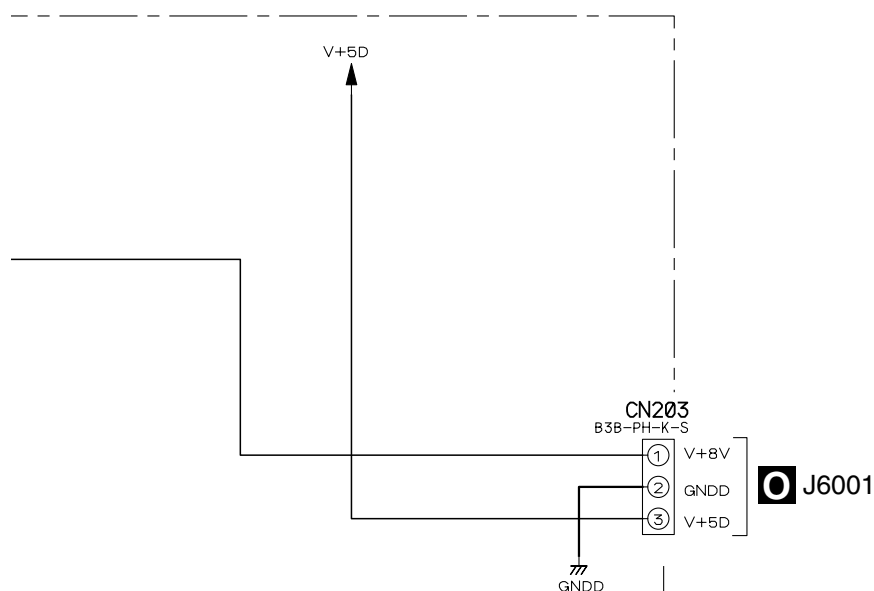
3.10 MOTHER ASSY (5/5)



CAUTION : FOR CONTINUED PROTECTION
AGAINST RISK OF FIRE.
REPLACE ONLY WITH SAME TYPE
NO. 491004 FOR IC203 MFD, BY
LITTELFUSE INC.

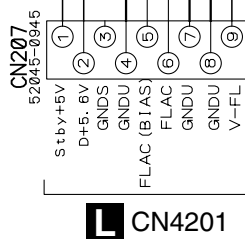
CAUTION : FOR CONTINUED PROTECTION
AGAINST RISK OF FIRE.
REPLACE ONLY WITH SAME TYPE
NO. 491.630 FOR IC206 MFD, BY
LITTELFUSE INC.

 : The power supply is shown with the marked box.



NOTE

1. RESISTORS
Unit: k- Ω , M- Ω or Ω unless otherwise noted.
Rated power: 1/16W unless otherwise noted.
Tolerance: (J) $\pm$ 5% unless otherwise noted.
2. CAPACITORS
Unit: p-pF or μ F unless otherwise noted.
Ratings: Capacity(μ F)/Voltage(V) unless otherwise noted.
Rated Voltage: 50V expect for electrolytic capacitors.
AT:CEAT JA:CEJA JQ:CEJQ YB:CKSRB CH:CCSRCH
3. DIODES
Indicated in 1SS355-TRB.



3.11 DSP ASSY (1/2)

A

B

C

D

E

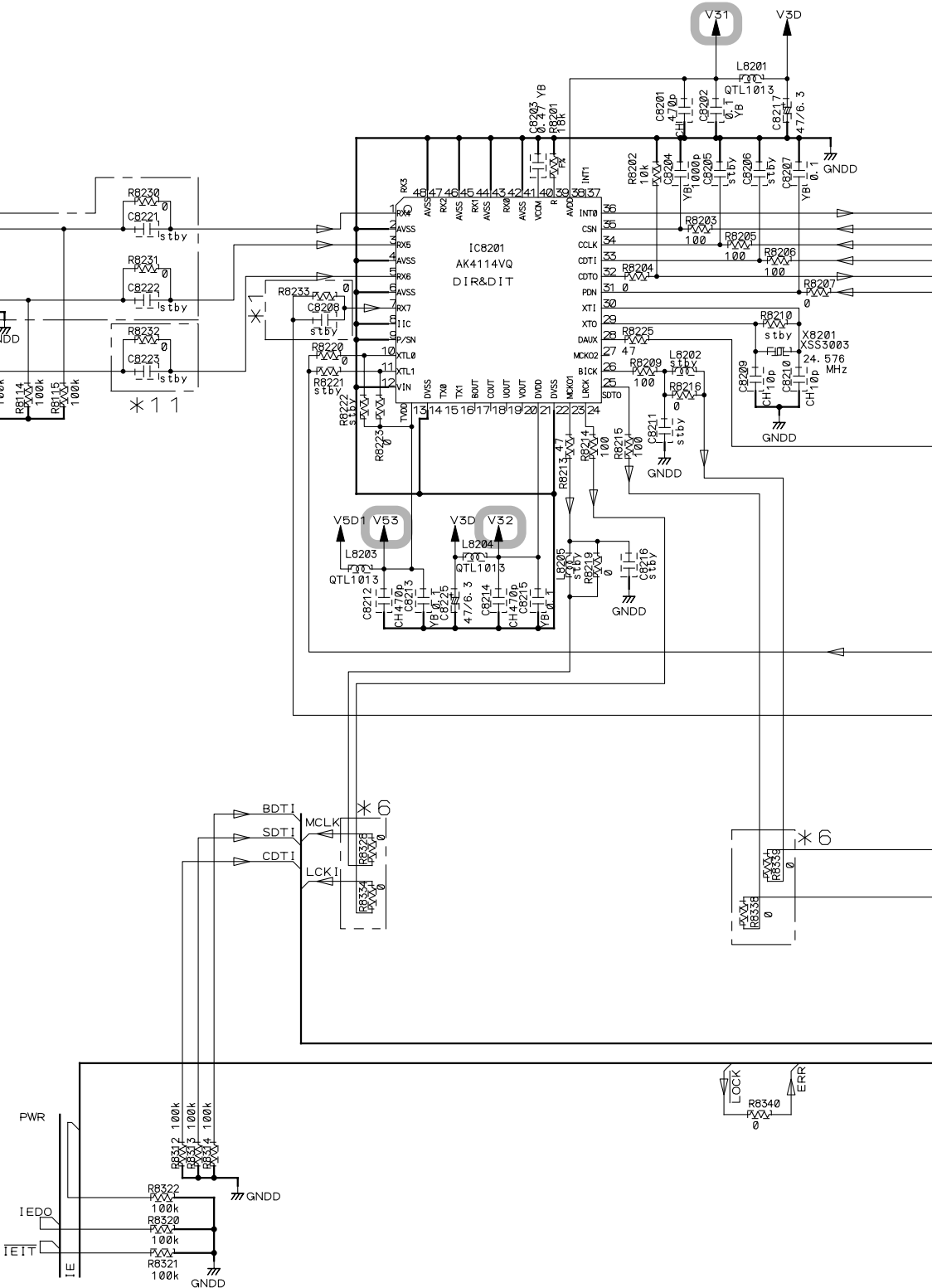
F

D 2/5 CN1264

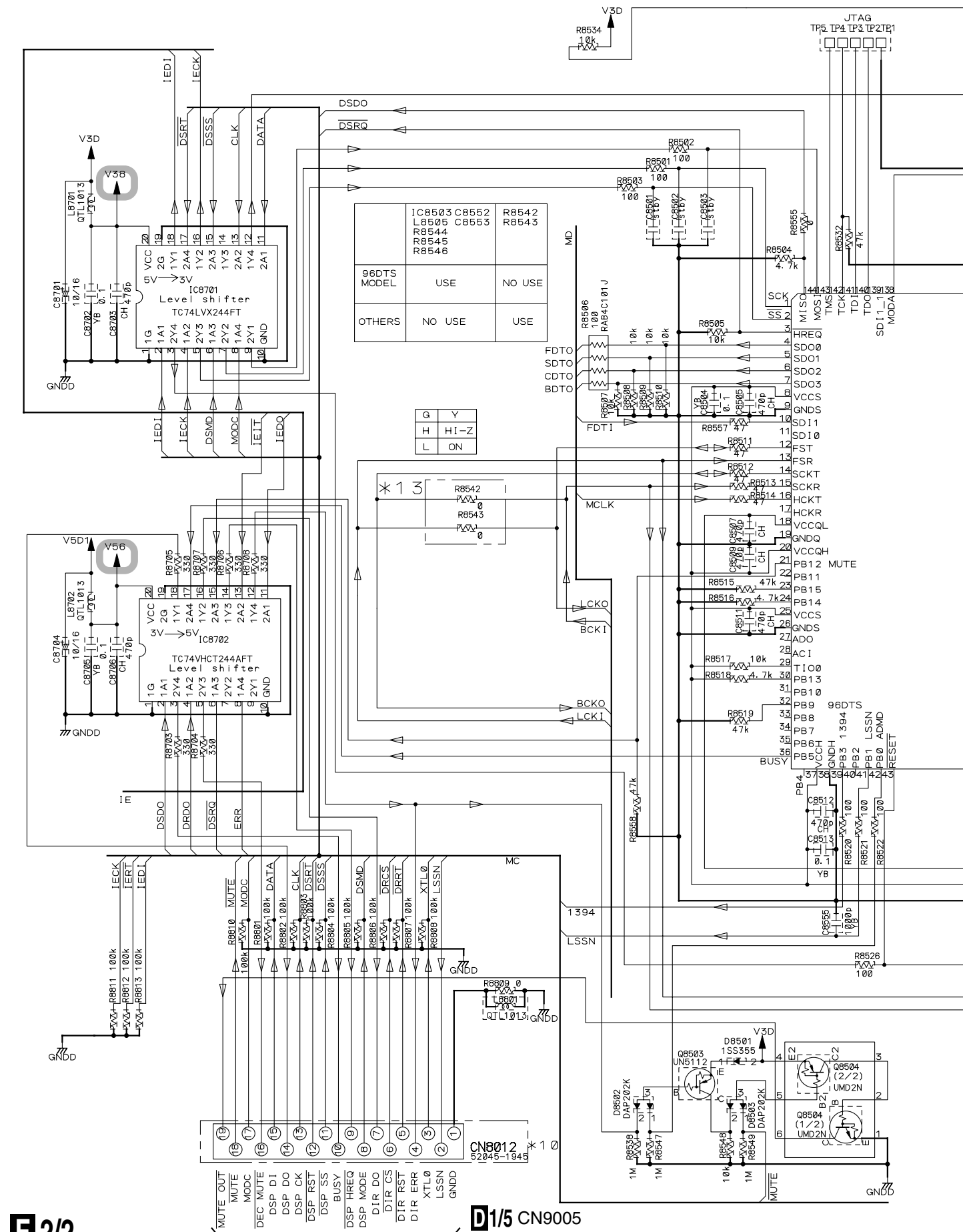
* 1 0

* 1 1

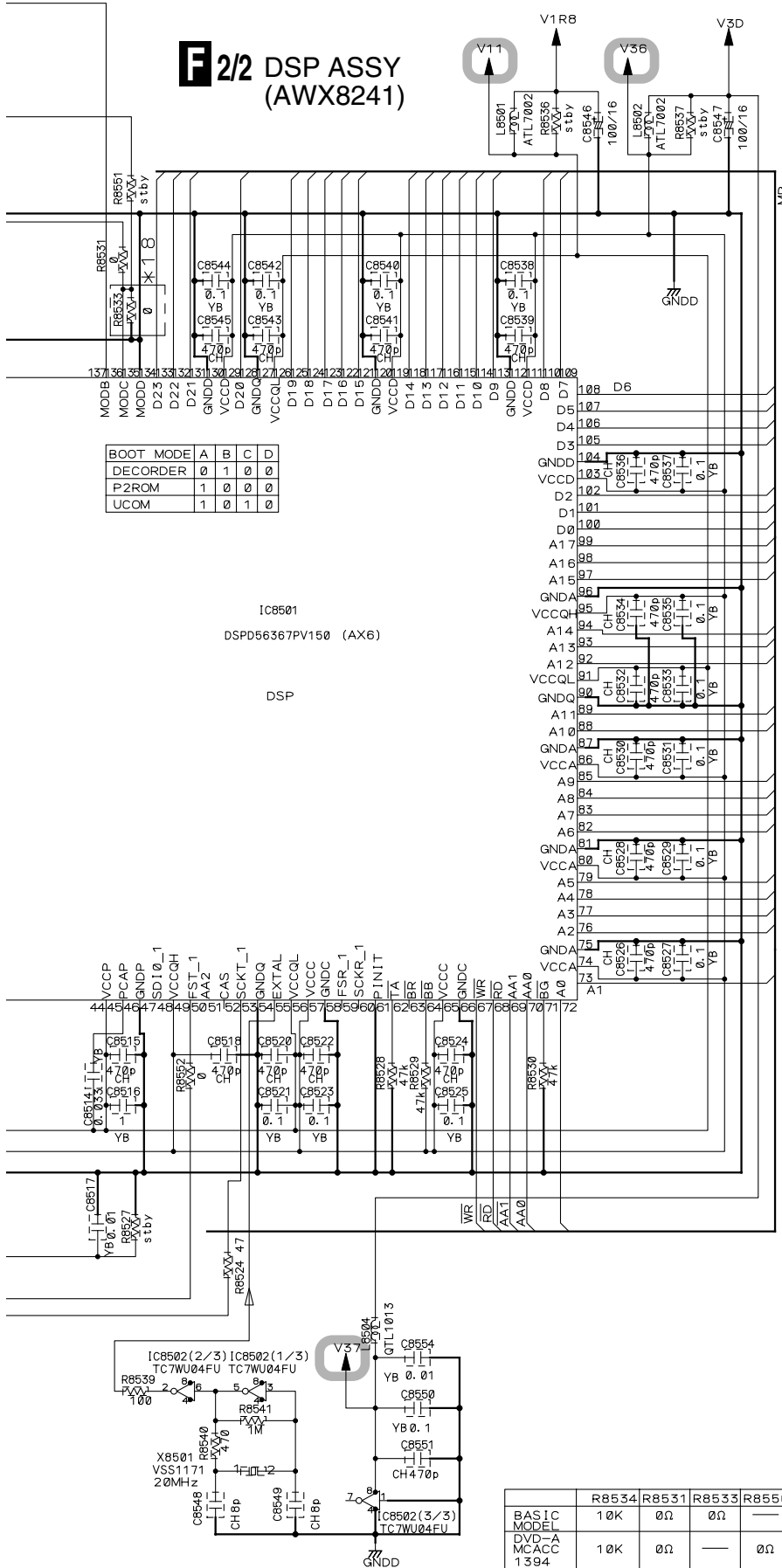
F 1/2



3.12 DSP ASSY (2/2)



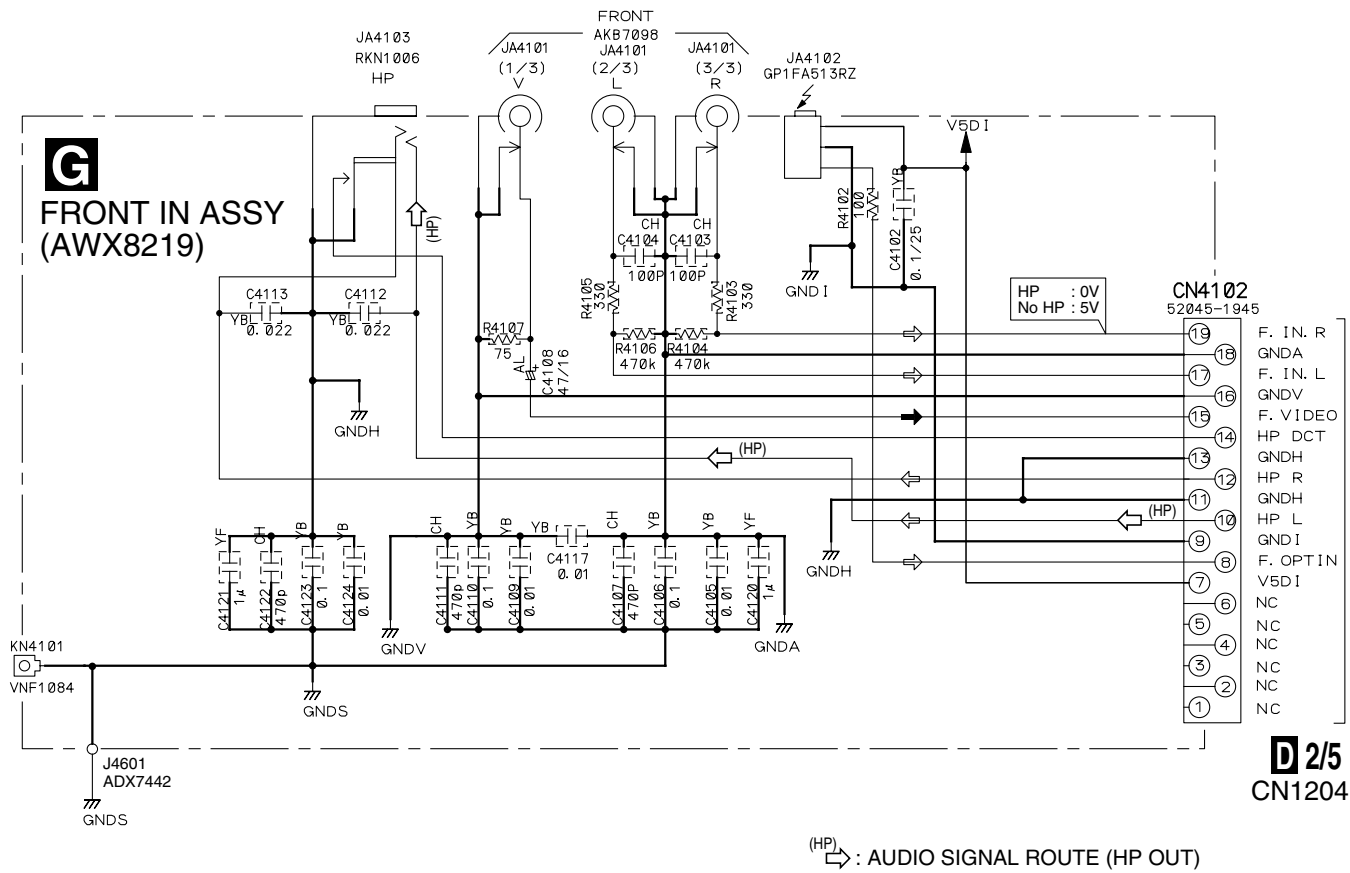
F 2/2 DSP ASSY (AWX8241)



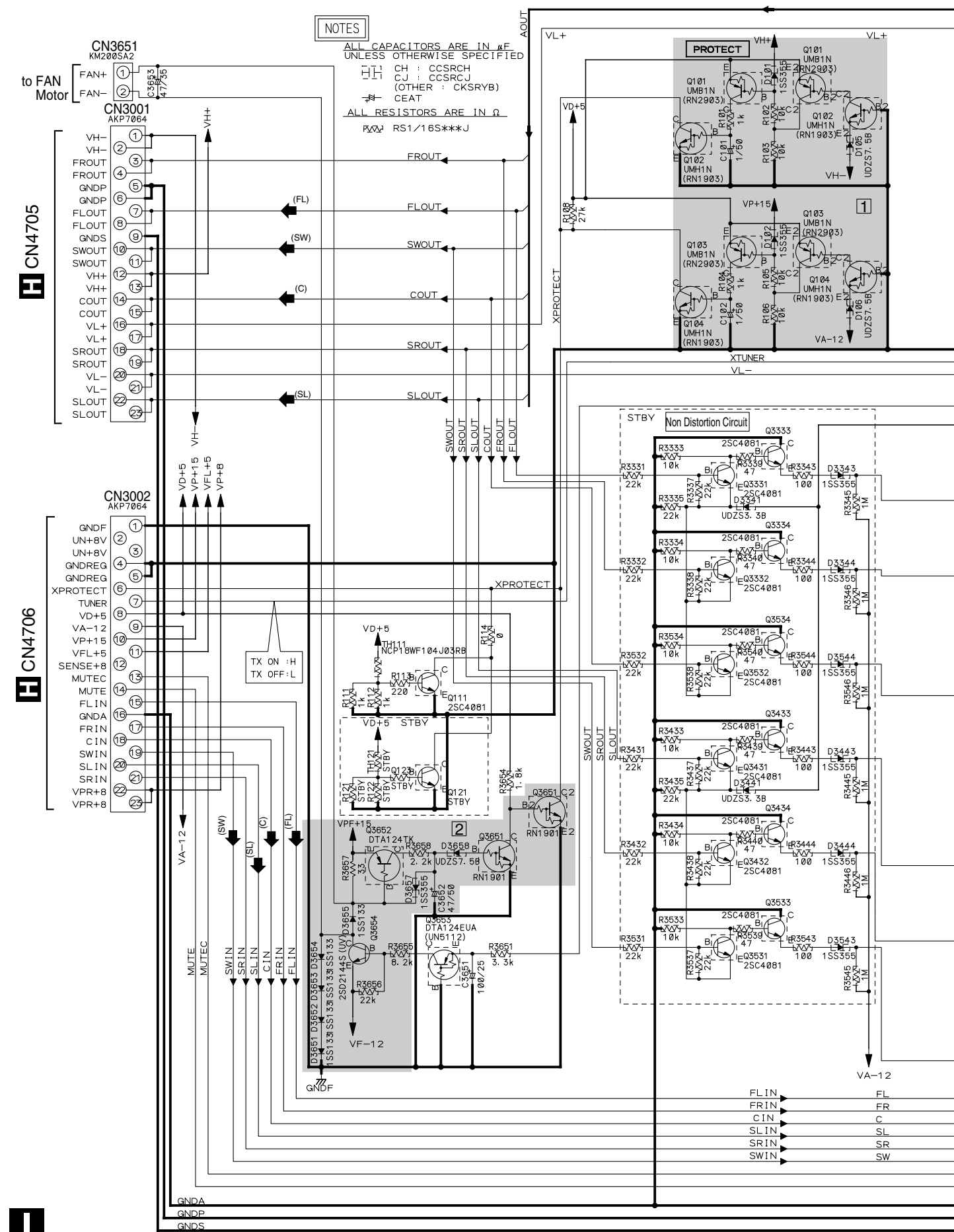
	IC8601 C8601 C8602 C8603 C8604 L8601	IC8602 C8605 C8606 C8607 C8608 L8602	IC8603 C8609 C8610 L8603	R8523
BASIC MODEL	NO USE	NO USE	NO USE	NO USE
AAC&96DTS	USE	USE	NO USE	USE
MCACC	USE	USE	USE	USE
AAC&96DTS &MCACC	USE	USE	USE	USE

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

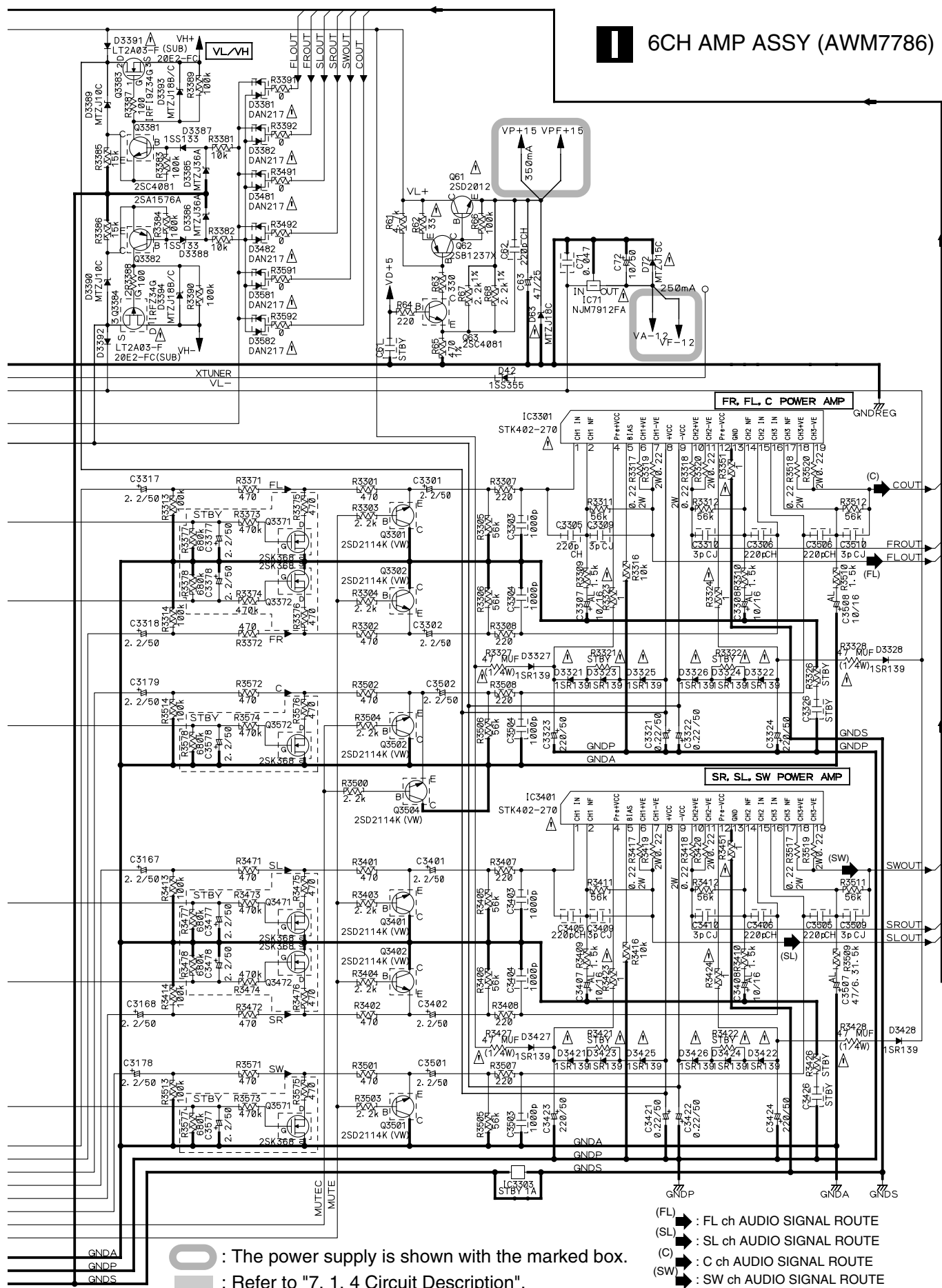
3.13 FRONT IN and AMP KAWA ASSYS



3.14 6CH AMP ASSY



6CH AMP ASSY (AWM7786)



4

J



■

5

■

6

■

7

■

8

■

A

B

C

D

E

F

■

5

■

6

■

7

■

8

■

VSX-C301-S

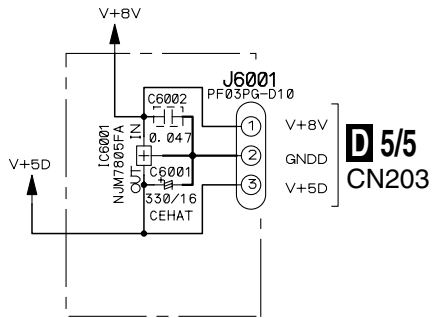
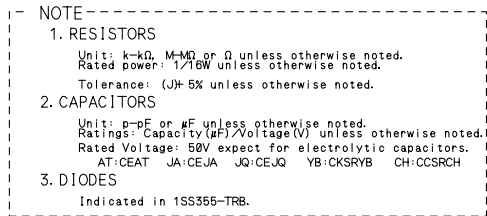
46



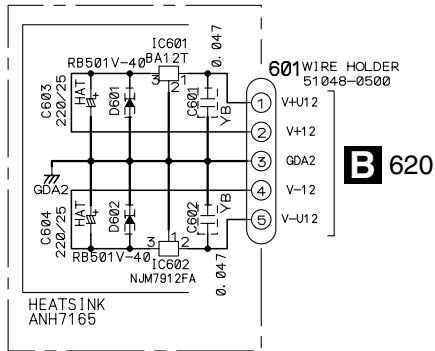


F

3.17 PRIMARY, D5V, 12V and VHVL ASSYS



O D5V ASSY (AWX8224)

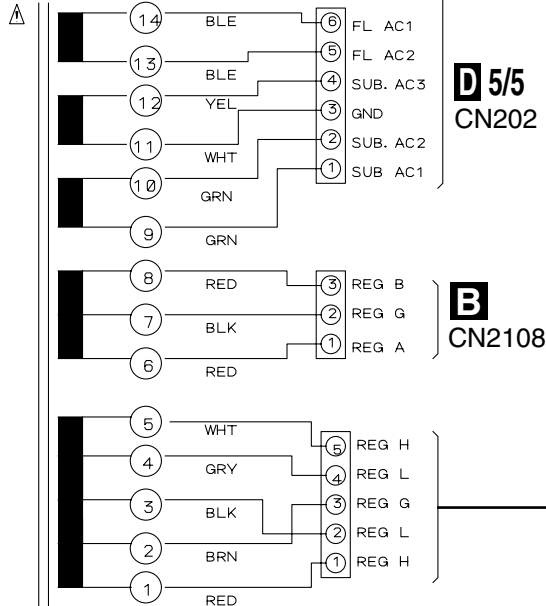


P 12V ASSY (AWX8170)

T1 POWER TRANSFORMER
ATS7346

Secon Dary

from transformer



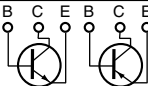
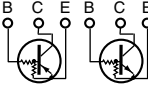
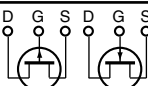
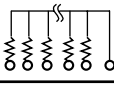


N Q

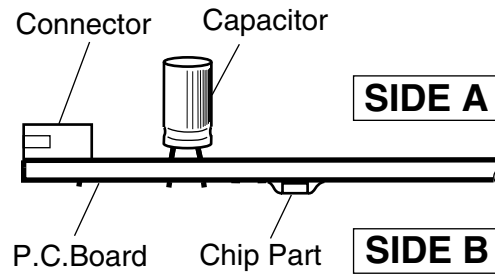
4. PCB CONNECTION DIAGRAM

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.

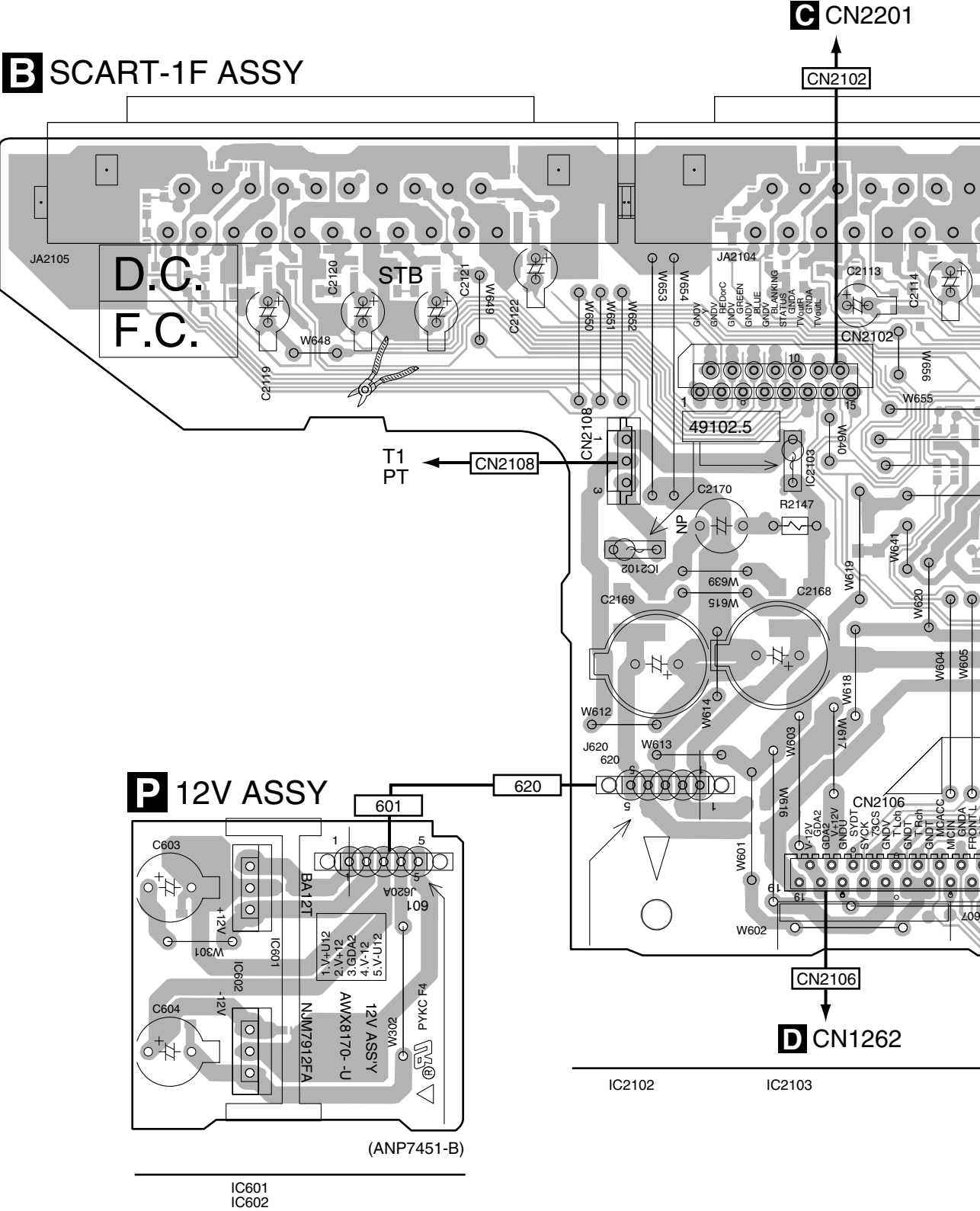


4.2 SCART-1F and 12V ASSYS

SIDE A

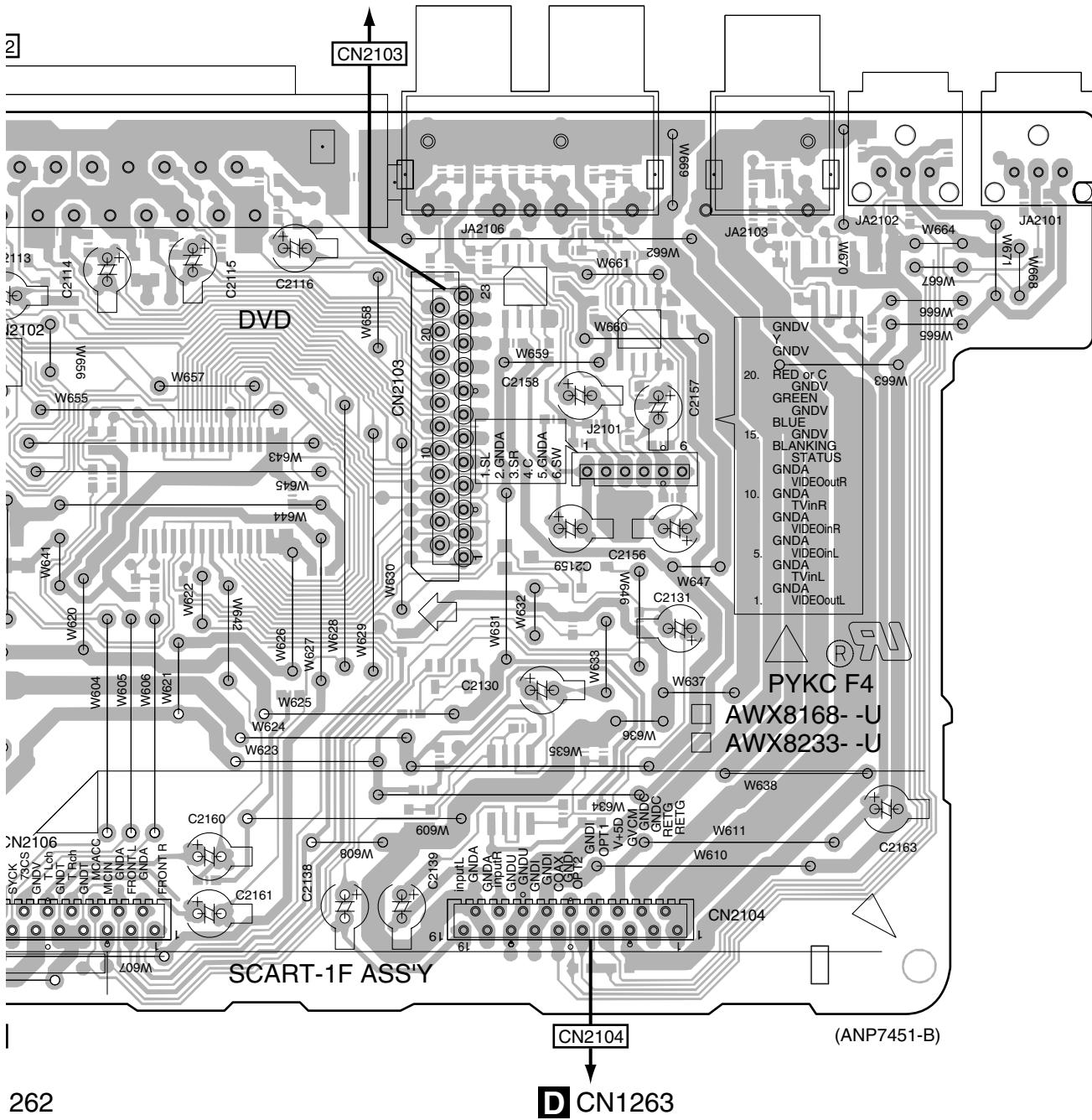
SCART-1F ASSY

12V ASSY



B P

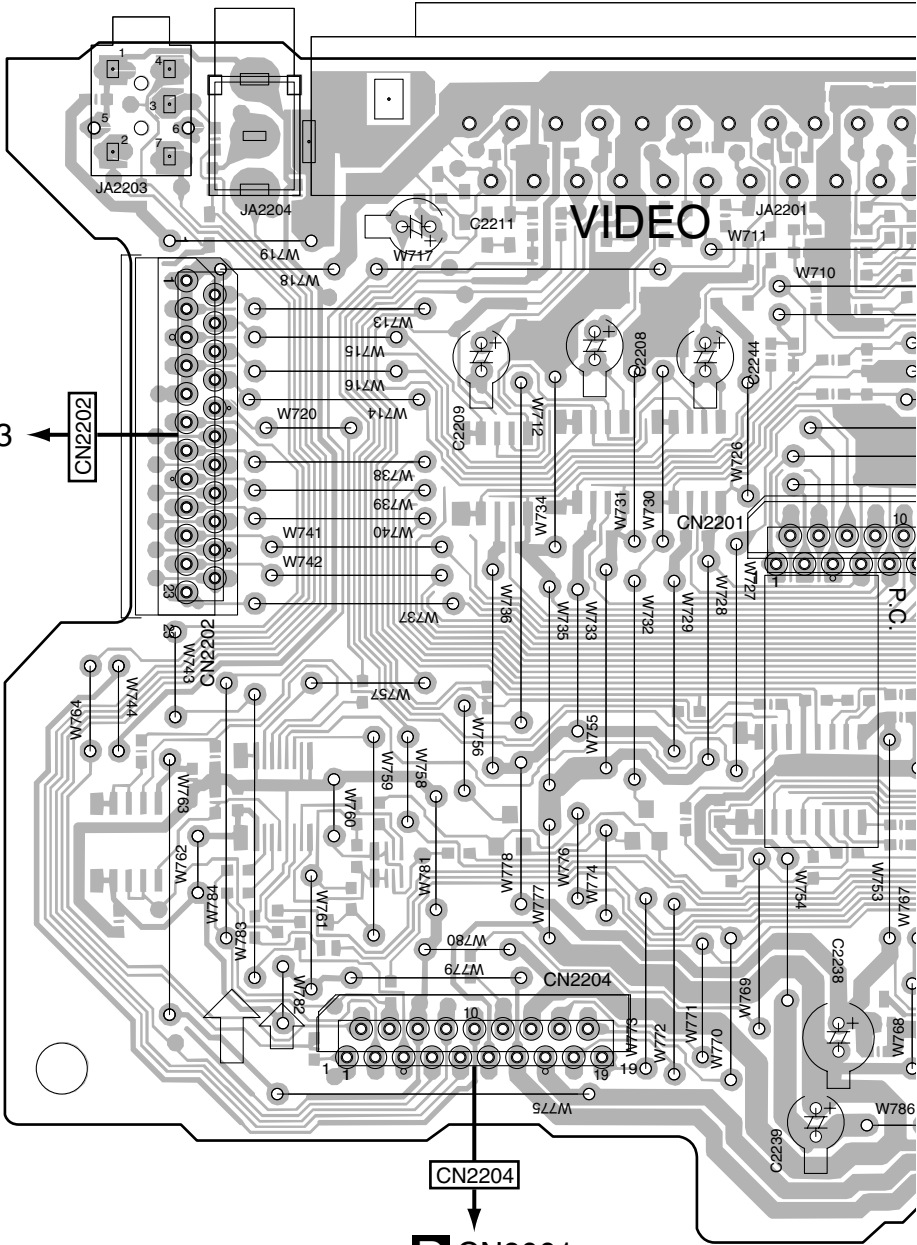
2201



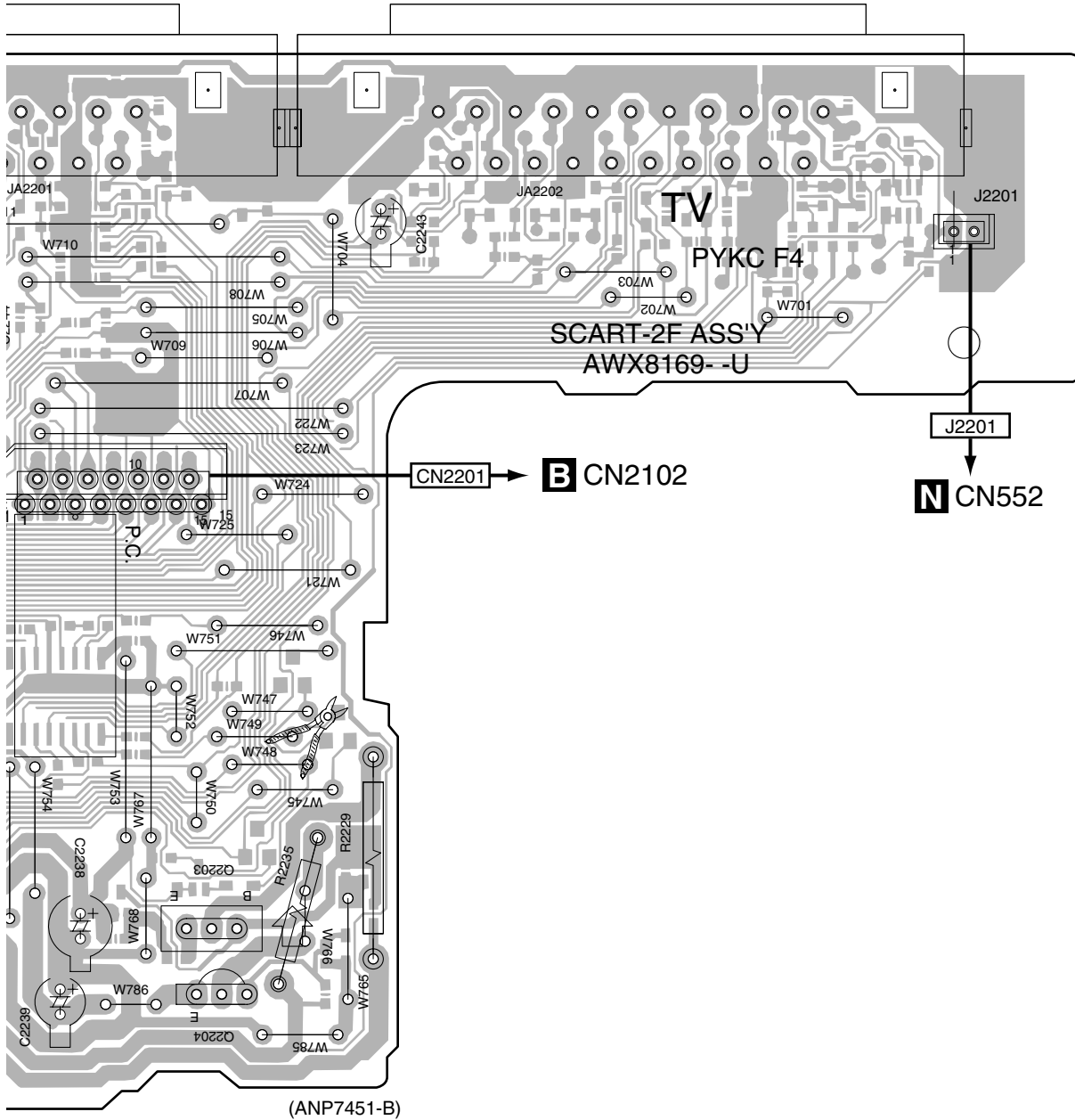
4.3 SCART-2F ASSY

SIDE A

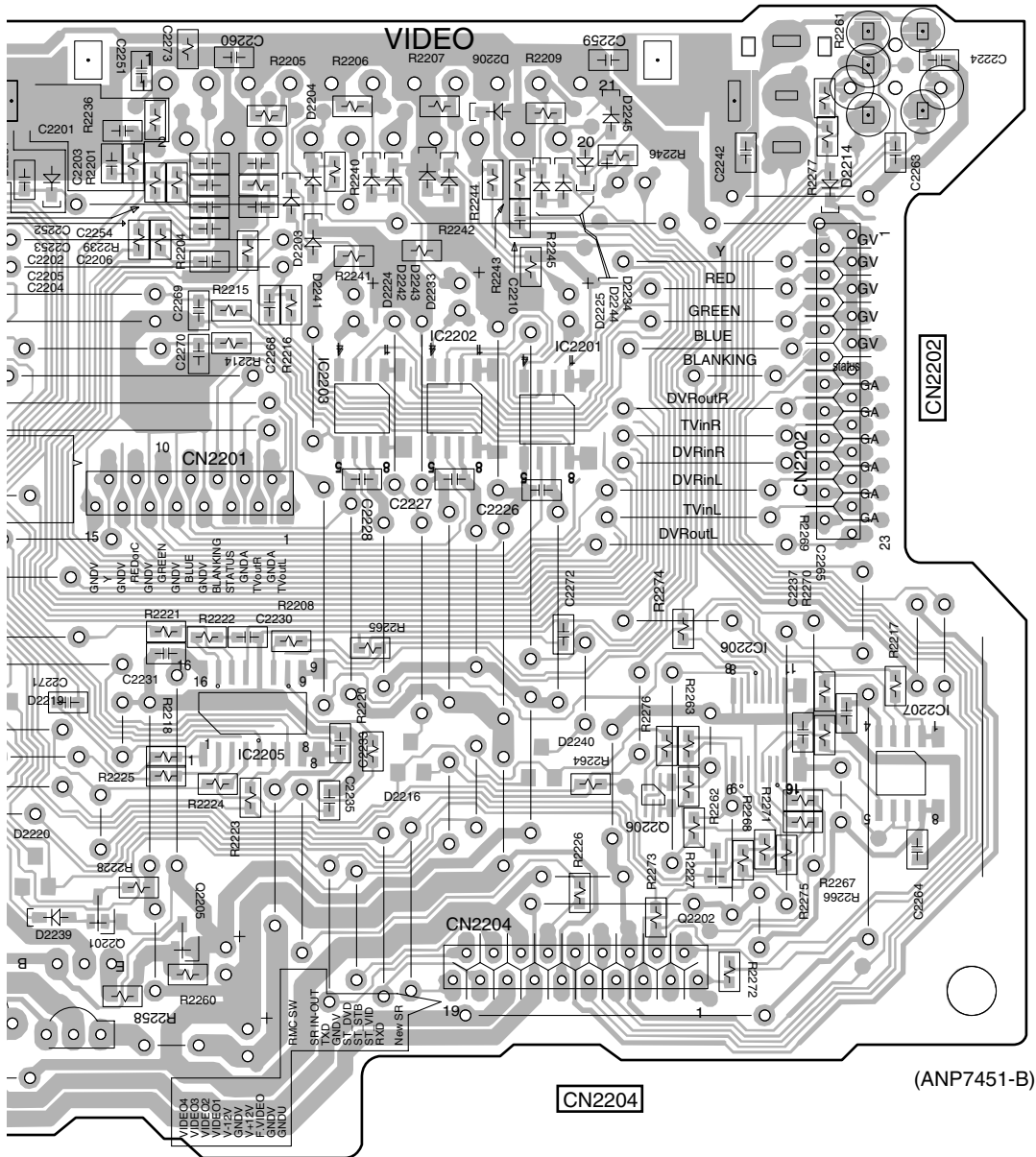
SCART-2F ASSY



Q2203
Q2204



Q2201 IC2205 IC2203 IC2202 IC2201 Q2206 IC2206 Q2202 IC2207



CN2204

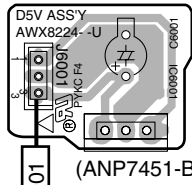
(ANP7451-B)

4.4 MOTHER, DSP KAWA and D5V ASSYS

SIDE A

D5V ASSY

MOTHER ASSY



(ANP7451-B)

CN4201

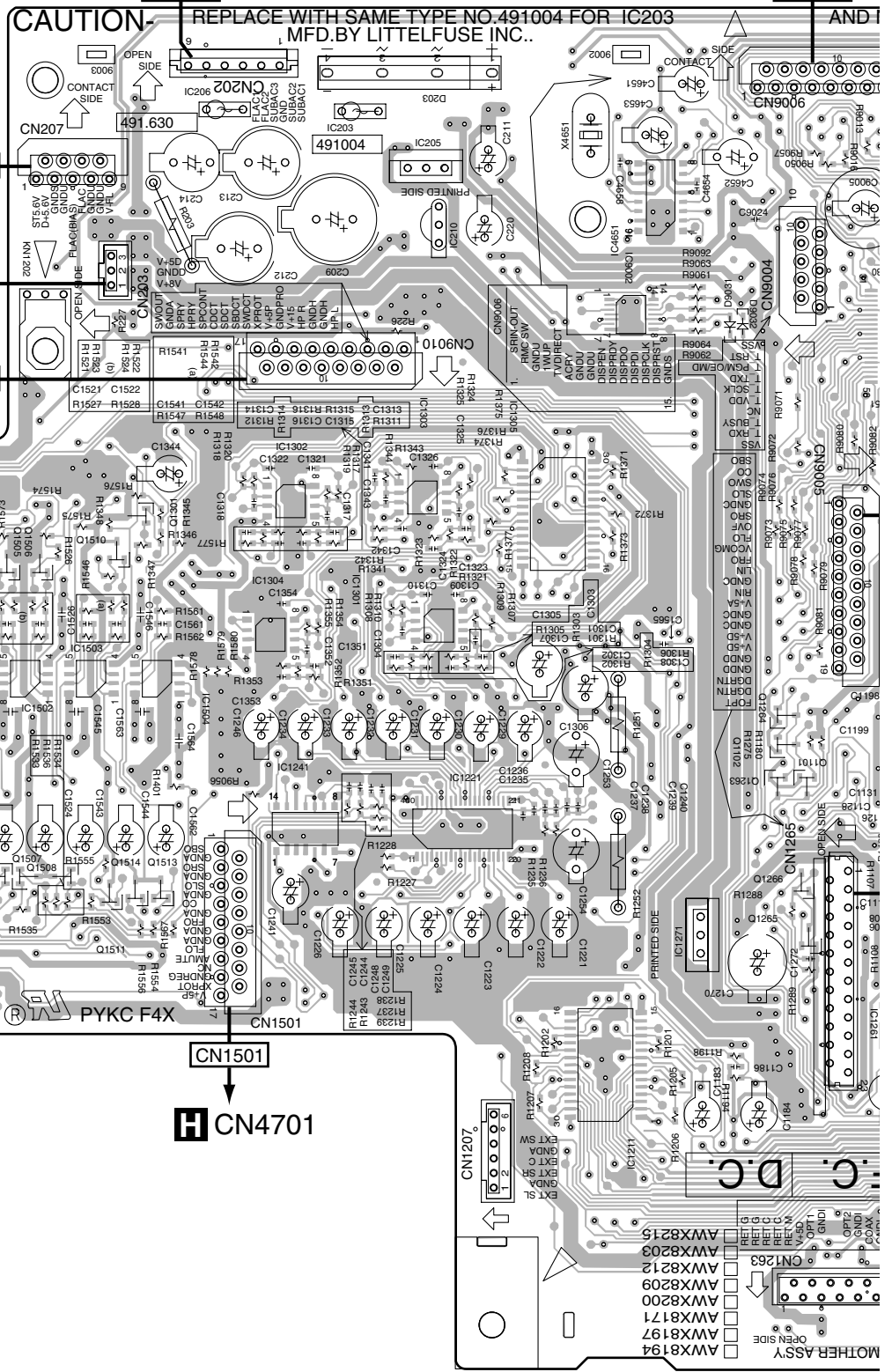
CN301

T1 PT

CN202

CN4203

CN9006



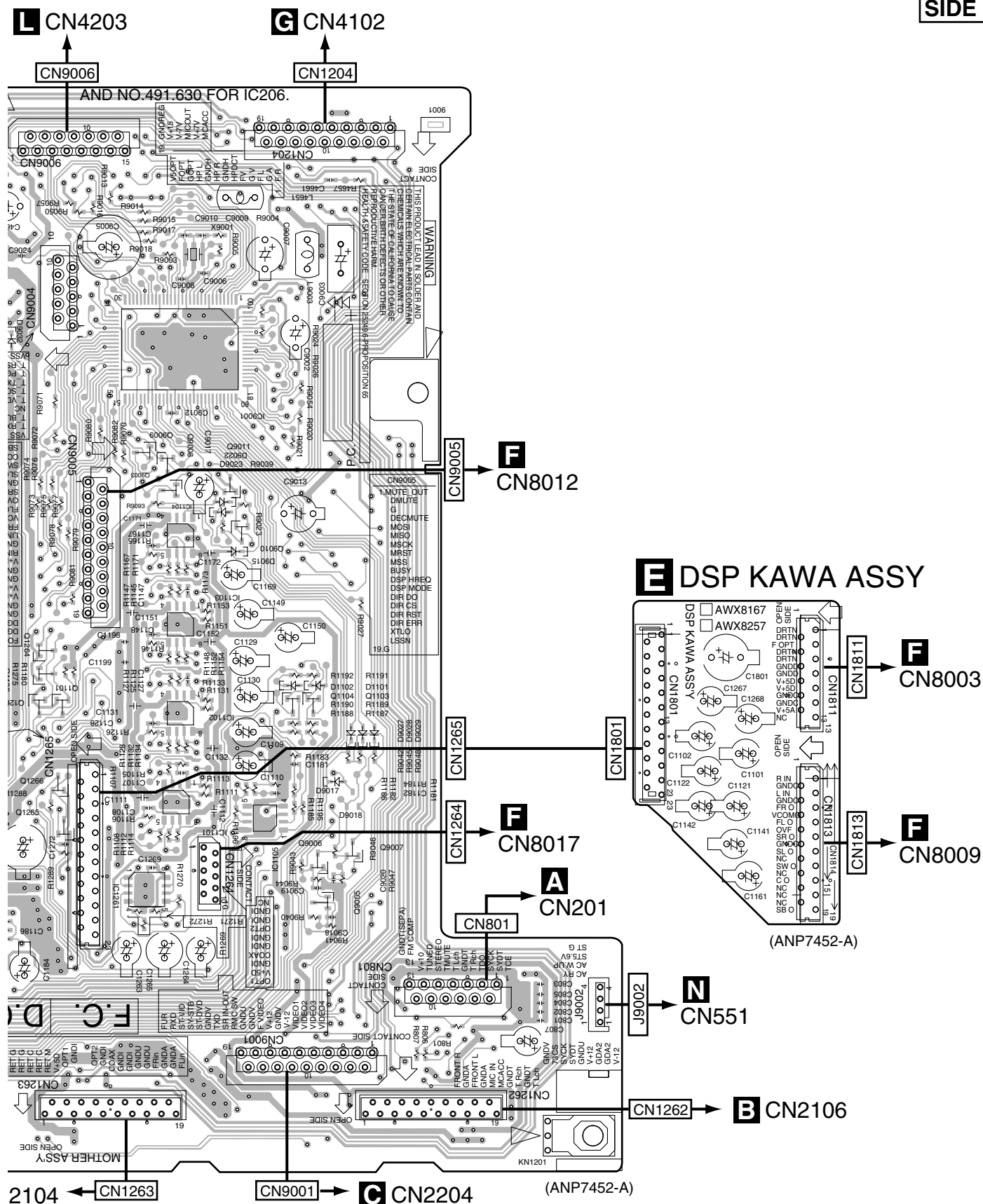
CN4701

CN2104

Q1501	Q1502	Q1505	Q1506	Q1510	Q1301	IC206	IC1302	IC203	IC205	IC9002	IC4651	Q1264	Q1102	
IC1501	IC1502	IC1503	IC1504	IC1510	IC1304	IC1241	IC1303	IC1301	IC1221			Q1263	Q1101	
Q1503	Q1504	Q1508	Q1511	Q1513								Q1266	Q1265	
Q1507				Q1514										

VSX-C301-S

SIDE A



Q1264 Q9001 Q9011
 Q1102 Q9009 Q9008 Q9010 Q1104 Q1103
 Q1263 Q1101 IC1101-IC1104 IC1105 Q9006 Q9007
 Q1266 Q1265 IC1261 Q9005

D E

SIDE B

A

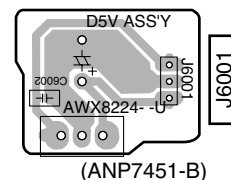
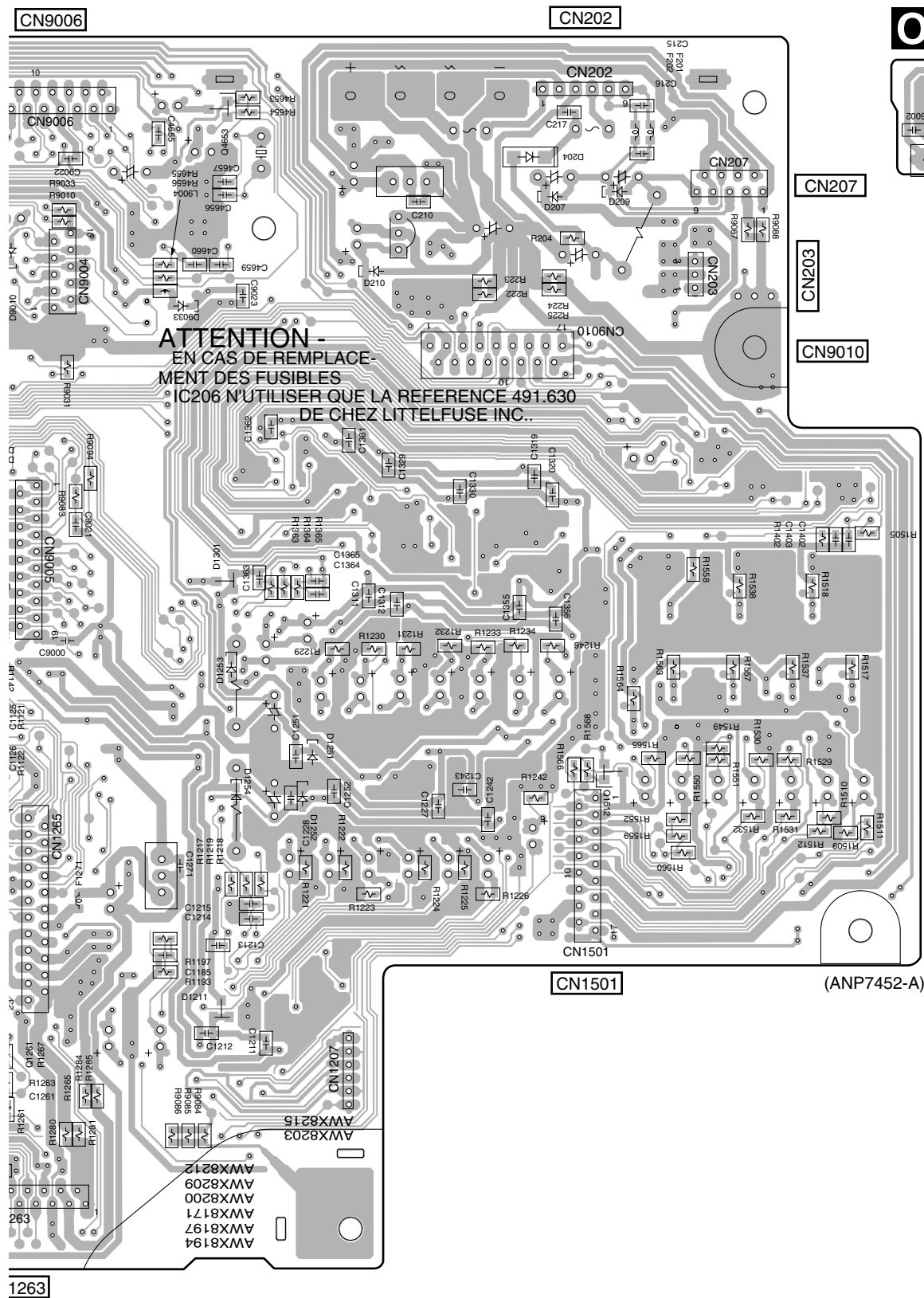
B

C

D

E

F



4.5 DSP ASSY

SIDE A

SIDE A

F DSP ASSY

R

D CN1264

CN8017

E CN1811

E CN1813

D CN9005

IC8201
Q8504
IC8702 IC8301
Q8341
IC8701
Q8501
IC8501
IC8502
IC8603
IC8601

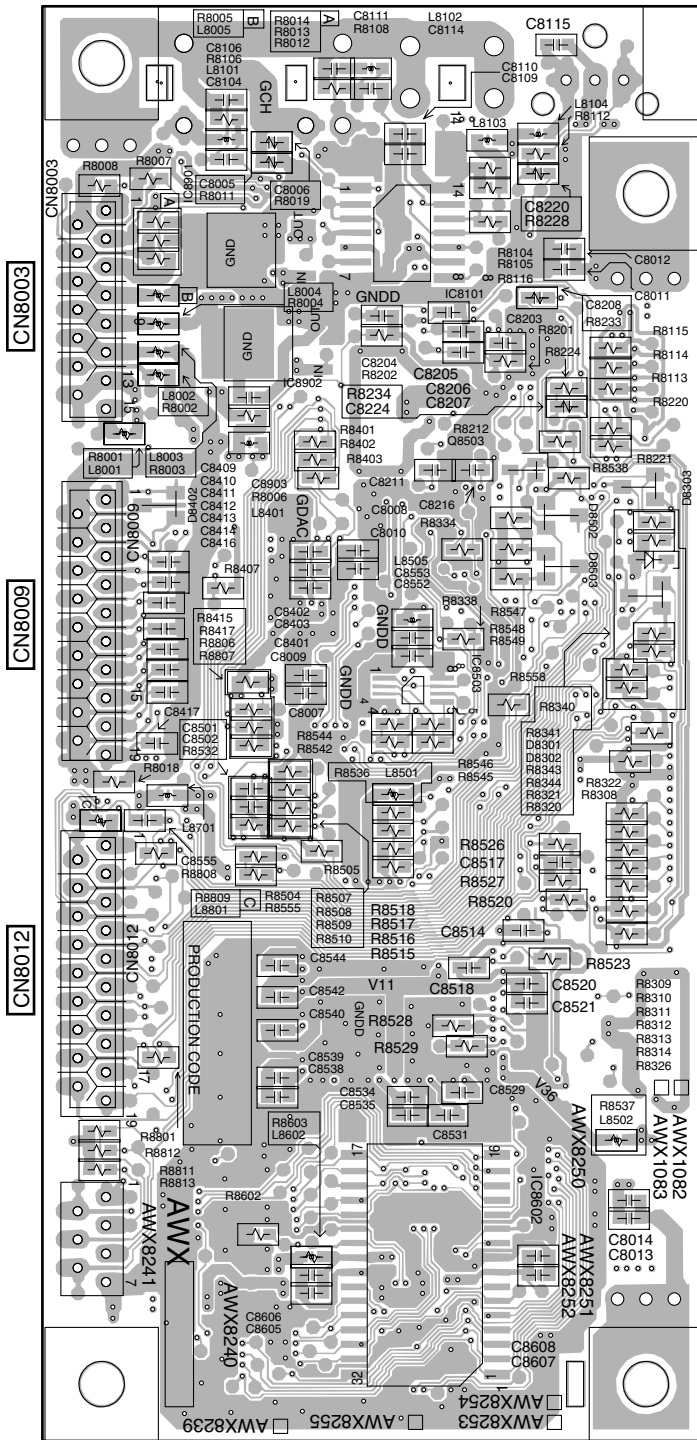
(ANP7465-A)

VSX-C301-S

SIDE B

SIDE B

F DSP ASSY



(ANP7465-A)

IC8901
IC8101

IC8902

Q8503

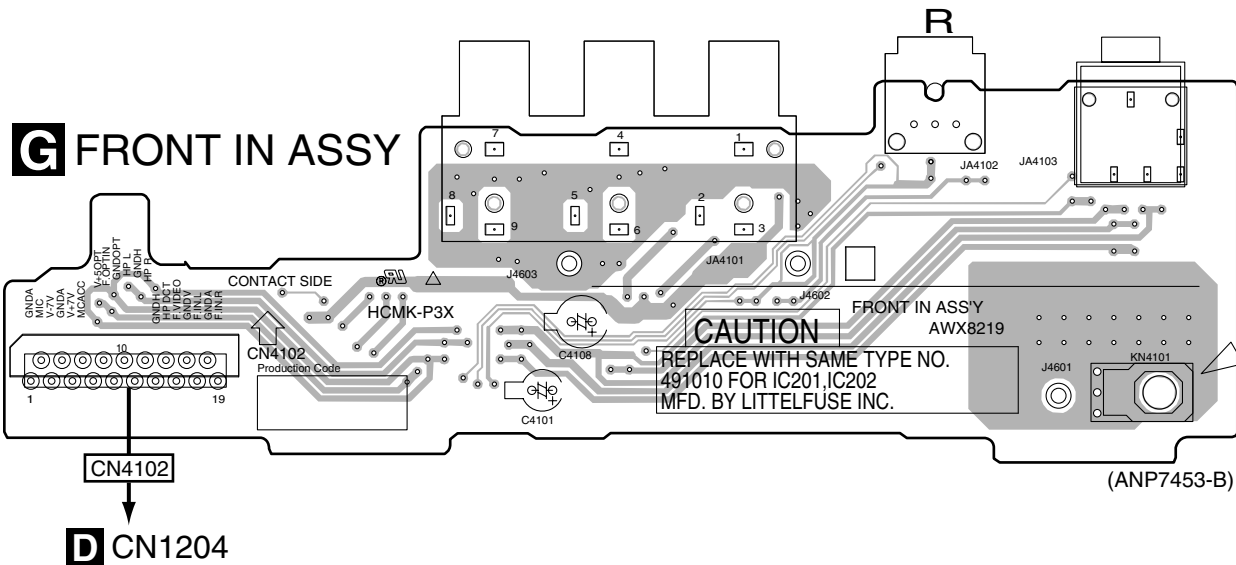
IC8503

IC8602

4.6 FRONT IN ASSY

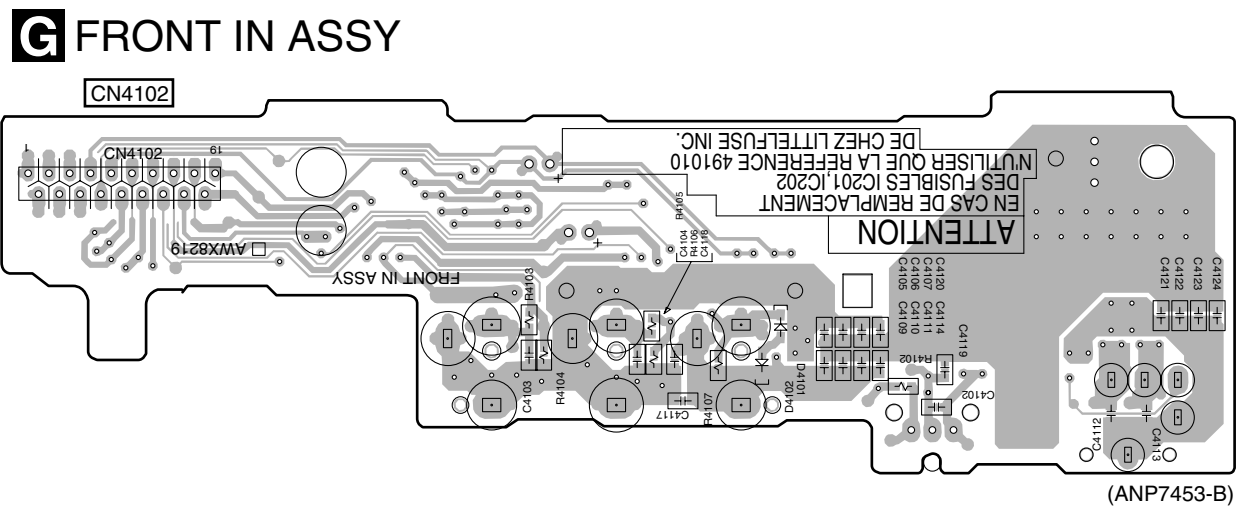
SIDE A

SIDE A



SIDE B

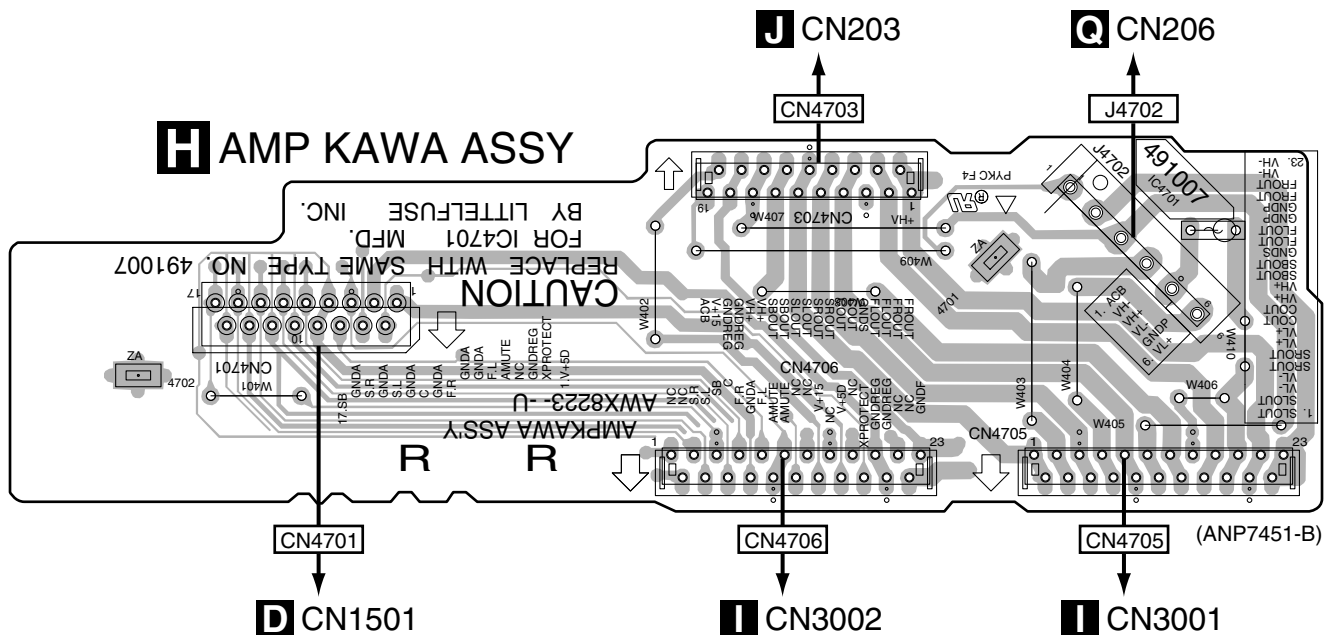
SIDE B



4.7 AMP KAWA ASSY

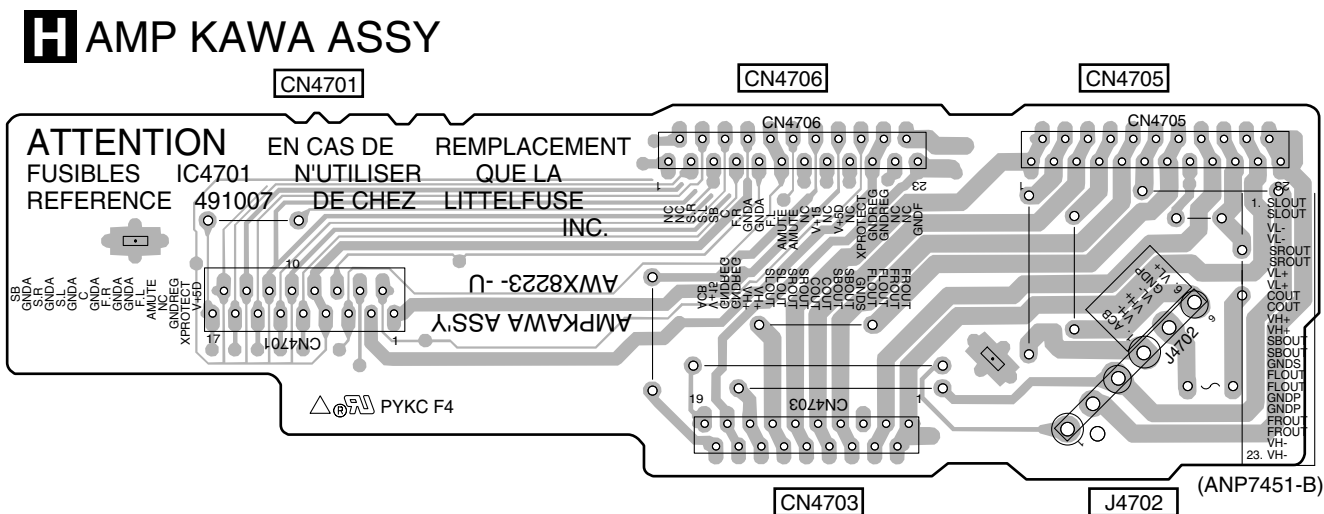
SIDE A

SIDE A



SIDE B

SIDE B

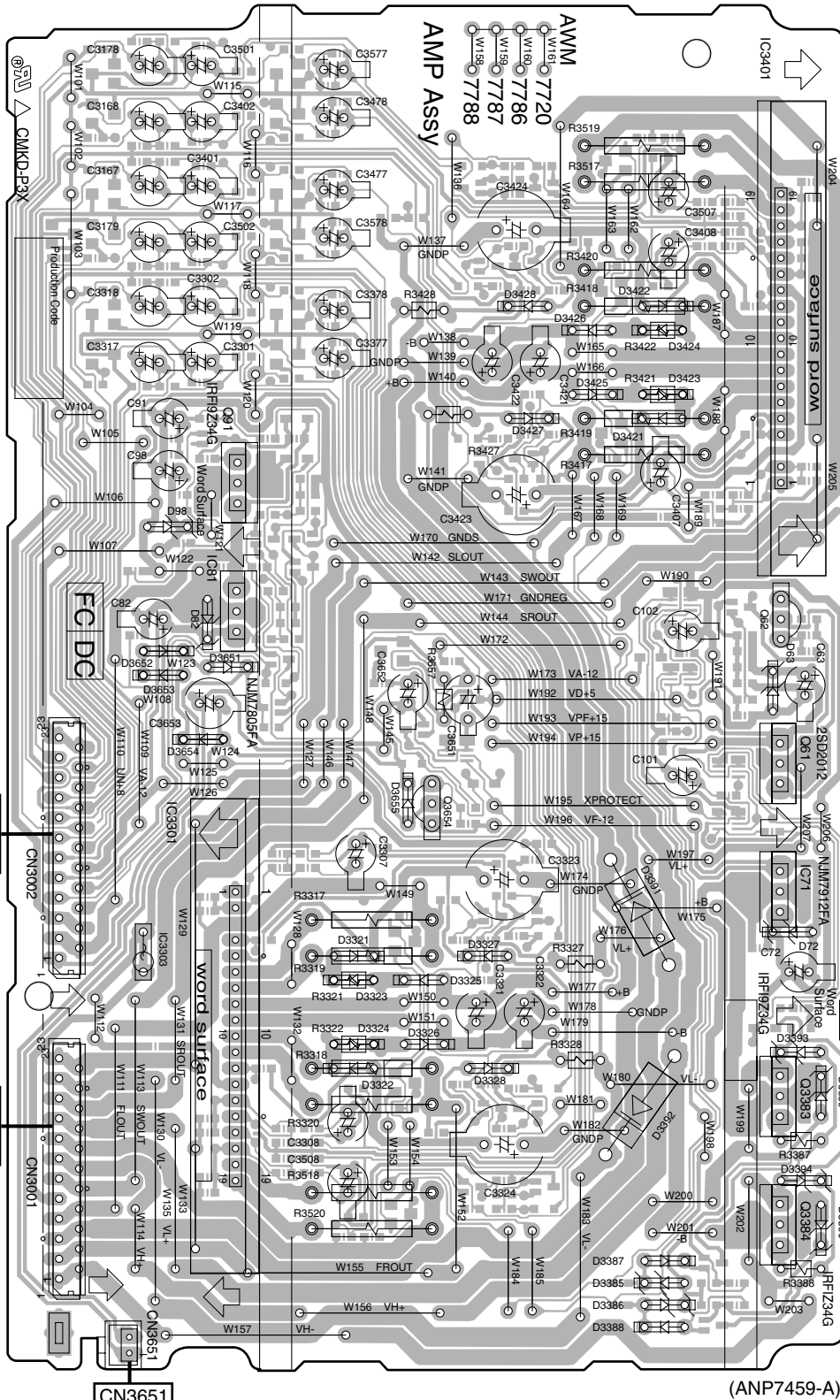


4.8 6CH AMP ASSY

SIDE A

SIDE A

6CH AMP ASSY



FAN

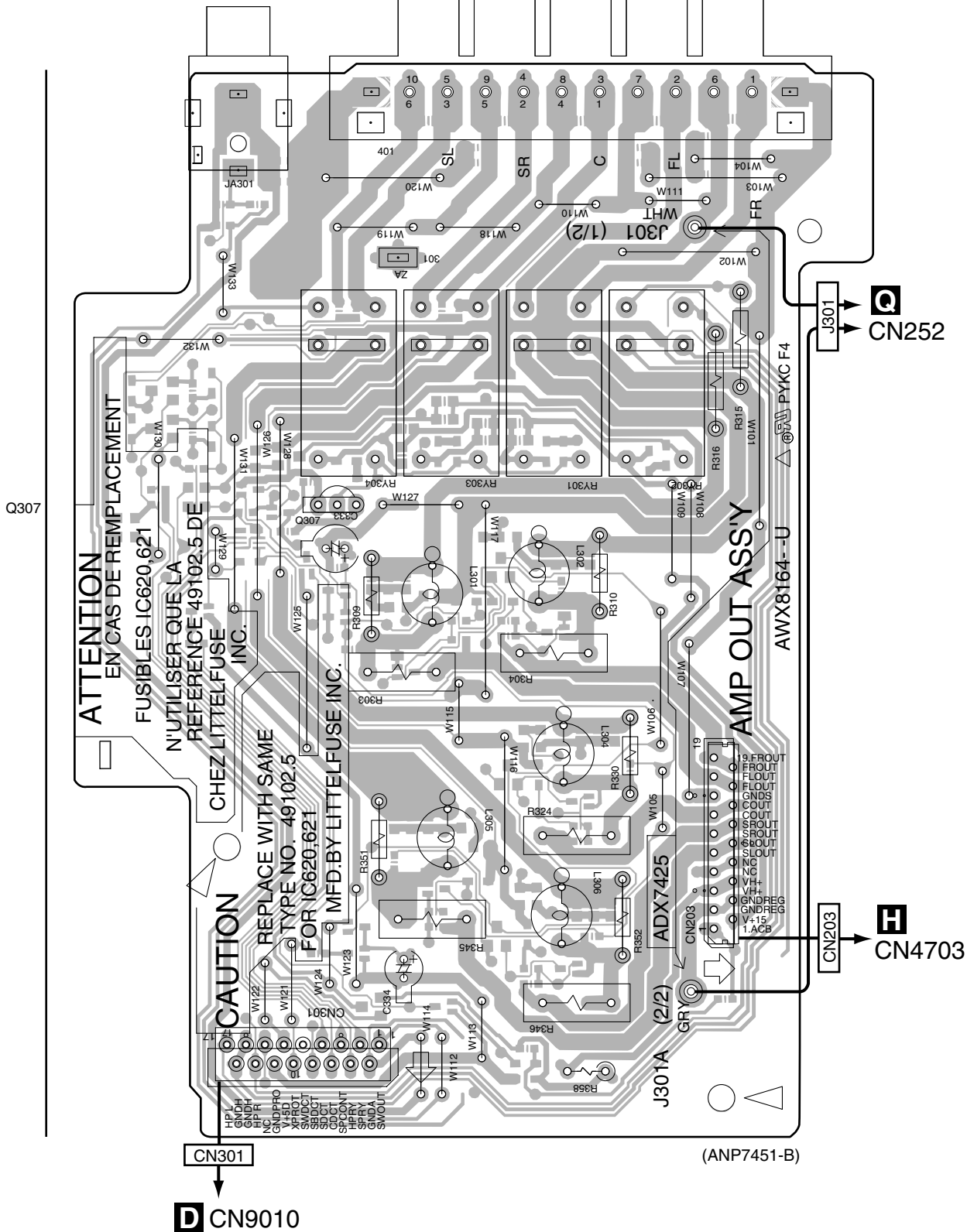
VSX-C301-S

4.9 AMP OUT ASSY

SIDE A

SIDE A

J AMP OUT ASSY



J

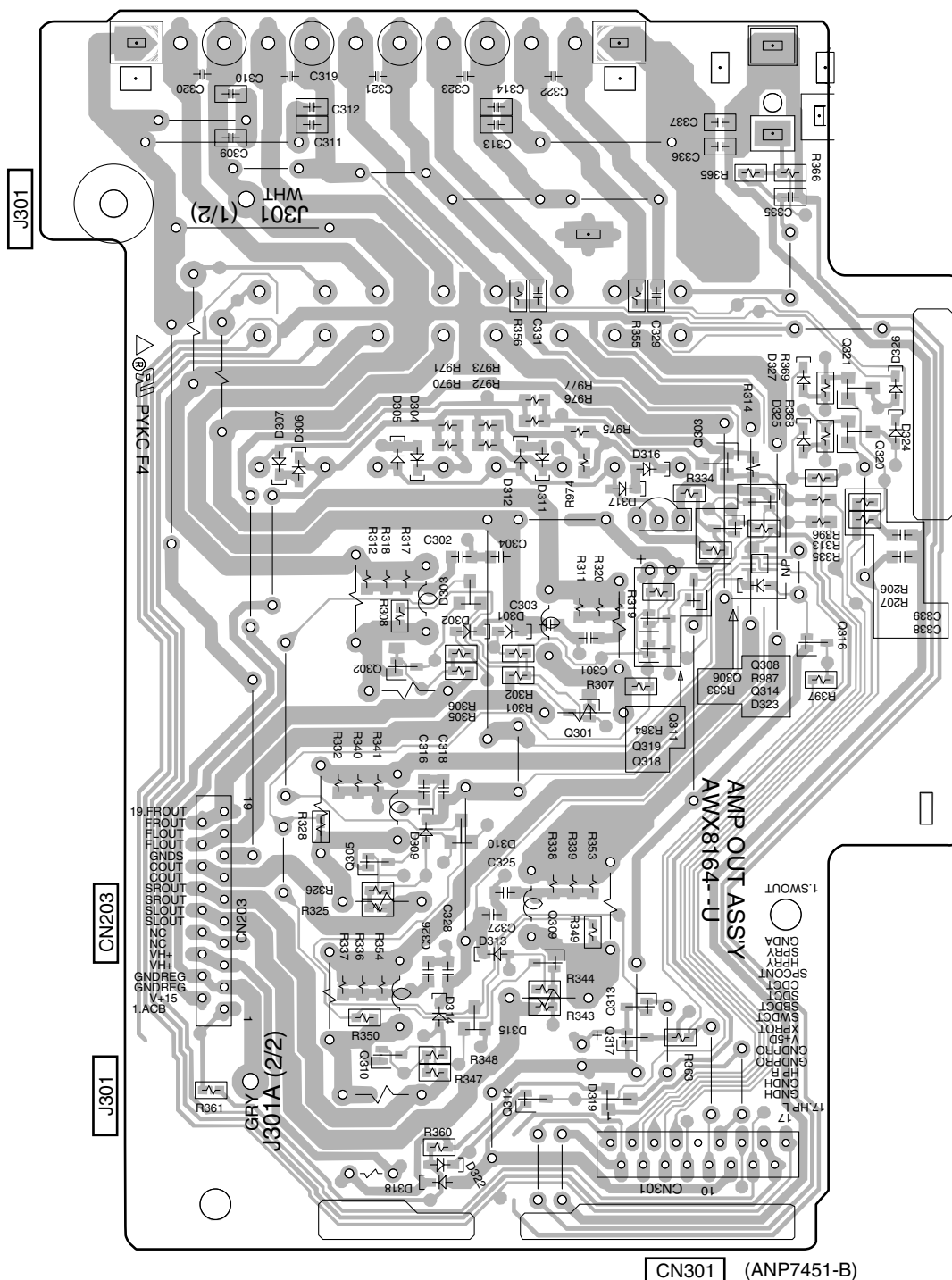
J

SIDE B

SIDE B

A

J AMP OUT ASSY



Q321

Q320

Q303

Q308

Q306

Q311
Q319
Q318 Q316
Q302

Q305

Q309

Q313

Q317

Q310

Q312

B

C

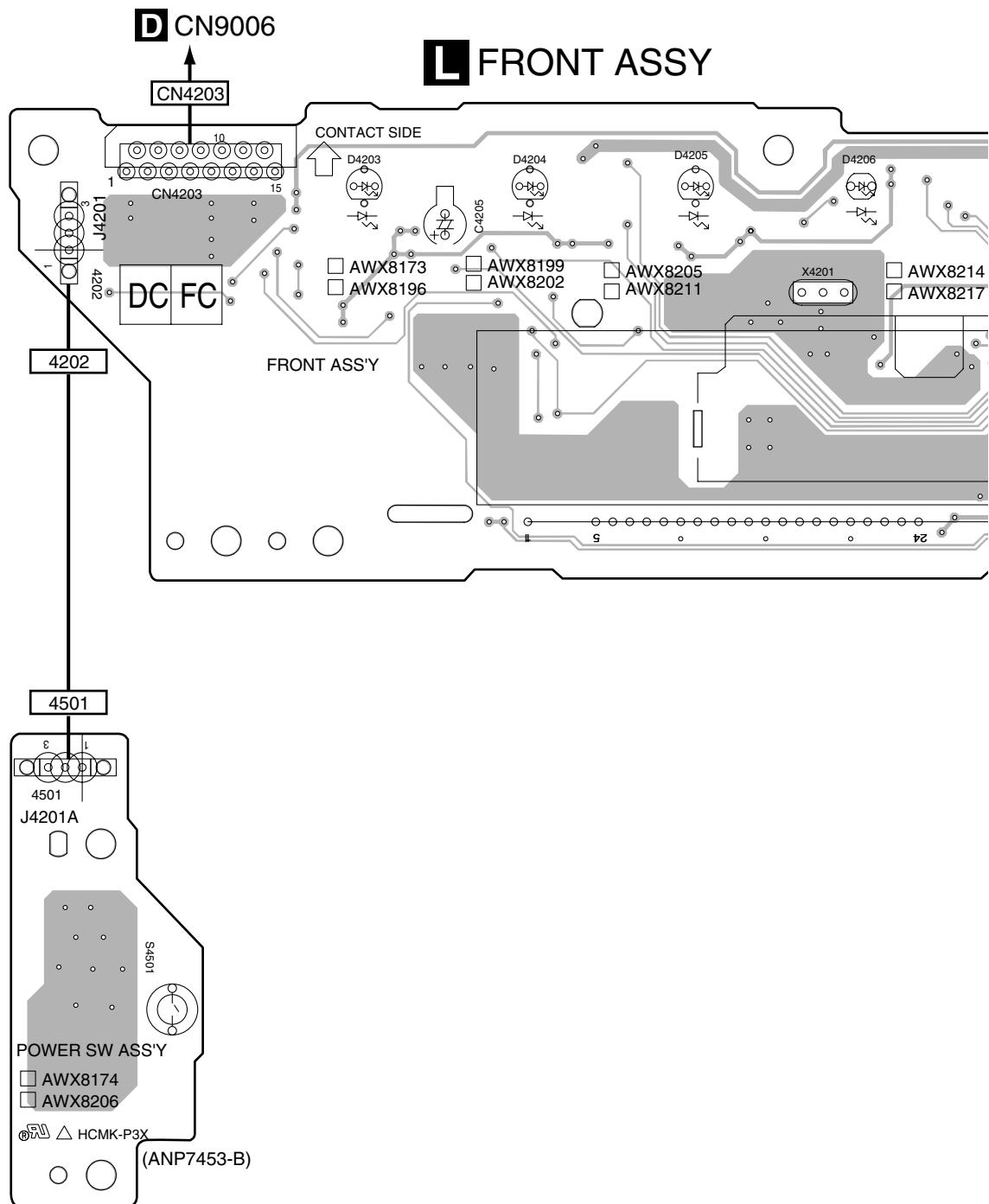
D

E

F

4.10 ENCODER, FRONT and POWER SW ASSYS

SIDE A

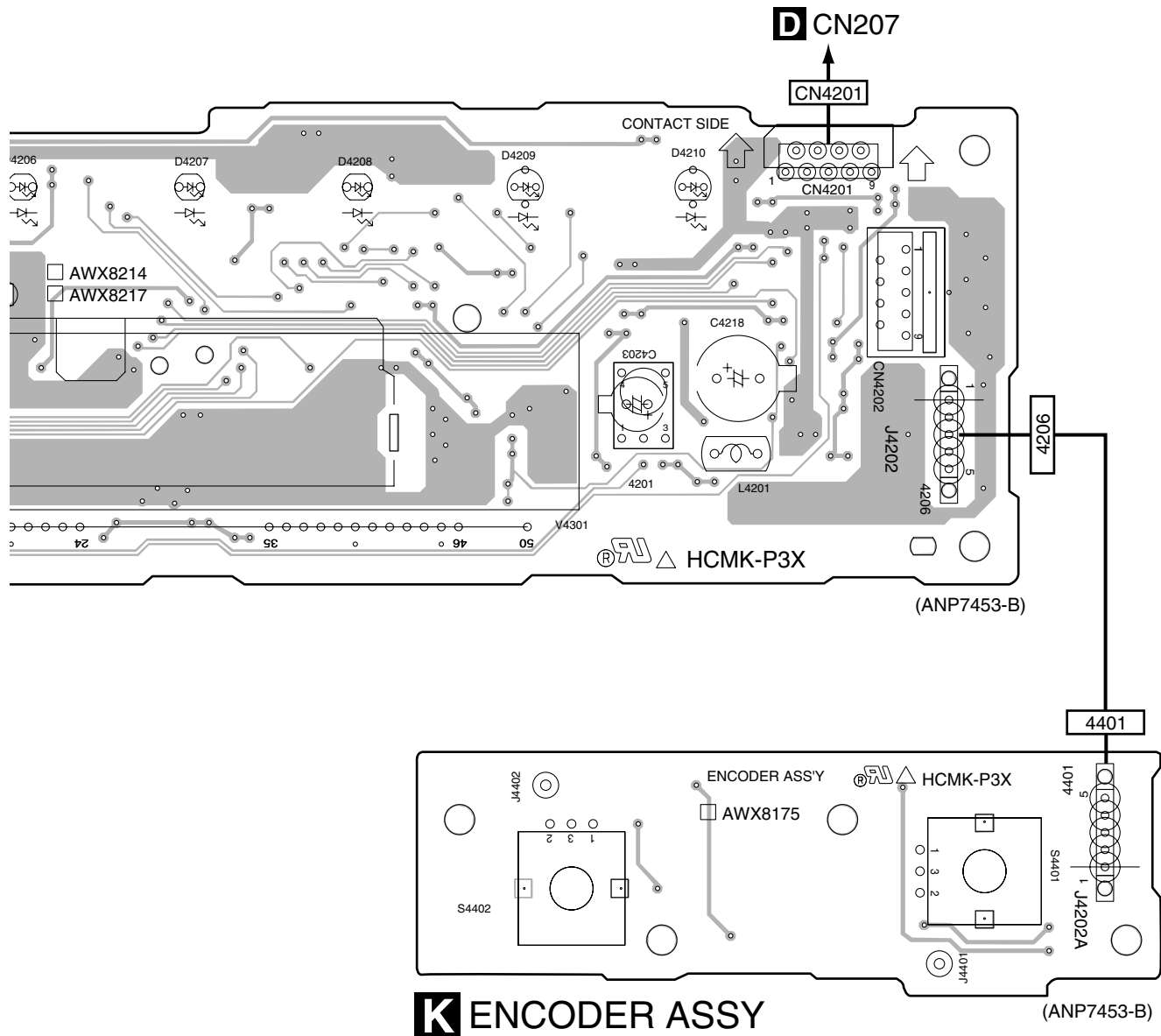


M POWER SW ASSY

L M

SIDE A

A



B

C

D

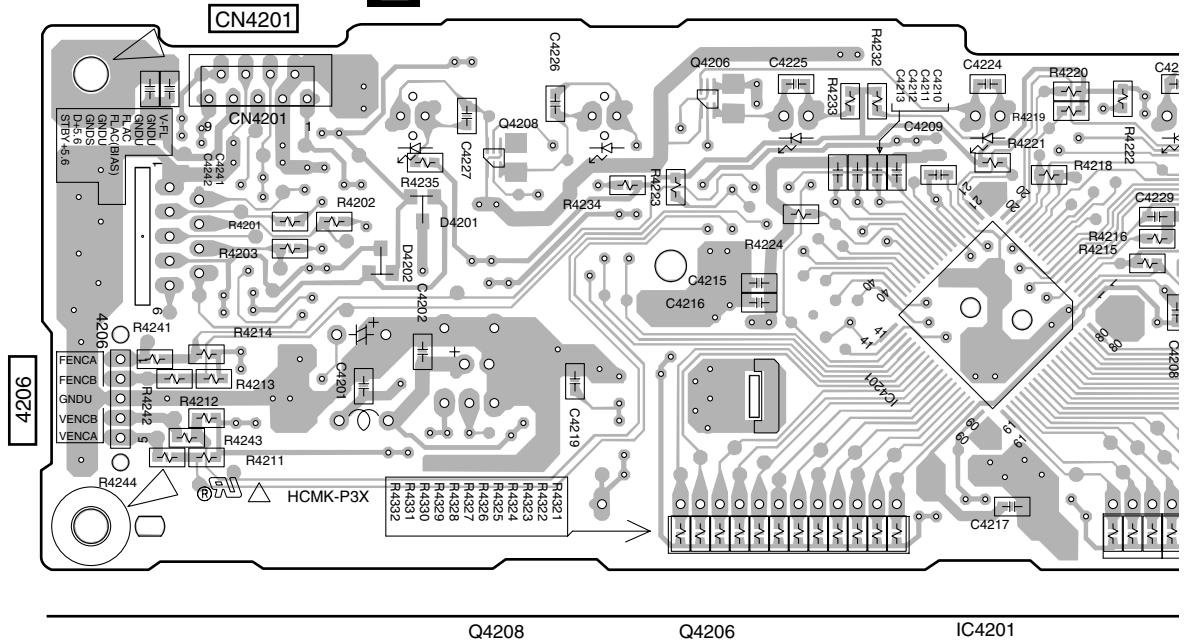
E

F

K L

SIDE B

L FRONT ASSY

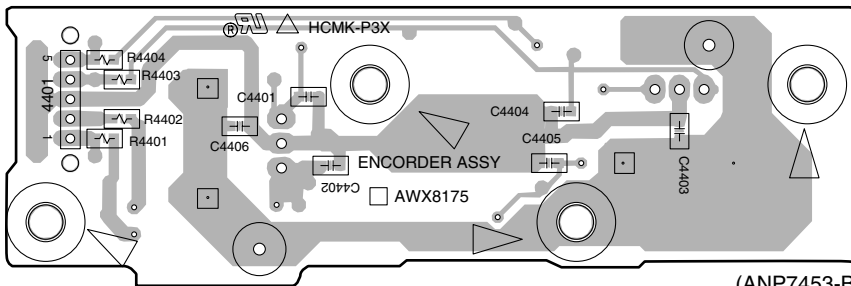


Q4208

Q4206

IC4201

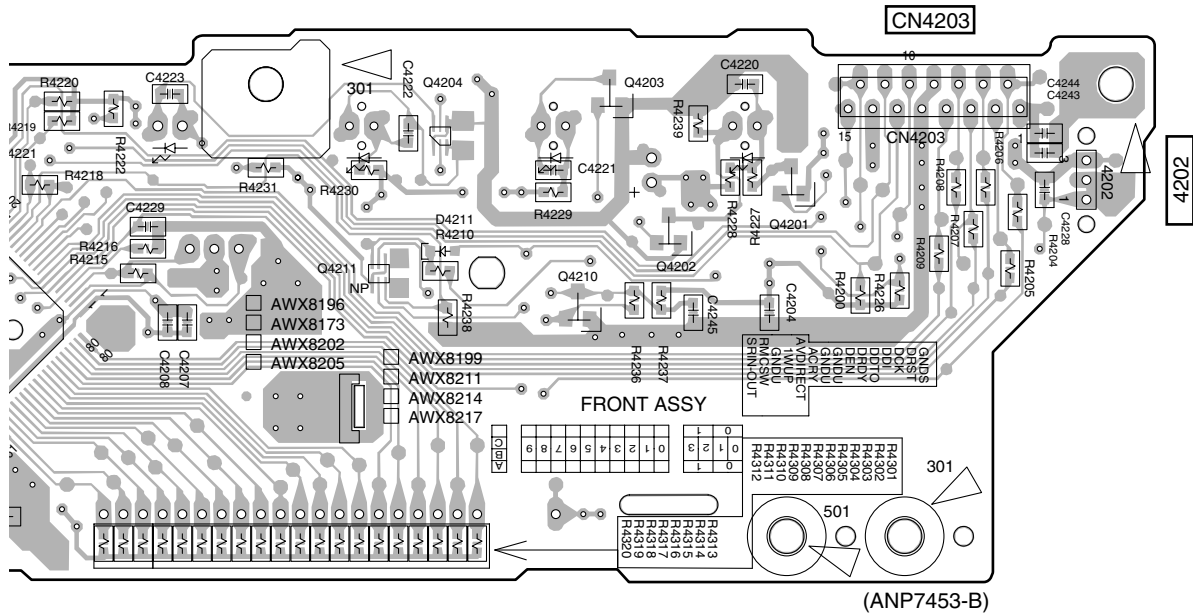
4401



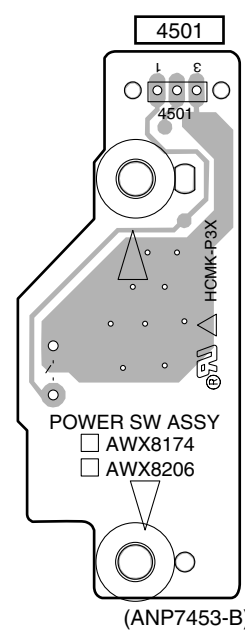
(ANP7453-B)

K ENCODER ASSY

K L



Q4204 Q4203 Q4202 Q4201



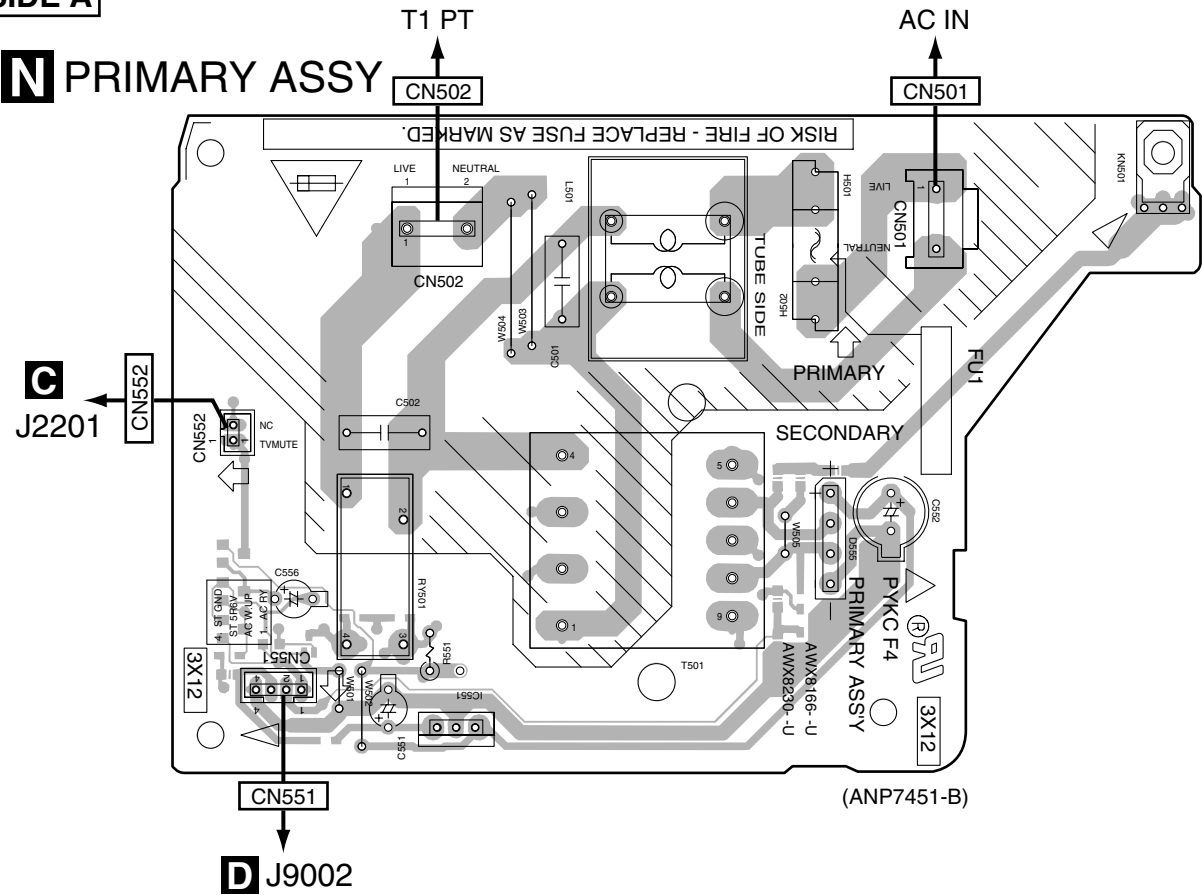
M POWER SW ASSY

4.11 PRIMARY ASSY

SIDE A

SIDE A

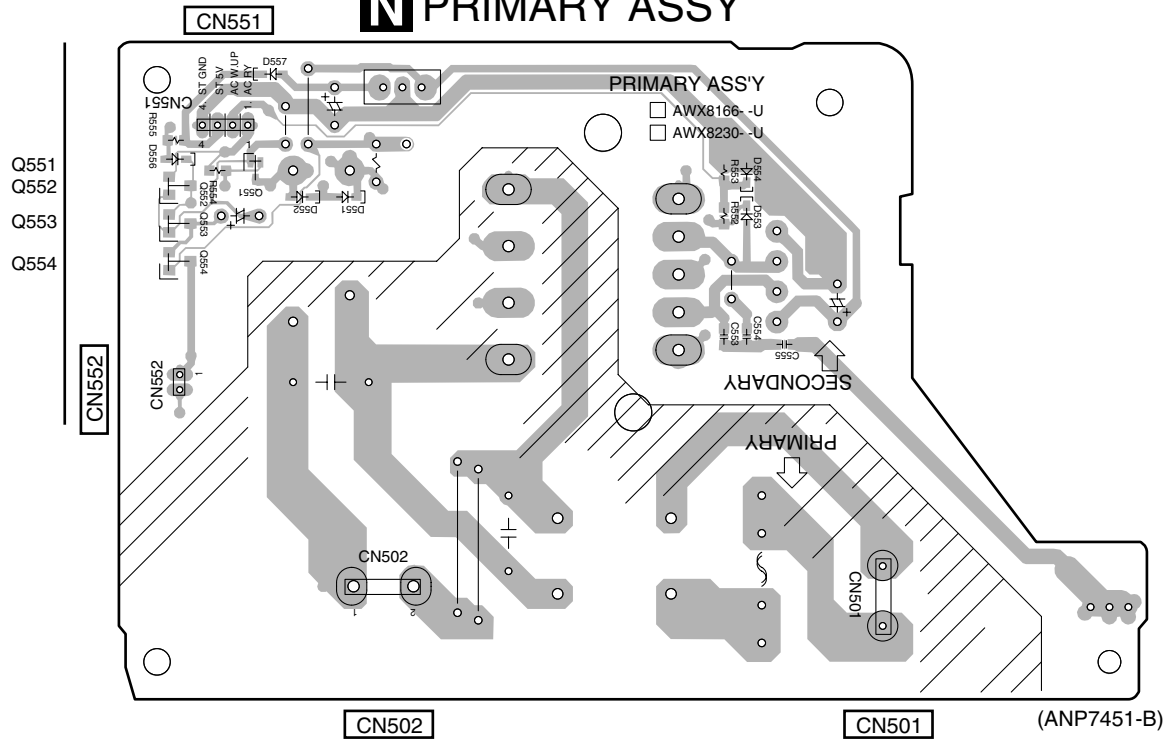
PRIMARY ASSY



SIDE B

SIDE B

PRIMARY ASSY



N

N

SIDE A

J
J301



Q



5. PCB PARTS LIST

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

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

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

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

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

560 Ω $\rightarrow$ 56 x 10¹ $\rightarrow$ 561 RD1/4PU 561 J

47k Ω $\rightarrow$ 47 x 10³ $\rightarrow$ 473 RD1/4PU 473 J

0.5 Ω $\rightarrow$ R50 RN2H R50 K

1 Ω $\rightarrow$ 1R0 RS1P 1R0 K

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

5.62k Ω $\rightarrow$ 562 x 10¹ $\rightarrow$ 5621 RN1/4PC 5621 F

Mark No. Description Part No.

LIST OF ASSEMBLIES

LIST OF ASSEMBLIES

NSP	1..SCART ASSY	AWM7761
	2..AMP OUT ASSY	AWX8164
	2..PRIMARY ASSY	AWX8166
	2..SCART-1F ASSY	AWX8168
	2..SCART-2F ASSY	AWX8169
	2..12V ASSY	AWX8170
	2..AMP KAWA ASSY	AWX8223
	2..D5V ASSY	AWX8224
	2..VHVL ASSY	AWX8237

NSP	1..MOTHER ASSY	AWM7762
	2..DSP KAWA ASSY	AWX8167
	2..MOTHER ASSY	AWX8171

NSP	1..FRONT ASSY	AWM7782
	2..FRONT ASSY	AWX8173
	2..POWER SW ASSY	AWX8174
	2..ENCODER ASSY	AWX8175
	2..FRONT-IN ASSY	AWX8219

NSP	1..AMP MODULE 6CH	AXQ7247
	2..6CH AMP ASSY	AWM7786

	1..FM/AM TUNER MODULE	AXQ7246
	1..DSP ASSY	AWX8241

Mark No. Description Part No.

L601 LCTA270J2520

CAPACITORS

C605	CCSQCH680J50
C212,C213,C226,C233-C235	CCSRCH101J50
C240,C614	CCSRCH101J50
C206	CCSRCH120J50
C231,C232	CCSRCH150J50

C223	CEAT100M50
C229	CEAT101M10
C224	CEAT1R0M50
C227	CEAT220M25
C241	CEAT2R2M50

C243	CEAT330M16
C228	CEAT3R3M50
C237	CEAT470M10
C211	CEJQ1R0M50
C210	CEJQ470M16

C103,C104,C204,C238,C609	CKSRYB102K50
C102,C208,C216,C217,C220	CKSRYB103K50
C239,C242,C604,C610,C615	CKSRYB103K50
C225	CKSRYB153K50
C607,C608	CKSRYB182K50

C201,C205,C214,C230,C236	CKSRYB223K50
C244,C611	CKSRYB223K50
C221	CKSRYB224K10
C603	CKSRYB392K50
C215	CKSRYB471K50

C202,C222	CKSRYB473K16
C606	CKSRYB561K50

RESISTORS

R211	RD1/4PU221J
R221	RD1/4PU222J
R233	RD1/4PU391J
R103,R104	RS1/10S221J
Other Resistors	RS1/16S###J

OTHERS

CN201 13P FFC CONNECTOR	52044-1345
BN201 2P TERMINAL WITH PAL	AKA7002
0 SHIELD CASE T(MTL)	ANK7072
0 SHIELD CASE B(MTL)	ANK7073
X201 CRYSTAL RESONATOR (7.2MHz)	ASS1093

FM FRONT END	AXF7005
AM RF TUNING BLOCK	AXX7072

Mark No. Description Part No.

FM/AM TUNER MODULE

SEMICONDUCTORS

IC201	BA1451F
IC202	LC72131MD
Q201,Q204,Q205,Q601	2SC2412K
Q202	DTA124ES
Q203,Q602	DTC124EK
D201	1SS133
D601	HVU187
D202	MTZJ5.1C
D101	UDZS6.8B

COILS AND FILTERS

L201	ATE7003
F202	ATF-107
F201	ATF-119
F601	ATF7025
F203	ATF7026
L602	LAU2R2J

Mark No. Description Part No.**B SCART-1F ASSY
SEMICONDUCTORS**

IC2101	TC7WU04F
IC2106	UPC4570G2
⚠ IC2102,IC2103 PROTECTOR(2.5A)	AEK7014
IC2104	NJU7312AM
⚠ D2113,D2117,D2118,D2120	1SR154-400
D2127	DAN217
D2105,D2110	UDZS13B
D2102,D2104,D2107,D2109	UDZS5.1B
D2122,D2123,D2125,D2126	UDZS5.1B
D2131-D2138	UDZS5.1B
D2103,D2108	UDZS6.2B

COILS AND FILTERS

F2102,F2103	DTF1070
L2101	QTL1013

CAPACITORS

C2170 (1/100V)	ACH1237
C2125-C2127,C2133,C2134	CCSRCH101J50
C2111,C2112,C2117,C2118	CCSRCH331J50
C2110	CCSRCH470J50
C2104	CCSRCH471J50
C2160,C2161	CEAT100M50
C2168,C2169	CEAT222M25
C2113-C2116,C2119-C2122	CEAT470M25
C2138,C2139	CEAT470M25
C2130,C2131	CEAT4R7M50
C2105,C2106,C2109,C2123,C2124	CKSRYB103K50
C2136,C2137	CKSRYB103K50
C2101,C2102,C2107	CKSRYB104K16
C2175-C2178	CKSRYB104K25
C2108	CKSRYB105K10

RESISTORS

R2147	RD1/4MUF4R7J
Other Resistors	RS1/16S###J

OTHERS

620 5P CABLE HOLDER	51048-0500
CN2102 15P FFC CONNECTOR	52045-1545
CN2103 23P FFC CONNECTOR	52045-2345
CN2108 3P TOP POST	B3B-EH
J620 JUMPER WIRE 5P	D20PYY0510E
JA2101,JA2102 OPT. LINK IN	GP1FA513RZ
JA2103 1P PINJACK	VKB1077
JA2104,JA2105 RGB CONNECTOR	VKB1157
CN2104,CN2106 19P CONNECTOR	VKN1775

**C SCART-2F ASSY
SEMICONDUCTORS**

IC2201-IC2203	BA7613F
IC2206	BU4052BCFV
IC2205	NJM2296M
IC2207	NJM4558MD
Q2204	2SA1515
Q2205	2SC4081
Q2203	2SC5174P
Q2201	DTA124EUA
Q2202	DTC124EUA

Mark No. Description Part No.

Q2207	HN1C03F
Q2206	RN1903
D2214,D2239	1SS355
D2216,D2219-D2221,D2240	DAN202K
D2204,D2211	UDZS13B
D2203,D2210,D2224,D2225	UDZS5.1B
D2228,D2229,D2233,D2234	UDZS5.1B
D2237,D2238,D2241-D2250	UDZS5.1B
D2206,D2213,D2222,D2223,D2251	UDZS6.2B

CAPACITORS

C2203,C2204,C2214,C2215	CCSRCH101J50
C2210,C2218-C2221,C2223,C2230	CCSRCH221J50
C2201,C2202,C2205,C2206	CCSRCH331J50
C2216,C2217,C2255,C2257	CCSRCH331J50
C2208,C2209,C2211,C2243,C2244	CEAT470M25
C2238	CEJQ101M10
C2239	CEJQ470M10
C2224,C2237,C2242,C2259-C2262	CKSRYB104K25
C2264,C2265	CKSRYB104K25
C2240,C2241	CKSRYB105K10
C2226-C2228,C2231,C2233	CKSRYF105Z10

RESISTORS

R2235	RS2LMF181J
R2229	RS3LMF220J
Other Resistors	RS1/16S###J

OTHERS

CN2202 23P FFC CONNECTOR	52044-2345
CN2201 15P FFC CONNECTOR	52045-1545
CN2204 19P FFC CONNECTOR	52045-1945
JA2201,JA2202 RGB CONNECTOR	AKB7157
JA2203 MINI JACK	AKN7037
JA2204 JACK	RKN1026

**D MOTHER ASSY
SEMICONDUCTORS**

⚠ IC206 PROTECTOR(630mA)	AEK7006
⚠ IC203 PROTECTOR(4A)	AEK7018
IC1221	BD3814FV
IC4651	BU1924F
IC1261	NJM2100M
IC1101-IC1103,IC1105	NJM4558MD
IC210	NJM78L05A
IC1271	NJM78M05FA
IC205	NJM78M56FA
IC9001	PD5863A
IC1501-IC1503	UPC4570G2
Q4651	2SA1037K
Q801,Q9005-Q9007	2SC2412K
Q1261,Q1262,Q1301,Q1503,Q1504	2SC3326
Q1507,Q1508,Q1511,Q4653	2SC3326
Q1103,Q1104	2SK208
Q1101,Q1263,Q1266,Q9004	DTA124EK
Q9008-Q9010	DTA124EK
Q1102,Q1265	DTC124EK
Q1264,Q4652,Q9001	DTC143EK
Q9011	DTC143TK
⚠ D204	1SR154-400

Mark No.	Description	Part No.
D1101,D1102,D1253,D1254,D801 D9001-D9004,D9010,D9012,D9017 D9020-D9024,D9026-D9029		1SS355 1SS355 1SS355
D203 D1301 D9018 D210 D207		D3SBA20 DAN217 DAP202K RB501V-40 UDZS20B
D1251,D1252,D209		UDZS6.8B

COILS AND FILTERS

L9001,L9002 F1271,F201,F202 L4651,L9003 L801	ATL7002 DTF1070 LFEA2R2J QTL1013
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CAPACITORS

C9003 (0.22F/5.5V) C1123,C1124,C1143,C1248,C1249 C1261,C1262 C1501,C1502,C1521,C1522,C1541 C4656,C4657	ACH7144 CCSRCH101J50 CCSRCH101J50 CCSRCH221J50 CCSRCH270J50
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C1542 C1105-C1108,C1125-C1128,C1145 C1147 C1103,C1104 C4655	CCSRCH271J50 CCSRCH331J50 CCSRCH331J50 CCSRCH471J50 CCSRCH561J50
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C1221-C1226,C1229-C1234 C4653,C9005 C1270,C807 C9007 C4651	CEAT100M50 CEAT101M10 CEAT101M16 CEAT102M6R3 CEAT1R0M50
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C211 C214 C9002 C4652 C1253,C1254	CEAT220M50 CEAT221M25 CEAT221M6R3 CEAT2R2M50 CEAT331M10
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C212 C209 C220 C213 C9013	CEAT331M50 CEAT332M16 CEAT470M16 CEAT471M35 CEAT471M6R3
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C1263,C1264 C1265 C1344,C1503,C1504,C1523,C1524 C1543,C1544 C1111,C1112,C1131,C1132	CEAT4R7M50 CEJQ221M6R3 CEJQ4R7M50 CEJQ4R7M50 CKSQYF225Z16
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C1151,C1152,C1505,C1506 C1525,C1526,C1545,C1546 C4658,C801,C9015,C9022,C9024 C1146,C1185,C1186,C1199 C1227,C1228,C1251,C1252,C1269	CKSQYF225Z16 CKSQYF225Z16 CKSRYB102K50 CKSRYB103K50 CKSRYB103K50
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C802,C804,C9001,C9004,C9008 C9021 C1266 C1187,C1188,C1237-C1240,C1271 C215,C216	CKSRYB103K50 CKSRYB103K50 CKSRYB104K16 CKSRYB104K25 CKSRYB104K25
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C1272,C803,C805,C9006 C1144 C1198 C1133,C1134,C1153,C1154	CKSRYB105K10 CKSRYB223K50 CKSRYB471K50 CKSRYB472K50
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Mark No.	Description	Part No.
C1235,C1236,C4661		CKSRYB472K50
C210,C217 C1148 C1402,C1403 C1565		CKSRYB473K50 CKSRYB562K50 CKSRYF224Z25 CKSRYF474Z16

RESISTORS

R9001,R9091 R1251,R1252 R203 Other Resistors	RS1/10S101J RS1LMF101J RS1LMF102J RS1/16S###J
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OTHERS

X4651 CRYSTAL RESONATOR (4.332 MHz) X9001 CERAMIC RESONATOR (15.7 MHz) CN1262,CN1263 19P CONNECTOR CN207 9P FFC CONNECTOR CN801 13P FFC CONNECTOR CN9006 15P FFC CONNECTOR CN1501,CN9010 17P FFC CONNECTOR CN1204,CN9001,CN9005 19P FFC CONNECTOR CN1265 23P PLUG CN203 3P CONNECTOR POST CN202 6P CONNECTOR J9002 9001-9003 PCB BINDER CN1264 10P FFC CONNECTOR KN1201 WRAPPING TERMINAL	ASS7004 ASS7032 19R-1.25FJ 52045-0945 52045-1345 52045-1545 52045-1745 52045-1945 AKP7064 B3B-PH-K B6B-EH PF04PG-D05 VEF1040 VKN1241 VNF1084
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E DSP KAWA ASSY CAPACITORS

C1802 C1267,C1268 C1101,C1102,C1121,C1122 C1141,C1142,C1161 C1801	CCSRCH101J50 CEAT100M50 CEAT2R2M50 CEAT2R2M50 CEAT331M16
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RESISTORS

All Resistors	RS1/16S###J
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OTHERS

CN1811 13P PLUG CN1813 15P PLUG CN1801 23P SOCKET	AKP7059 AKP7060 AKP7075
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F DSP ASSY SEMICONDUCTORS

IC8201 IC8401 IC8501 IC8901 IC8902 IC8701 IC8702 IC8502 Q8504 Q8503	AK4114VQ AK4529VQ DSPD56367PV150 NJM2391DL1-33 NJU7223DL1-18 TC74LVX244FT TC74VHCT244AFT TC7WU04FU UMD2N UN5112
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Mark No.	Description	Part No.
D8501		1SS355
D8401		DAN202K
D8402,D8502,D8503		DAP202K

COILS AND FILTERS

L8002,L8004,L8501,L8502	ATL7002
L8201,L8203,L8204,L8401,L8402	QTL1013
L8504,L8701,L8702	QTL1013

CAPACITORS

C8209,C8210	CCSRCH100D50
C8421	CCSRCH101J50
C8007,C8008,C8201,C8212,C8214	CCSRCH471J50
C8404,C8409-C8414,C8416,C8417	CCSRCH471J50
C8419,C8505,C8507,C8509	CCSRCH471J50

C8511,C8512,C8515,C8518,C8520	CCSRCH471J50
C8522,C8524,C8526,C8528,C8530	CCSRCH471J50
C8532,C8534,C8536,C8539,C8541	CCSRCH471J50
C8543,C8545,C8551,C8703,C8706	CCSRCH471J50
C8548,C8549	CCSRCH8R0D50

C8701,C8704	CEV100M16
C8406,C8415,C8546,C8547,C8902	CEV101M16
C8904	CEV101M16
C8217,C8225,C8408	CEV470M6R3
C8204,C8555	CKSRYB102K50

C8009,C8405,C8418,C8517,C8554	CKSRYB103K50
C8010,C8202,C8207,C8213,C8215	CKSRYB104K16
C8407,C8420,C8422,C8504,C8513	CKSRYB104K16
C8521,C8523,C8525,C8527,C8529	CKSRYB104K16
C8531,C8533,C8535,C8537,C8538	CKSRYB104K16

C8540,C8542,C8544,C8550,C8702	CKSRYB104K16
C8705,C8901,C8903	CKSRYB104K16
C8516	CKSRYB105K6R3
C8514	CKSRYB333K16
C8203	CKSRYB473K50

RESISTORS

R8506	RAB4C101J
R8201	RS1/16S1802F
Other Resistors	RS1/16S###J

OTHERS

X8501 CRYSTAL RESONATOR (20MHz)	VSS1171
X8201 CRYSTAL RESONATOR (24.576MHz)	XSS3003
CN8012 19P FFC CONNECTOR	52045-1945

CN8003 13P SOCKET	AKP7070
CN8009 15P SOCKET	AKP7071
CN8017 10P FFC CONNECTOR	VKN1414

FRONT-IN ASSY CAPACITORS

C4103,C4104	CCSRCH101J50
C4107,C4111,C4122	CCSRCH471J50
C4108	CEAL470M16
C4105,C4109,C4117,C4124	CKSRYB103K50
C4102,C4106,C4110,C4123	CKSRYB104K25

C4112,C4113	CKSRYB223K50
C4120,C4121	CKSRYF105Z10

Mark No.	Description	Part No.
RESISTORS		
	All Resistors	RS1/16S###J

OTHERS

CN4102 19P FFC CONNECTOR	52045-1945
JA4101 PIN JACK(3P)GOLD	AKB7098
JA4102 OPT. LINK IN	GP1FA513RZ
JA4103 HEADPHONE JACK	RKN1006
KN4101 WRAPPING TERMINAL	VNF1084

J4601 BOARD IN LEAD WIRE	ADX7442
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AMP KAWA ASSY SEMICONDUCTORS

⚠ IC4701 PROTECTOR(7A)	AEK7021
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OTHERS

CN4701 17P FFC CONNECTOR	52045-1745
J4702 LEAD WITH HOUSING	ADX7424
CN4703 19P SOCKET	AKP7073
CN4705,CN4706 23P SOCKET	AKP7178
4701,4702 PCB BINDER	VEF1040

6CH AMP ASSY SEMICONDUCTORS

⚠ IC71	NJM7912FA
⚠ IC3301,IC3401	STK402-270
Q3382	2SA1576A
Q62	2SB1237X
Q111,Q3381,Q63	2SC4081

⚠ Q61	2SD2012
Q3301,Q3302,Q3401,Q3402	2SD2114K
Q3501,Q3502,Q3504	2SD2114K
Q3654	2SD2144S
Q3653	DTA124EUA

Q3652	DTA124TK
⚠ Q3383	IRFI9Z34G
⚠ Q3384	IRFIZ34G
Q3651	RN1901
Q101,Q103	UMB1N

Q102,Q104	UMH1N
⚠ D3321-D3326	1SR139-400
D3327,D3328	1SR139-400
⚠ D3421-D3426	1SR139-400
D3427,D3428	1SR139-400

D3387,D3388,D3651-D3655	1SS133
D101,D102,D3657,D42	1SS355
⚠ D3391,D3392	30PDA20-FC6
⚠ D3381,D3382,D3481,D3482	DAN217
⚠ D3581,D3582	DAN217

D3389,D3390	MTZJ10C
⚠ D72	MTZJ15C
D3393,D3394	MTZJ18B/C
⚠ D63	MTZJ18C
D3385,D3386	MTZJ36A

D105,D106,D3658	UDZS7.5B
TH111	NCP18WF104J03RB

CAPACITORS

C3305,C3306,C3405,C3406	CCSRCH221J50
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Mark No.	Description	Part No.
A	C3505,C3506,C62	CCSRCH221J50
	C3309,C3310,C3409,C3410	CCSRCJ3R0C50
	C3509,C3510	CCSRCJ3R0C50
	C3307,C3308,C3407,C3408,C3508	CEAL100M16
	C3507	CEAL470M6R3
	C72	CEAT100M50
	C3651	CEAT101M25
	C101,C102	CEAT1R0M50
	C3323,C3324,C3423,C3424	CEAT221M50
	C3167,C3168,C3178,C3179	CEAT2R2M50
	C3301,C3302,C3317,C3318	CEAT2R2M50
	C3401,C3402,C3501,C3502	CEAT2R2M50
	C3652,C63	CEAT470M25
B	C3653	CEAT470M35
	C3321,C3322,C3421,C3422	CEATR22M50
	C3303,C3304,C3403,C3404	CKSRYB102K50
	C3503,C3504	CKSRYB102K50
	C71	CKSRYB473K50

RESISTORS

R3317-R3320,R3417-R3420(0.22/2W)	ACN7122
R3517-R3520 (0.22/2W)	ACN7122
⚠ R3327,R3328,R3427,R3428	RD1/4MUF470J
R3387,R3388	RD1/4PU101J
R3657	RD1/4PU330J
⚠ R3323,R3324,R3351,R3423,R3424	RS1/16S1R0J
⚠ R3451	RS1/16S1R0J
R67,R68	RS1/16S2201F
⚠ R62	RS1/16S330J
R65	RS1/16S4700F
Other Resistors	RS1/16S###J

OTHERS

CN3001,CN3002 23P PLUG	AKP7064
CN3651 PLUG(2P)	KM200SA2

J AMP OUT ASSY

SEMICONDUCTORS

Q320,Q321	2SA1037K
Q303	2SC2712
Q301,Q302,Q305,Q308-Q310	2SC4081
Q312,Q318,Q319	2SC4081
Q307	2SD1858X
Q313	DTA124EUA
Q306	DTA143EUA
Q311,Q317	DTC124EUA
Q316	DTC143EUA
Q314	RN2903
D301,D302,D304-D307,D309	1SS355
D311-D314,D316,D317	1SS355
D322-D327	1SS355
D319	DAN202K
D303,D310,D315	DAP202K
D318	UDZS5.1B

COILS AND FILTERS

L301,L302,L304-L306	ATH-059
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SWITCHES AND RELAYS

RY301-RY304	ASR7008
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Mark No.	Description	Part No.
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CAPACITORS

C336	CCSRCH221J50
C335	CCSRCH331J50
C334	CEAT100M50
C333	CEAT471M6R3
C301-C304,C316,C318	CKSQYB104K50
C325-C328	CKSQYB104K50
C329,C331	CKSRYB102K50
C337	CKSRYB104K25
C319-C323	XCG3008

RESISTORS

R303,R304,R324,R345,R346 (0.1, 2W)	ACN7120
R309,R310,R330,R351,R352	RD1/2LMF101J
R358	RD1/2VM103J
⚠ R311,R312,R317-R320,R332	RS1/10S150J
⚠ R336-R341,R353,R354	RS1/10S150J
R313,R314	RS1/10S222J
R315,R316	RS1LMF331J
Other Resistors	RS1/16S###J

OTHERS

CN301 17P FFC CONNECTOR	52045-1745
J301 2P CONNECTOR ASSY	ADX7425
JA301 PIN JACK(1P)	AKB7080
401 SPEAKER TERMINAL10-P	AKE7093
CN203 19P PLUG	AKP7062

K ENCODER ASSY

SWITCHES AND RELAYS

S4402	ASX7041
S4401	ASX7043

RESISTORS

All Resistors	RS1/16S###J
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OTHERS

4401 5P CABLE HOLDER	51048-0500
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L FRONT ASSY

SEMICONDUCTORS

IC4201	PE5368A
Q4202,Q4203,Q4210	DTC124EK
Q4204,Q4206,Q4208	RN1903
Q4211	RN2903
D4211	1SS355
D4201,D4202	DAN202K
D4207	SLR-343MC
D4204,D4205,D4208,D4209	SLR-343VC
D4203,D4206,D4210	SLR-343YC

COILS AND FILTERS

L4201	LFEA2R2J
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CAPACITORS

C4203	CEJQ221M6R3
C4205	CEJQ470M10
C4210-C4213,C4228	CKSRYB102K50
C4201,C4202,C4204,C4215-C4217	CKSRYB103K50
C4208,C4245	CKSRYB104K25
C4220-C4227	CKSRYB473K50

Mark No.	Description	Part No.
RESISTORS		
	All Resistors	RS1/16S###J
OTHERS		
4202	3P CABLE HOLDER	51048-0300
4206	5P CABLE HOLDER	51048-0500
CN4201	9P FFC CONNECTOR	52045-0945
CN4203	15P FFC CONNECTOR	52045-1545
V4301	FL TUBE	AAV7093
J4201	JUMPER WIRE 3P	D20PYY0310E
J4202	JUMPER WIRE 5P	D20PYY0515E
4201	REMOTE RECEIVER UNIT	SPS-442-E1
4301	FL HOLDER	VNF1122
X4201	CERAMIC RESONATOR(5MHz)	VSS1142
M POWER SW ASSY		
SWITCHES AND RELAYS		
	S4501	VSG1009
OTHERS		
	4501 3P CABLE HOLDER	51048-0300
N PRIMARY ASSY		
SEMICONDUCTORS		
⚠	IC551	NJM78M56FA
	Q551	2SC4081
	Q554	DTA124EK
	Q552,Q553	DTC124EK
	D551-D553,D556,D557	1SS355
⚠	D555	S1VB20/F03
	D554	UDZS5.1B
COILS AND FILTERS		
⚠	L501	ATF7018
TRANSFORMERS		
⚠	T501	ATT7078
SWITCHES AND RELAYS		
⚠	RY501	ASR7013
CAPACITORS		
⚠	C501	ACE7013
⚠	C502 (10000P/AC250V)	ACG7033
	C556	CEAT100M50
	C552	CEAT102M25
	C551	CEAT470M25
	C553-C555	CKSRYB103K50
RESISTORS		
	R551	RD1/2VM270J
	Other Resistors	RS1/16S###J
OTHERS		
	H501,H502 FUSE CLIP	AKR7001
	CN552 2P CONNECTOR POST	B2B-PH-K
	CN502 2P-VH CONNECTOR	B2P3-VH
	CN551 4P CONNECTOR	B4B-PH-K
⚠	CN501 AC CORD SOCKET	RKP1751
	KN501 WRAPPING TERMINAL	VNF1084

Mark No.	Description	Part No.
O D5V ASSY		
SEMICONDUCTORS		
	IC6001	NJM7805FA
CAPACITORS		
	C6001	CEHAT331M16
	C6002	CKSRYB473K50
OTHERS		
	J6001 CONNECTOR ASSY	PF03PG-D10
P 12V ASSY		
SEMICONDUCTORS		
	IC601	BA12T
	IC602	NJM7912FA
	D601,D602	RB501V-40
CAPACITORS		
	C603,C604	CEHAT221M25
	C601,C602	CKSRYB473K50
OTHERS		
	601 5P CABLE HOLDER	51048-0500
Q VHVL ASSY		
SEMICONDUCTORS		
	D320,D321	1SS355
⚠	D201,D202	D5SBA20
CAPACITORS		
	C203	ACH1237
	C207,C208	ACH7161
	C204,C205	CEAT222M50
	C332	CEAT2R2M50
RESISTORS		
	R362	RD1/2VM332J
	R202	RD1/4MUF100J
OTHERS		
	CN252 2P-VH CONNECTOR	B2P-VH
	CN201 5P-VH CONNECTOR	B5P-VH
	CN206 6P-VH CONNECTOR	B6P-VH

6. ADJUSTMENT

6.1 TUNER SECTION



■ AM Tuner Section

- There is no adjustment in the AM tuner.

■ FM Tuner Section

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

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

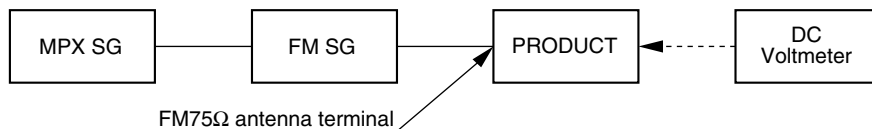


Fig.1 Adjustment Wiring Diagram

A FM/AM TUNER MODULE

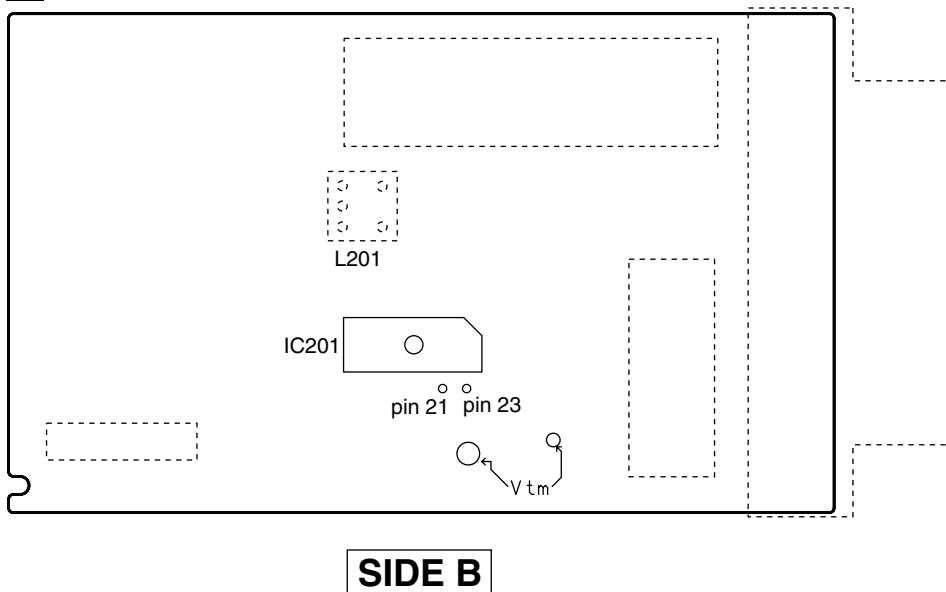


Fig.2 Adjustment Point

7. GENERAL INFORMATION

7.1 DIAGNOSIS

7.1.1 Test Mode

• How to Enter the Test Mode

With the attached Remote Control Unit

1. Test mode ON

"MENU" key

When Test mode is entered, "TEST" is indicated for 5 seconds. Settings other than those described below return to the factory-preset values.

- Function: TV/SAT
- Signal select: AUTO
- Settings for the speakers: All large, SW ON
- No automatic speaker detection
- PRO LOGIC2 EMU mode
- The tuner is preset for Test mode.
- SOUND MODE: OFF

The Protection process (Key Mask for 1 min.) is canceled.

2. Test mode OFF

"9" key

When the code is received, Test mode is terminated, and all settings return to the factory-preset values.

With "RECEIVER $\odot$ " key, Test mode is also terminated, and all settings return to the factory-preset values.

3.FL/LED check

"0" key

Each time the remote control code is received, the indications on the FL and LED change cyclically, as shown below.

All segments on the FL and LED light. → All segments on the FL and LED go off. → "ABCDEFGH" are displayed on the FL, and 1, 3, 5, 7 are displayed on the LED. → "IJKLMNOP" are displayed on the FL, and 2, 4, 6, 8 are displayed on the LED. → Usual display → . . .

When the code is first received, all segments light.

4. SP relay change

"1" key

Each time the remote control code is received, the SP relay is turned off then back on. When the code is first received, the SP relay is turned off.

5. DOLBY Pro Logic2 mode

"2" key

When the code is received, settings other than those described below return to the factory-preset values.

- Function: DVD/LD
- Signal select: AUTO
- Distance of Rear speaker: 5 feet
- STANDARD PRO LOGIC2 EMU mode
- Speaker setting: LLLLY

7. MASTER VOL CHANGE

"4" key

Each time the remote control code is received, the master volume is changed as follows: minus infinity → 0 dB → . . .

Each trim becomes 0 dB.

When the code is first received, the master volume becomes minus infinity (MUTE.)

8. 9K/10K CHANGE

"5" key

For the FL (international) model only, when the code is received, 9K and 10K can be switched.

When the code is first received, 10K is selected.

9. MIC check

"6" key

- Function: TV/SAT
- Signal Select: Analog

When the code is received while the microphone input is being checked, the data for the Function, Listening mode, and Signal Select are returned to those immediately before Microphone Input Check mode was entered, then Microphone Input Check mode is terminated.

- If you wish to hear the sound picked up by the microphone from the speakers, set NJU7312AM to MIC.

10. Automatic detection of speakers

"7" key

When the remote control code is received, detection of speakers starts automatically. The results (C_S_W_) will be displayed for 5 seconds. The symbol "O" means the speaker is connected, and "x" means the speaker is not connected.

C301: CxSx Wx

11. Analog input check

"8" key

When the remote control code is received, Forced Analog Input, and 2-channel STEREO mode are set for all functions.

- Settings for the speakers: All large, SW ON
- When Analog Input Check mode is entered, "SIG:ANA" is displayed for 5 seconds.

12. Digital input check

"3" key

When the remote control code is received, Forced Digital Input, and 2-channel STEREO mode are set for all functions.

- Settings for the speakers: All large, SW ON
- When Digital Input Check mode is entered, "SIG:DIG" is displayed for 5 seconds.

13. Bidirectional UART check

"STOP" key

TXD (Pin 31) is for output, and RXD (Pin 32) is for input. The unit checks if the input is "L" when the "L" signal is output, and if the output is "H" when the "H" signal is output. After the unit confirms the above, it displays the confirmation "UART OK" for 5 seconds.

14. Version display

"1" key

When the code is received, the versions of the main microcomputer, display microcomputer, and DSP are displayed. After the versions of microcomputers are displayed for 5 seconds, DSP version is displayed for 5 seconds.

Examples:

"M011F001": Main microcomputer: Ver. 011, display microcomputer: Ver. 001

"PPP. 031": DSP: Ver. 031

Note : Test mode of No. 1-12 is Preset ID 150.

Test mode of No. 13, 14 is Preset ID 156.

7.1.2 Protection Circuit

● DC detection

Detection method	XPROTECT port (A/D)R397: 56 K-ohms Less than 0.6-0.8 Vdd
Detection start time	2.8 sec after
Process	Mute: On Speaker Relay: Off Shifting to STBY after 3 sec
Display	"AMP ERR" flashes for 3 sec
Recovery	Hold the STANDBY key pressed for 10 sec.
Remarks	The unit will recover if the duration of detection is 3 sec or less.

● Overload detection

Detection method	XPROTECT port (A/D)R363: 27 K-ohms 0.4-0.6 Vdd
Detection start time	2.8 sec after
Process	Mute: On Speaker Relay: Off Shifting to STBY after 3 sec
Display	"OVERLOAD" flashes for 3 sec
Recovery	Press the STANDBY key.
Remarks	

● Fan (temperature) and short-circuit of the power supply circuit

Detection method	XPROTECT port (A/D) 0.4 Vdd or less
Detection start time	1.0 sec after
Process	Mute: On Speaker Relay: Off Shifting to STBY
Display	No display
Recovery	Hold the STANDBY key pressed for 10 sec.
Remarks	

● Fan stop

Detection method	XPROTECT port (A/D) 0.4 Vdd or less
Detection start time	1.0 sec after
Process	Mute: On Speaker Relay: Off Shifting to STBY
Display	No display
Recovery	Hold the STANDBY key pressed for 10 sec.
Remarks	

7.1.3 Specifications of Speaker Detection

1. Purposes

Automatic detection of connected speakers and automatic selection of settings appropriate for the detected speakers allow you to easily play surround-sound without your making cumbersome speaker settings.

2. Speaker detection method

Automatic detection of connected speakers starts 1120 ms after the power is turned on.

• Detection of the center and surround speakers

The microcomputer sends a detection signal and reads the logic of the response signal to judge whether the speaker is connected or not. The response signal is read at A/D input, and a voltage of 3 V or more is judged as no speaker connected.

• Detection of the subwoofer

The logic of the signal from the phono jack with a switch is read by the microcomputer to judge whether a speaker is connected or not.

3. Speaker settings

According to the results of detection, speaker settings are made as shown below.

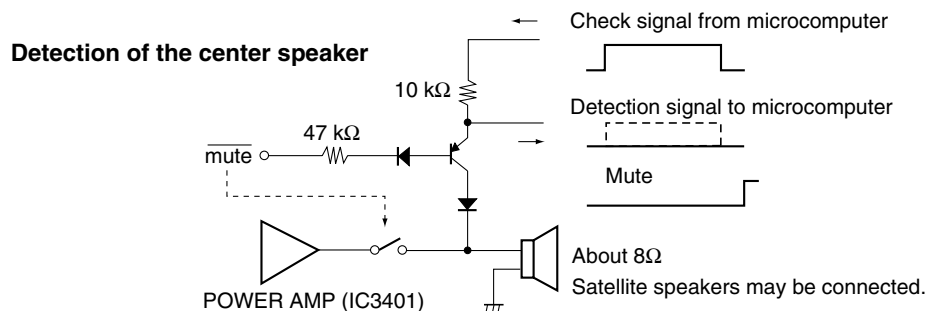
Rules: The setting for the front speakers depends on whether a subwoofer is connected or not. If a subwoofer is connected, the setting for the front speakers is "small." Settings for other speakers are "small" or "not connected" depending on the results of detection. Settings for the rear surround speakers are in effect only when surround speakers are connected.

Results of the Detections			Speaker Setting			
Center SP	Surround SP	Sub-woofer	Front SP	Center SP	Surround SP	Sub-woofer
Connected	Connected	Connected	Small	Small	Small	ON
Connected	Connected	Not connected	Large	Small	Small	OFF
Connected	Not connected	Connected	Small	Small	Not connected	ON
Connected	Not connected	Not connected	Large	Small	Not connected	OFF
Not connected	Connected	Connected	Small	Not connected	Small	ON
Not connected	Connected	Not connected	Large	Not connected	Small	OFF
Not connected	Not connected	Connected	Small	Not connected	Not connected	ON
Not connected	Not connected	Not connected	Large	Not connected	Not connected	OFF

4 User's settings

More detailed speaker settings can be made in Setup mode. Once the user's settings are made in Setup mode, those settings have priority. However, if the configuration of connected speakers changes, then the detection results become valid and have priority over the user's settings until new user's settings are made.

5 Detection circuit for the center speaker

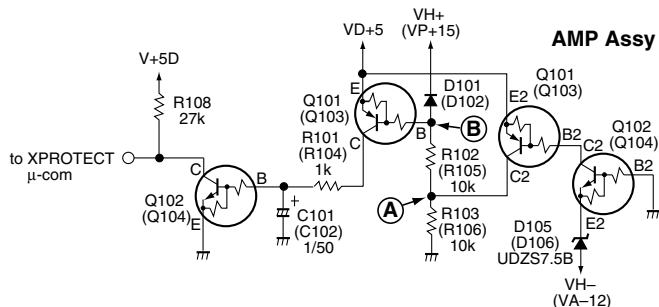


7.1.4 Circuit Description

* Refer to "3. 14 6CH AMP ASSY".

1 Short-circuit-detection circuit for the amplifier power circuit (+15 V[VP+15], VD+5, -12 V [VA-12])

Circuit for shutting the power off when VP+15, VD+5, or VA-12 is short-circuited to ground (GND)



- In Normal mode, as Q101 (Q103) (E2, B2, C2) and Q102 (Q104) (E2, B2, C2) are on, the voltage at Point (A) is about 5 V. The voltage at Point (B) is therefore about the same. As Q101 (Q103) (E, C, B) is off, Q102 (Q104) (E, C, B) is also off.

(1) When VH+(VP+15) is short-circuited to GND

As the voltage at Point (B) becomes almost ground potential, and Q101 (Q103) (E, C, B) then Q102 (Q104) (E, C, B) are turned on, the level of XPROTECT becomes low.

→ The microcomputer detects the XPROTECT level and shuts the power to the unit off.

(2) When VH-(VA-12) is short-circuited

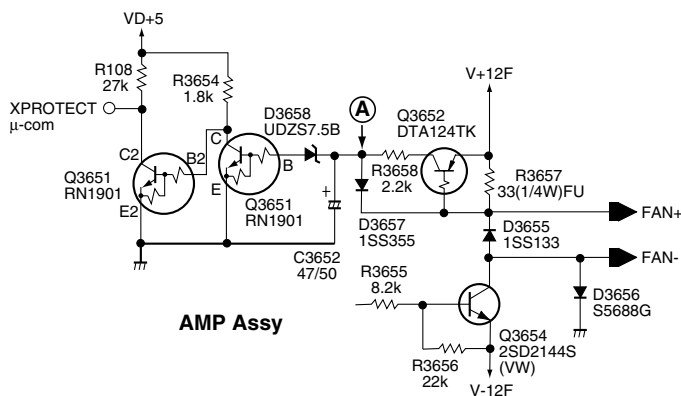
As the electric potential of VE at Q102 (Q104) (E2, C2, B2) becomes the same as that at VB, Q102 (Q104) (E2, C2, B2) is turned off. Following this, Q101 (Q103) (E2, B2, C2) is turned off, which changes the voltage at Points (A) and (B) to a value other than 5 V. Therefore, Q101 (Q103) (E, C, B) then Q102 (Q104) (E, C, B) are turned on, the level of XPROTECT becomes low.

→ The microcomputer detects the XPROTECT level and shuts the power to the unit off.

(3) When VD+5 is short-circuited

The level of the XPROTECT line becomes low. The microcomputer detects the XPROTECT level and shuts the power to the unit off.

2 FAN Detection Circuit

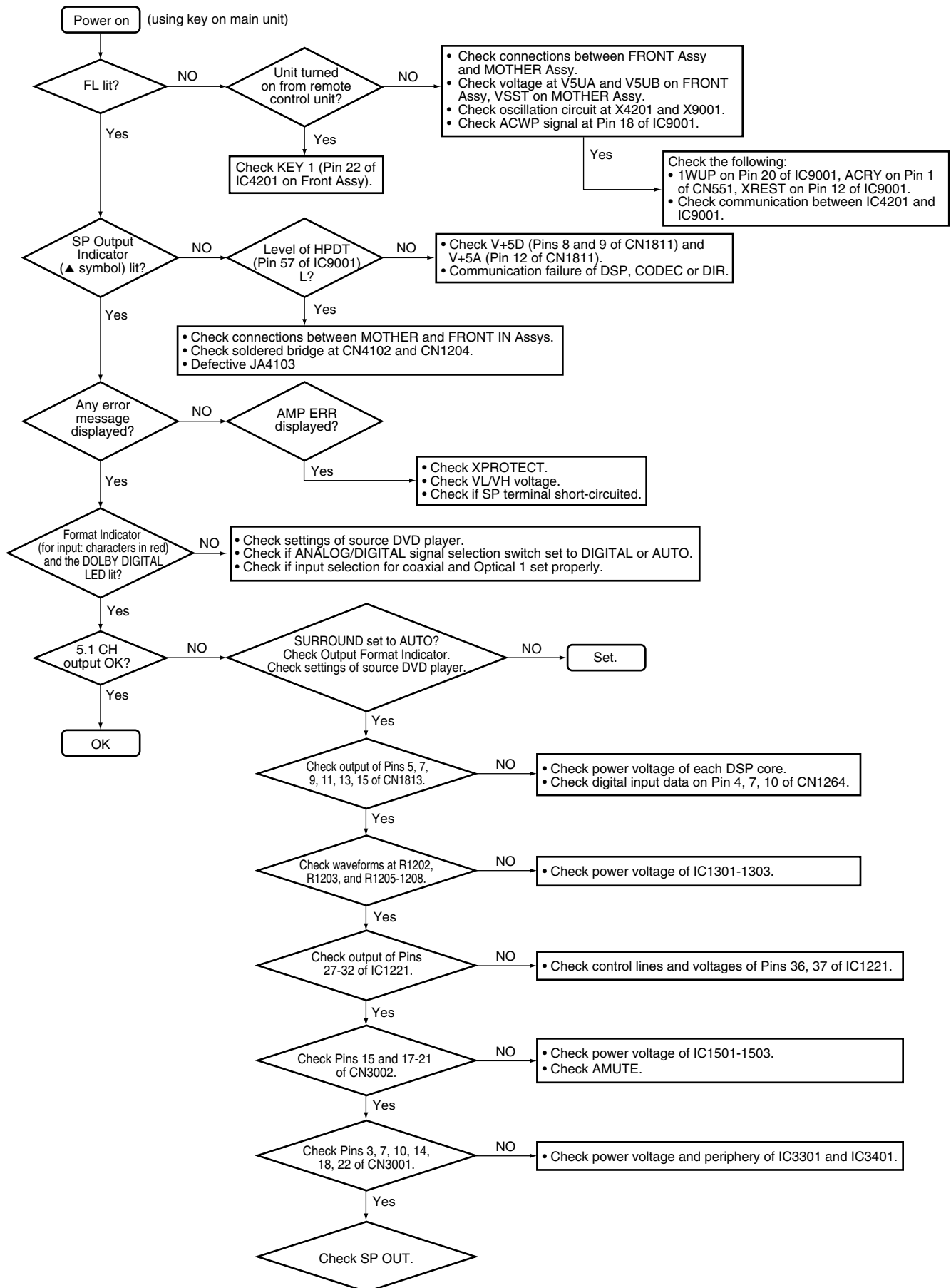


If no fan is connected between FAN+ and FAN-, or when the fan cannot rotate because of a foreign object caught in the blades, the BASE of Q3652 becomes OPEN, and Q3652 and Q3651 (E, C, B) are turned off. Then Q3651 (E2, B2, C2) is turned on, and the level of XPROTECT becomes low.

→ The microcomputer detects the XPROTECT level and shuts the power to the unit off.

When FAN+ and FAN- are short-circuited, the electric potential at Point (A) becomes higher than GND level by the addition of the values at D3656 and D3657. As this value is lower than that at D3658, Q3651 (E, C, B) is turned off, Q3651 (E2, B2, C2) is turned on, and the level of XPROTECT becomes low.

7.1.5 Troubleshooting



7.1.6 Timing Chart

A

B

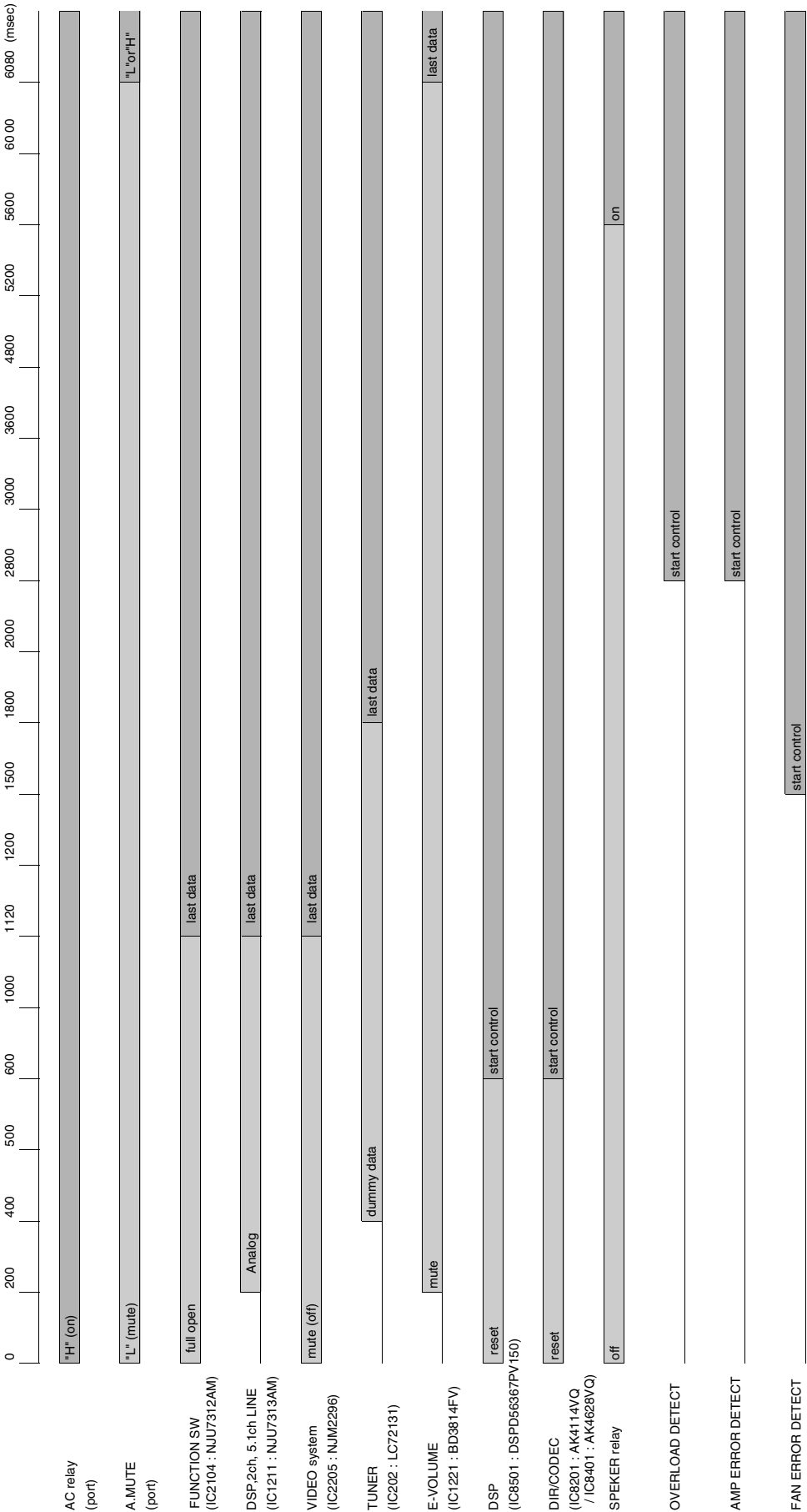
C

D

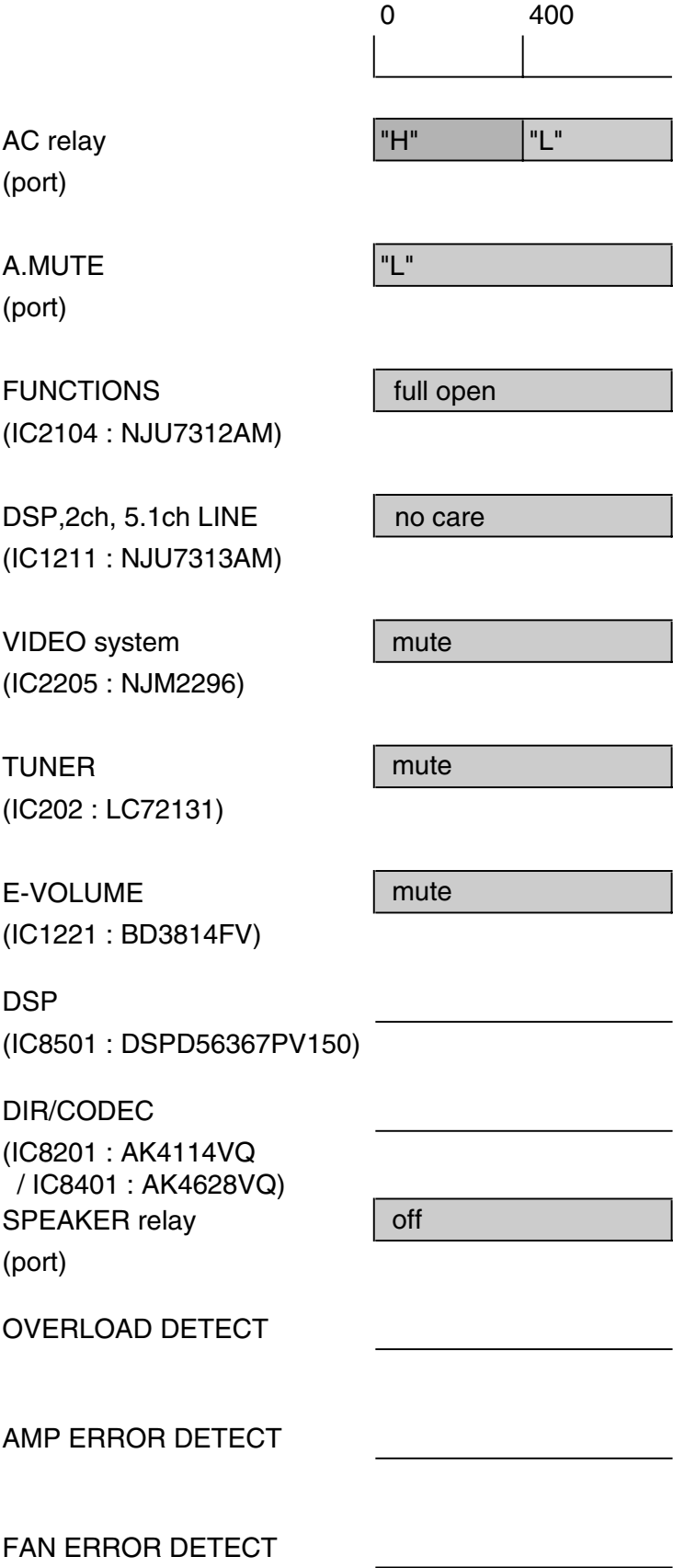
E

F

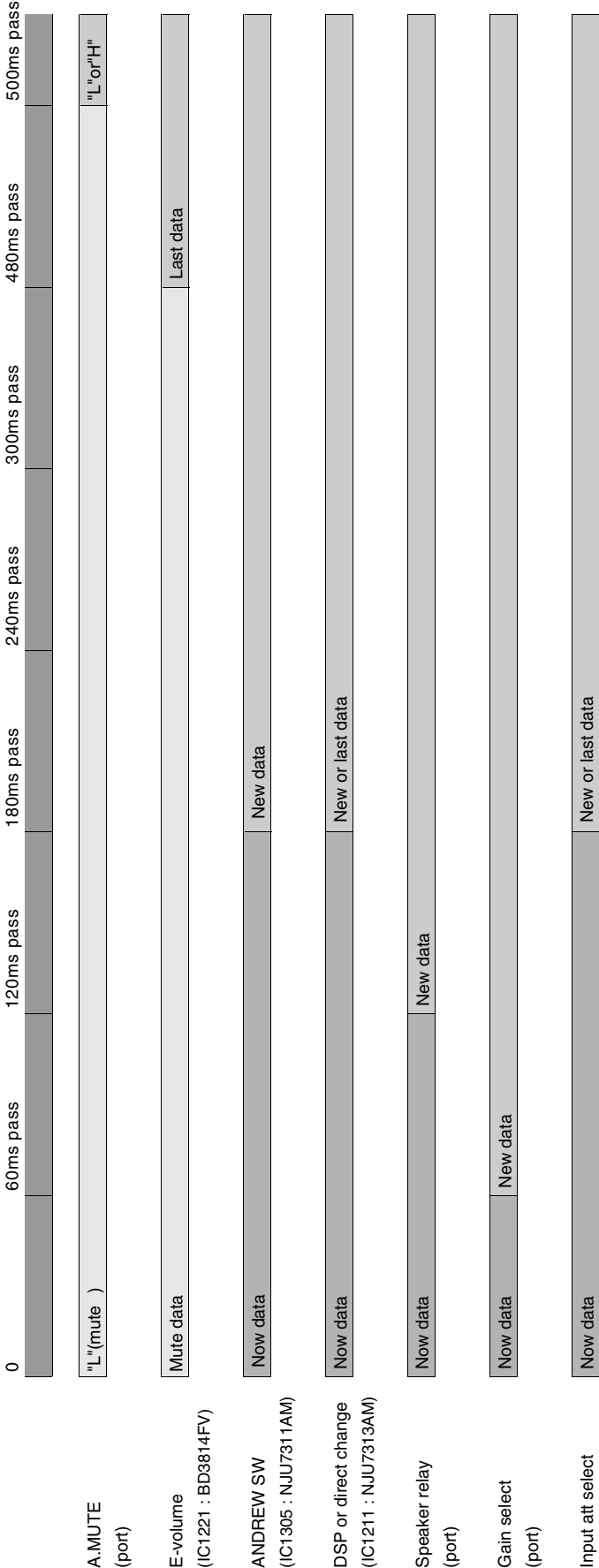
Power ON initial timing chart



■ Power OFF initial timing chart



2. When except function change



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

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

7.2 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.

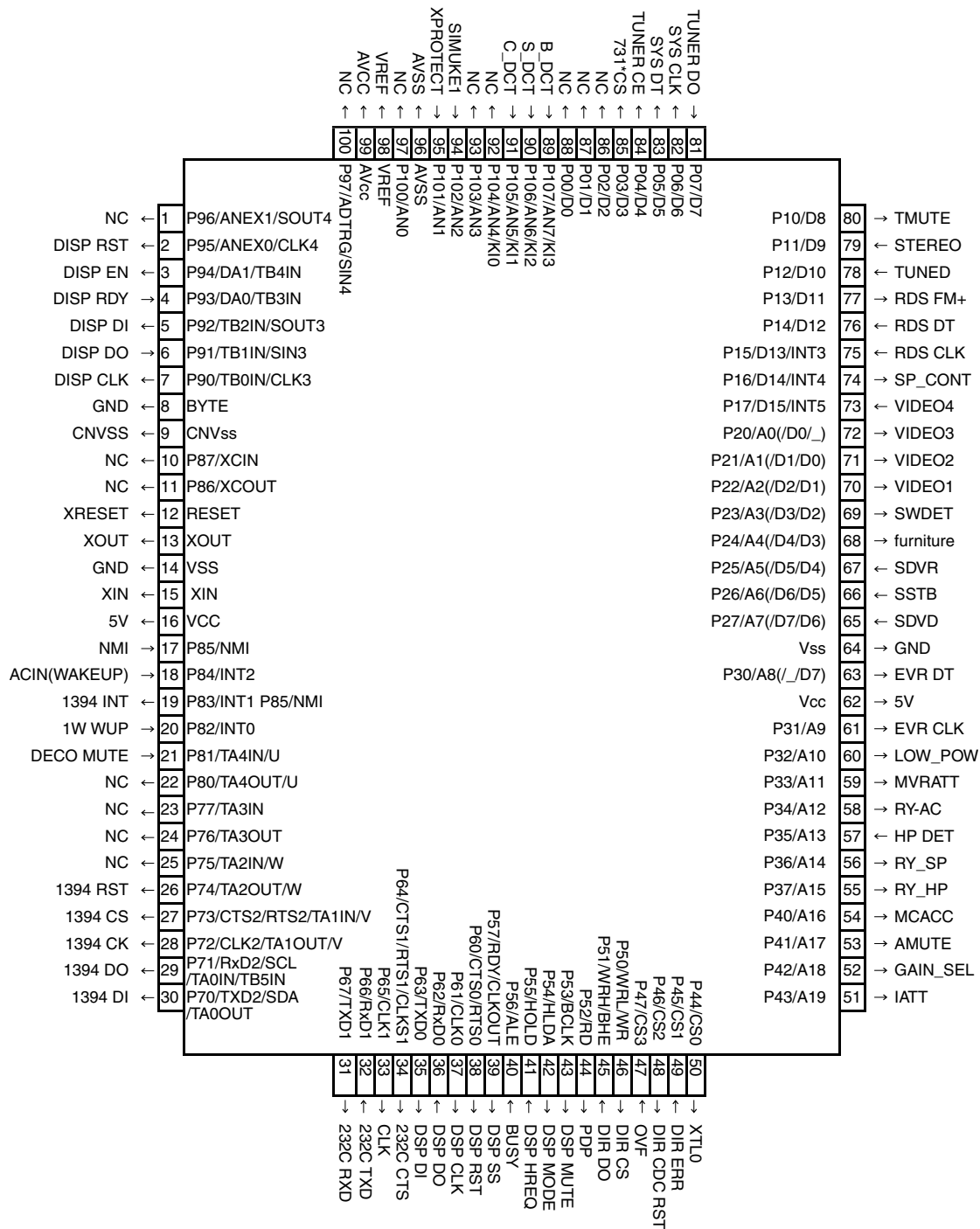
List of IC

PD5863A, PE5368B, BA7613F

PD5863A (MOTHER ASSY : IC9001)

Main Microcomputer

Pin Arrangement (Top View)



• Pin Function

No.	Port	Pin Name	I/O	Pin Function
1	P96/ANEX1/SOUT4	NC	O	"L" fixed
2	P95/ANEX0/CLK4	DISP RST	O	Reset signal to display u-com (H: reset, L: release)
3	P94/DA1/TB4IN	DISP EN	O	Enable signal for communication to display u-com
4	P93/DA0/TB3IN	DISP RDY	I	Ready signal for communication from display u-com
5	P92/TB2IN/SOUT3	DISP DI	O	Data output signal with display u-com
6	P91/TB1IN/SIN3	DISP DO	I	Data input signal with display u-com
7	P90/TB0IN/CLK3	DISP CLK	O	Clock signal for communication with display u-com
8	BYTE	GND	-	
9	CNVss	CNVSS	-	Pull-down by 5k ohm
10	P87/XCIN	NC	O	"L" fixed
11	P86/XCOUT	NC	O	"L" fixed
12	RESET	XRESET	-	
13	XOUT	XOUT	-	
14	VSS	GND	-	
15	XIN	XIN	-	
16	VCC	5V	-	
17	P85/NMI	NMI	I	Not used (pull-up by 100k ohm)
18	P84/INT2	ACIN(WAKEUP)	I	AC pulse input (wakeup)
19	P83/INT1 P85/NMI	1394 INT	O	Not used (Standby for 1394)
20	P82/INT0	1W WUP	I	Wake up signal from display u-com in standby
21	P81/TA4IN/U	DECO MUTE	I	1st DSP detect port
22	P80/TA4OUT/U	NC	O	"L" fixed
23	P77/TA3IN	NC	O	"L" fixed
24	P76/TA3OUT	NC	O	"L" fixed
25	P75/TA2IN/W	NC	O	"L" fixed
26	P74/TA2OUT/W	1394 RST	O	Not used (Standby for 1394) "L" fixed
27	P73/CTS2/RTS2/TA1IN/V	1394 CS	O	Not used (Standby for 1394) "L" fixed
28	P72/CLK2/TA1OUT/V	1394 CK	O	Not used (Standby for 1394) "L" fixed
29	P71/RxD2/SCL/TA0IN/TB5IN	1394 DO	O	Not used (Standby for 1394) "L" fixed
30	P70/TXD2/SDA/TA0OUT	1394 DI	O	Not used (Standby for 1394) "L" fixed
31	P67/TXD1	232C RXD	O	For rewriting 232C (Data output)
32	P66/RxD1	232C TXD	I	For rewriting 232C (Data input)
33	P65/CLK1	CLK	O	It is necessary when writing for JIG
34	P64/CTS1/RTS1/CLKS1	232C CTS	O	For rewriting 232C (Admit communication)
35	P63/TXD0	DSP DI	O	Data output signal for communication with DSP and DIR
36	P62/RxD0	DSP DO	I	Data input signal for communication with DSP
37	P61/CLK0	DSP CLK	O	Clock signal for communication with DSP and DIR
38	P60/CTS0/RTS0	DSP RST	O	Reset signal for DSP (L: reset, H: release)
39	P57/RDY/CLKOUT	DSP SS	O	Slave select signal to DSP
40	P56/ALE	BUSY	I	Not used (Use it in MCACC)
41	P55/HOLD	DSP HREQ	I	DSP error detect signal (pull-down by 100k ohm)
42	P54/HLDA	DSP MODE	O	Mode select of DSP (ROM/RAM) (H: ROM mode, L: RAM mode)
43	P53/BCLK	DSP MUTE	O	DSP ASSY mute
44	P52/RD	PDP	O	H: Data transfer to PDP, L: others
45	P51/WRH/BHE	DIR DO	I	Data input signal for communication with DIR/DAC
46	P50/WRL/WR	DIR CS	O	Chip select signal for communication with DIR/DAC
47	P47/CS3	OVF	I	DIR codec over flag
48	P46/CS2	DIR CDC RST	O	Reset signal for DIR codec
49	P45/CS1	DIR ERR	I	Lock/unlock signal
50	P44/CS0	XTL0	O	DIR X'tal change

No.	Port	Pin Name	I/O	Pin Function
A 51	P43/A19	IATT	O	Input ATT control signal
52	P42/A18	GAIN_SEL	O	Gain select (5.1ch and Stereo of analog input : H)
53	P41/A17	AMUTE	O	System mute (L: mute ON)
54	P40/A16	MCACC	O	Not used (HP/MIC switching control)
55	P37/A15	RY_HP	O	Headphone relay ON/OFF
56	P36/A14	RY_SP	O	All ch speaker relays ON/OFF
57	P35/A13	HP DET	I	HP detect
58	P34/A12	RY-AC	O	AC relay ON/OFF
59	P33/A11	MVRATT	O	ATT control of master volume (less than -15dB : L)
60	P32/A10	LOW_POW	O	H: Normal mode, L: Stop mode
B 61	P31/A9	EVR CLK	O	Clock signal for E-volume
62	Vcc	5V	-	
63	P30/A8(/_D7)	EVR DT	O	Data signal for E-volume
64	Vss	GND	-	
65	P27/A7(/D7/D6)	SDVD	I	Status signal input of DVD SCART
66	P26/A6(/D6/D5)	SSTB	I	Status signal input of STB SCART
67	P25/A5(/D5/D4)	SDVR	I	Status signal input of DVD SCART
68	P24/A4(/D4/D3)	furniture	O	Furniture control signal
69	P23/A3(/D3/D2)	SWDET	I	SWSP detect
70	P22/A2(/D2/D1)	VIDEO1	O	Video signal control 1
C 71	P21/A1(/D1/D0)	VIDEO2	O	Video signal control 2
72	P20/A0(/D0/_)	VIDEO3	O	Video signal control 3
73	P17/D15/INT5	VIDEO4	O	Video signal control 4
74	P16/D14/INT4	SP_CONT	O	Output signal for SP auto-detection
75	P15/D13/INT3	RDS CLK	I	Clock input signal for RDS module
76	P14/D12 RDS	RDS_DT	I	Data input signal for RDS module
77	P13/D11 RDS	RDS FM+	O	Power ON/OFF of RDS decoder
78	P12/D10	TUNED	I	L : TUNED
79	P11/D9	STEREO	I	L :STEREO
80	P10/D8	TMUTE	O	Tuner mute
D 81	P07/D7	TUNER DO	I	Data input signal for tuner control
82	P06/D6	SYS CLK	O	Clock signal for NJU7312AM switch and tuner control
83	P05/D5	SYS DT	O	Data output signal for NJU7312AM switch and tuner control
84	P04/D4	TUNER CE	O	Chip select signal for tuner control
85	P03/D3	731*CS	O	Chip select signal for NJU7312AM switch
86	P02/D2	NC	O	"L" fixed
87	P01/D1	NC	O	"L" fixed
88	P00/D0	NC	O	"L" fixed
89	P107/AN7/KI3	B_DCT	I	Not used (surround back ch SP detect)
90	P106/AN6/KI2	S_DCT	I	Surround ch SP detect
E 91	P105/AN5/KI1	C_DCT	I	Center ch SP detect
92	P104/AN4/KI0	NC	O	"L" fixed
93	P103/AN3	NC	O	"L" fixed
94	P102/AN2	SIMUKE1	I	Input 1 to switch region
95	P101/AN1	XPROTECT	I	Ptotection circuit detect for amp. module
96	AVSS	AVSS	-	Connect to VSS
97	P100/AN0	NC	O	"L" fixed
98	VREF	VREF	-	Connect to VCC
99	AVcc	AVCC	-	Connect to VCC
F 100	P97/ADTRG/SIN4	NC	O	"L" fixed

• Pin Function

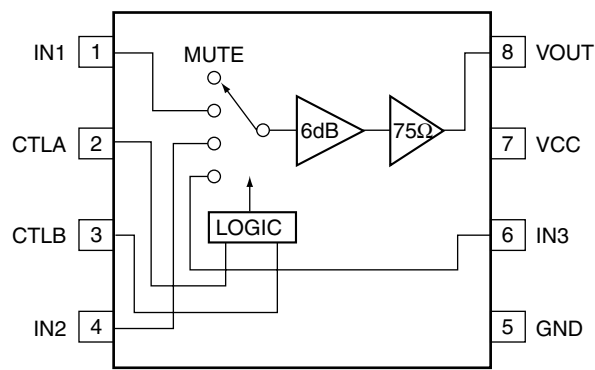
No.	Port	Pin Name	I/O	Pin Function
1	VDD1	+5V	-	Positive power supply
2	VSS1	GND	-	Ground potential
3	X1	Resonator	-	Crystal connection for system clock oscillation
4	X2	Resonator	-	Crystal connection for system clock oscillation
5	IC(VPP)	GND	-	
6	RESET	DISP RESET	-	Receive reset signal from main u-com
7	P27/SCK1	DISP CK	I	Clock signal from main u-com
8	P26/SI1	DISP DTI	I	Datain from main u-com
9	P25/SO1	DISP DTO	O	Data out to main u-com
10	P24/BUSY	DISP RDY	O	Ready signal from main u-com
11	P23	NC	O/L	
12	P22	NC	O/L	
13	P21/SO3	NC	O/L	
14	P20/SCK3	NC	O/L	
15	P00/INTP0	DISP EN	I	Enable signal from main u-com
16	P01/INTP1	NC	I	
17	P02/T1	SR IN	I	Remote control signal input from main room
18	AVSS	GND	-	Ground potential for A/D converter
19	ANI3	NC	I	
20	ANI2	NC	I	
21	ANI1	NC	I	
22	ANI0	KEY IN1	I	
23	VSS0	GND	-	Ground potential for ports
24	AVDD	'+5V	-	Analog power voltage input to A/D converter
25	VDD0	'+5V	-	Positive power supply to ports
26	P64/FIP52	NC	I	
27	P63/FIP51	FEN A	I	MULTI JOG(Right)
28	P62/FIP50	FEN B	I	MULTI JOG(Left)
29	P61/FIP49	EN B	I	VOLUME JOG1(-)
30	P60/FIP48	EN A	I	VOLUME JOG1(+)
31	P57/FIP47	NC	I	
32	P56/FIP46	TEST	I	Test mode input for checker
33	P55/FIP45	AV DIRECT	I	
34	P54/FIP44	NC	O	
35	P53/FIP43	NC	O	
36	P52/FIP42	1W WUP	O	Output wakeup signal to main u-com
37	P51/FIP41	NC	O/L	
38	P50/FIP40	NC	O/L	
39	P47/FIP39	LED1	O	LED output
40	P46/FIP38	LED2	O	LED output

No.	Port	Pin Name	I/O	Pin Function
41	FIP37/P45	LED3	O	LED output
42	FIP36/P44	LED4	O	LED output
42	FIP35/P43	LED5	O	LED output
44	FIP34/P42	LED6	O	LED output
45	FIP33/P41	LED7	O	LED Output
46	FIP32/P40	LED8	O	LED output
47	FIP31/P37	S21	O	Display
48	FIP30/P36	S20	O	Display
49	FIP29/P35	S19	O	Display
50	FIP28/P34	S18	O	Display
51	FIP27/P33	S17	O	Display
52	FIP26/P32	S16	O	Display
53	FIP25/P31	S15	O	Display
54	FIP24/P30	S14	O	Display
55	FIP23	S13	O	Display
56	FIP22	S15	O	Display
57	FIP21	S11	O	Display
58	FIP20	S10	O	Display
59	VDD2	'+5V	-	Positive power supply to FIP controller.
60	VLOAD	VF	-	Pull down resistor connection of FIP controller
61	FIP19	S9	O	Display
62	FIP18	S8	O	Display
63	FIP17	S7	O	Display
64	FIP16	S6	O	Display
65	FIP15	S5	O	Display
66	FIP14	S4	O	Display
67	FIP13	S3	O	Display
68	FIP12	S2	O	Display
69	FIP11	S1	O	Display
70	FIP10	G11	O	Display
71	FIP9	G10	O	Display
72	FIP8	G9	O	Display
73	FIP7	G8	O	Display
74	FIP6	G7	O	Display
75	FIP5	G6	O	Display
76	FIP4	G5	O	Display
77	FIP3	G4	O	Display
78	FIP2	G3	O	Display
79	FIP1	G2	O	Display
80	FIP0	G1	O	Display

■ **BA7613F (SCART-2F ASSY : IC2201- IC2203)**

• Video Signal Switcher for VTR, TV

● **Block Diagram**



● **Pin Function**

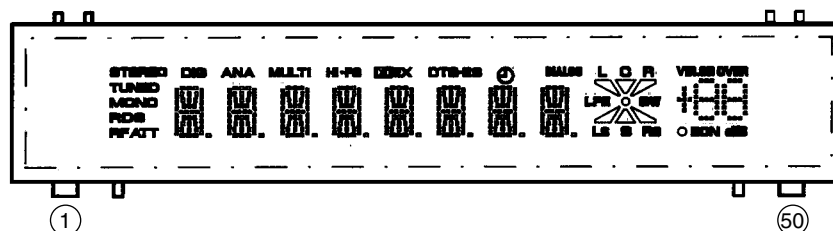
No.	Pin Name	I/O	Function
1	IN1	I	Signal input
2	CTLA	I	Control input
3	CTLB	I	Control input
4	IN2	I	Signal input
5	GND	–	Ground
6	IN3	I	Signal input
7	VCC	–	Power supply
8	VOUT	O	Signal output

7.2.2 DISPLAY

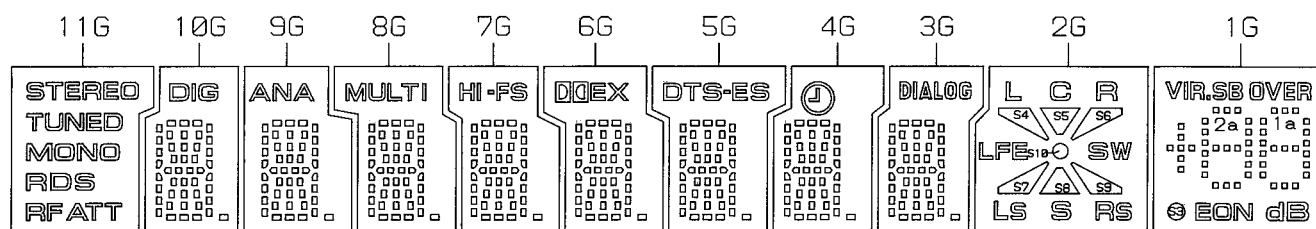
■ AAV7093 (FRONT ASSY : V4301)

• FL Display

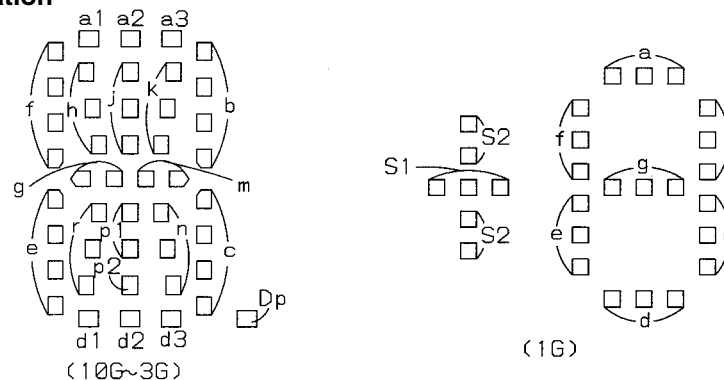
• Pin Assignment



• Grid Assignment



• Segment Designation



• Pin Connection

PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45					
CONNECTION	F1	N	N	N	1	2	3	4	5	6	7	8	9	0	1	P	P	P	P	P	P	P	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N				
	X	P	P	G	G	G	G	G	G	G	G	G	G	G	1	2	3	4	5	6	7	8	9	X	X	X	X	X	X	X	X	X	X	X	0	1	2	3	4	5	6	7	8	9	0	1	P	P	X	2

NOTE

- 1) F1, F2 --- Filament
- 2) NP ----- No pin
- 3) NX ----- No extend pin
- 4) DL ----- Datum Line
- 5) 1G~11G --- Grid
- 6) Solder composition is Sn-3Ag-0.5Cu.

● Anode Connection

	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
P1	STEREO	a1	a1	a1	a1	a1	a1	a1	a1	L	OVER
P2	TUNED	a2	a2	a2	a2	a2	a2	a2	a2	S4	2a
P3	MONO	h	h	h	h	h	h	h	h	C	2b
P4	RDS	j	j	j	j	j	j	j	j	S5	2f
P5	RF	k	k	k	k	k	k	k	k	R	2g
P6	ATT	b	b	b	b	b	b	b	b	S6	2c
P7	—	f	f	f	f	f	f	f	f	LFE	2e
P8	—	m	m	m	m	m	m	m	m	S10	2d
P9	—	g	g	g	g	g	g	g	g	SW	1a
P10	—	c	c	c	c	c	c	c	c	S7	1b
P11	—	e	e	e	e	e	e	e	e	S8	1f
P12	—	r	r	r	r	r	r	r	r	S9	1g
P13	—	p1	p1	p1	p1	p1	p1	p1	p1	LS	1c
P14	—	n	n	n	n	n	n	n	n	S	1e
P15	—	d1	d1	d1	d1	d1	d1	d1	d1	RS	1d
P16	—	d2	d2	d2	d2	d2	d2	d2	d2	—	S1
P17	—	Dp	Dp	Dp	Dp	Dp	Dp	Dp	Dp	—	S3
P18	—	a3	a3	a3	a3	a3	a3	a3	a3	—	VIR.SB
P19	—	p2	p2	p2	p2	p2	p2	p2	p2	—	EON
P20	—	d3	d3	d3	d3	d3	d3	d3	d3	—	S2
P21	—	DIG	ANA	MULTI	HI-FS	DDEX	DTS-ES	Ⓒ	DIALOG	—	dB

7.3 CLEANING

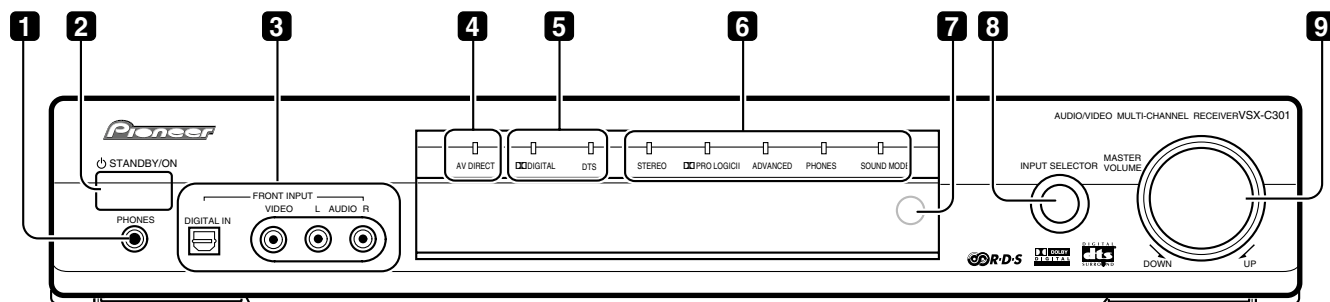


Before shipping out the product, be sure to clean the following positions by using the prescribed cleaning tools:

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

8. PANEL FACILITIES

Front panel



1 PHONES jack

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

2 STANDBY/ON button

Press to switch the receiver on or into standby.

3 FRONT INPUT jacks

Use to connect an audio/video component.

4 AV DIRECT indicator

Lights in standby when the receiver is passing an audio/video signal from one SCART AV connector to another.

5 Digital surround format indicators

DIGITAL indicator

Lights when the current source is Dolby Digital.

DTS indicator

Lights when the current source is DTS.

6 Listening mode indicators

STEREO indicator

Lights when the source is stereo and/or the listening mode has been set to **STEREO**.

PRO LOGIC II indicator

Lights when one of the Dolby Pro Logic II surround modes is active with a 2 channel (stereo) source.

ADVANCED indicator

Lights when one of the Advanced Surround modes is active.

PHONES indicator

Lights when phones surround mode is active.

SOUND MODE indicator

Lights when one of the Sound Modes is active.

7 Remote control sensor

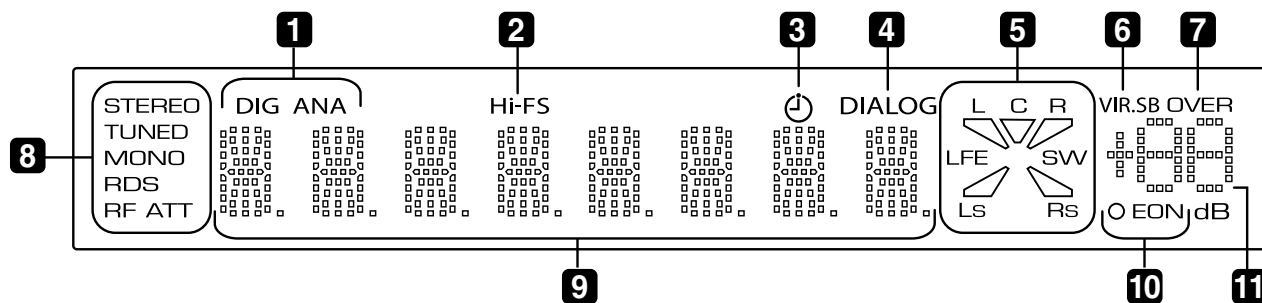
8 INPUT SELECTOR knob

Turn to cycle through the various inputs. The current input is shown in the front panel display.

9 MASTER VOLUME knob

Use to adjust the volume.

Display



1 DIG (digital) / ANA (analog)

Indicates whether the current input source is analog or digital.

2 Hi-FS

Lights when the current input signal is 88.2/96 kHz digital.

3 Sleep timer indicator

Lights when the sleep timer has been set.

4 DIALOG indicator

Lights when Dialog Enhancement is on.

5 Input/output channel indicators

The letters **L**, **C**, **R**, **LFE**, **LS** and **Rs** indicate the input channels coming into the receiver. The segments and **SW** (subwoofer) indicate the active speaker output channels.

6 VIR.SB indicator

Lights when the Virtual Surround Back effect is on.

7 OVER

Lights when the input signal is too high, risking distortion. Use the input attenuator to reduce the level.

8 Tuner indicators

STEREO

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

TUNED

Lights when tuned to a broadcast.

MONO

Lights when the tuner MPX mode is set to mono.

RDS

Lights when listening to a station that is broadcasting RDS information.

RF ATT

Lights when the RF attenuator is switched on.

9 Character display

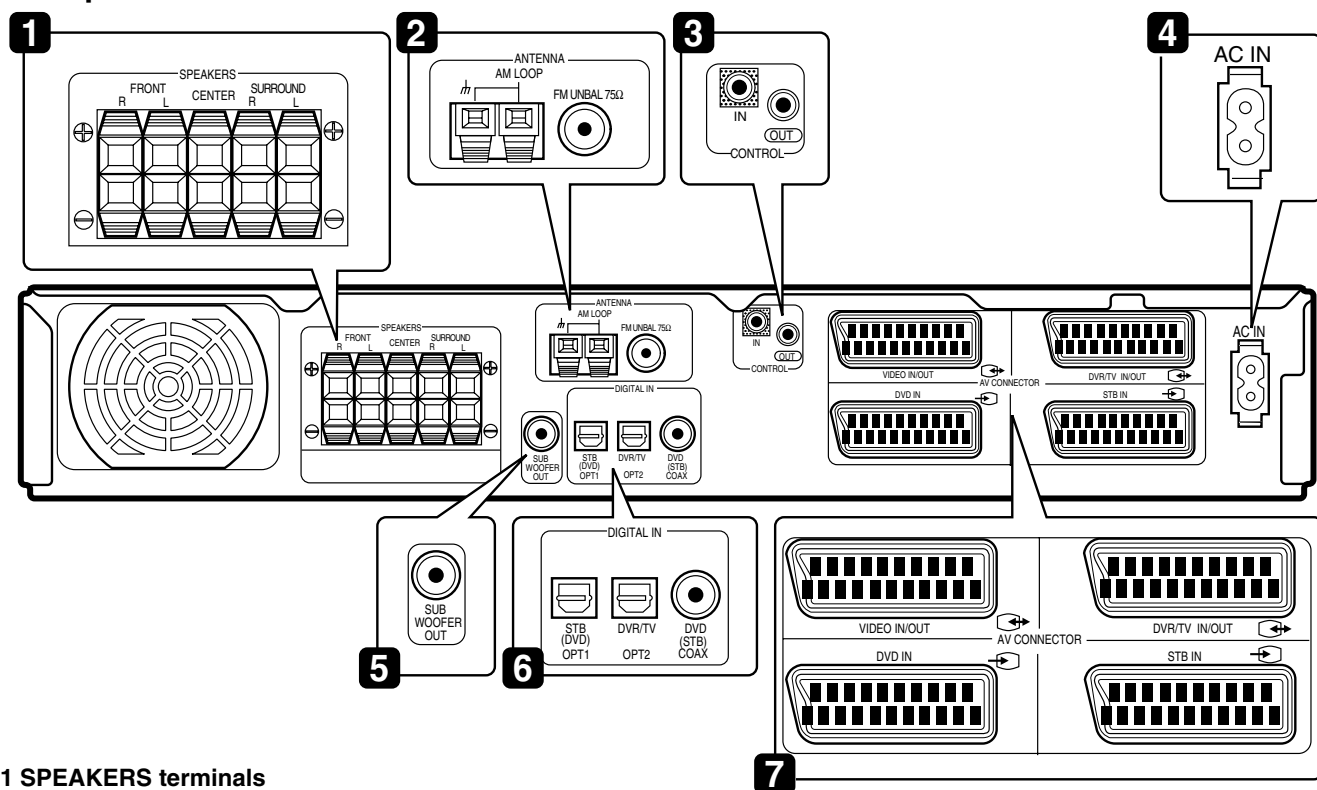
10 EON indicators

EON lights when EON is set. The dot indicator to the left lights when the current broadcast carries the EON data service.

11 Volume level indicator

Indicates the volume level in dB.

Rear panel



1 SPEAKERS terminals

FRONT L/R, CENTER and SURROUND L/R speaker terminals.

2 Antenna connections

AM LOOP

Connect the supplied AM loop antenna or an outdoor antenna if reception is bad.

FM UNBAL 75Ω antenna terminal

Connect the supplied FM wire or an outdoor antenna if reception is bad.

3 CONTROL IN jack / CONTROL OUT jack

Use to link Pioneer components together to enable all components in the chain to use just one remote control sensor.

4 AC IN

Connect the supplied AC power cable.

5 SUBWOOFER OUT jack

Connect a powered (active) subwoofer.

6 Digital connections

The three digital audio jacks are all inputs. Connect to the digital outputs of digital source components such as DVD and CD players, satellite receivers, etc.

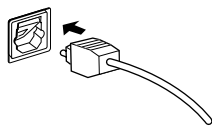
STB(DVD) OPT1 jack

Optical digital audio jack for the **STB** input (although it is possible to reassign it to the **DVD** input).

DVR/TV OPT2 jack

Optical digital audio jack for the **DVR/TV** input.

- When connecting optical cables, be careful when inserting the plug not to damage the shutter protecting the optical socket.



- When storing optical cable, coil loosely. The cable may be damaged if bent around sharp corners.

DVD(STB) COAX jack

Coaxial digital audio jack for the **DVD** input (although it is possible to reassign it to the **STB** input).

7 SCART AV connectors

The four SCART-type AV connectors carry video and analog audio.

VIDEO IN/OUT AV connector

AV connector for the **VIDEO** input. When the receiver is set to any other input, that signal is output from the **VIDEO IN/OUT** AV connector.

DVR/TV IN/OUT AV connector

AV connector for the **DVR/TV** input. When the receiver is set to any other input, that signal is output from the **DVR/TV IN/OUT** AV connector.

DVD IN AV connector

AV connector for the **DVD** input.

STB IN AV connector

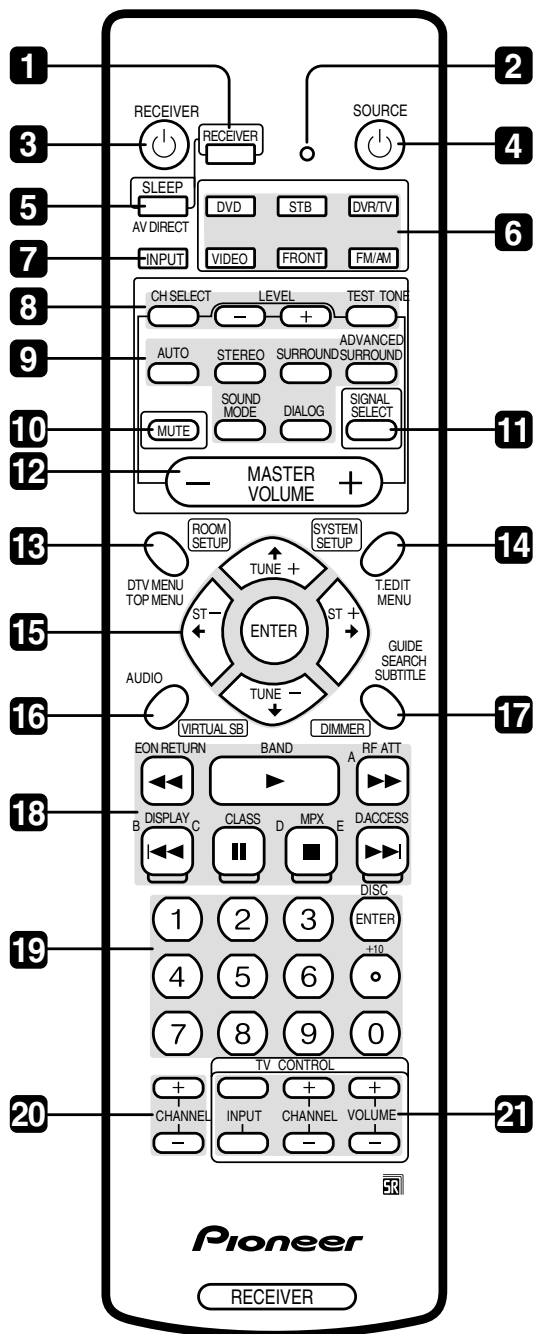
AV connector for the **STB** input.

The table below shows the input and output video formats available for each AV connector.

Connector	Input	Output
DVD	Composite, S-video RGB	—
STB	Composite, S-video RGB	—
VIDEO	Composite, S-video RGB	Composite
DVR/TV	Composite	Composite, S-video RGB

Remote control

Function names printed in green on the remote control are receiver-related functions. Function names printed in blue are for the built-in tuner. Other functions relate to other equipment that you can control using this remote.



1 RECEIVER

Press to put the remote in 'receiver' mode (i.e., the remote controls the receiver functions).

2 LED

Indicates a remote control operation.

3 RECEIVER

Press to switch the receiver on or into standby.

4 SOURCE

Press to switch the current source component on or into standby.

5 AV DIRECT

Press to switch the AV Direct function on / off.

SLEEP (RECEIVER + AV DIRECT)

Use to set the sleep timer.

6 Input/remote control mode select buttons

When the Remote Direct function is set to on (Default is ON), these buttons change the remote mode and the receiver input simultaneously. When set to off, they only switch the remote mode.

DVD

Press to select **DVD** as the current input.

STB

Press to select **STB** (set-top box) as the current input.

DVR/TV

Press to select **DVR/TV** as the current input.

VIDEO

Press to select **VIDEO** as the current input.

FRONT

Press to select **FRONT** (the front panel audio/video inputs) as the current input.

FM/AM

Press to select **FM/AM** (the built-in tuner) as the current input.

7 INPUT

Press to cycle through the various inputs. The current input is shown in the front panel display.

8 Channel setup buttons

CH SELECT

Use to select the speaker channel to adjust.

LEVEL +/-

Use to adjust the output level of the current speaker channel.

TEST TONE

Press to start/stop the test tone.

9 Sound buttons

AUTO

Press to select the **AUTO** (default) sound for the current source (stereo, Dolby Digital, DTS, etc.) and switch off all other sound processing.

STEREO

Press to hear the current source in stereo.

SURROUND

Use to select a **SURROUND** mode for the current source.

ADVANCED SURROUND

Use to select an **ADVANCED SURROUND** mode for the current source.

SOUND MODE

Use to select a **SOUND MODE** for the current source.

DIALOG

Press to switch on/off **DIALOG** (dialog enhancement).

10 MUTE

Press to mute all output. Press again (or adjust the volume using the **MASTER VOLUME** control) to restore the sound.

11 SIGNAL SELECT

Use to select the analog or digital signal for the **DVD,STB,DVR/TV** and **FRONT** inputs.

12 MASTER VOLUME

Use to adjust the volume.

13 ROOM SETUP

Use to select a preset room setup.

14 SYSTEM SETUP

Press to access the **SYSTEM SETUP** menu to make detailed receiver settings.

15 Cursor keys and ENTER

Use to navigate menus and select options/execute commands.

16 VIRTUAL SB

Press to switch on/off the virtual surround back mode.

17 DIMMER

First press **RECEIVER**, then press **DIMMER** repeatedly to change the brightness/switch off the front panel display. The display will light brightly for about two seconds when you operate the receiver with the display off or dimmed. (Note that the master volume indicator always remains lit, even when the rest of the display is off.)

18 Playback controls

Playback controls for external components, such as DVD and CD players.

Functions printed in blue control the built-in tuner; other functions control other external equipment.

19 Number buttons

Use for numerical input of track numbers, radio frequencies, and so on.

20 CHANNEL +/-

Use to change channels on a satellite receiver, cable box, VCR or DVR.

21 TV CONTROL buttons

Use to control your TV (after setting up the remote control to work with your TV).

Clearing preset codes

This restores all presets to the factory defaults. See Using the remote control with other components for the default remote settings.

- Press **RECEIVER** and number button '0' (zero) at the same time. Keep them pressed for about 3 seconds.

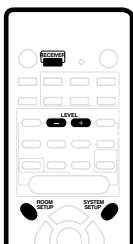
The LED on the remote control blinks three times indicating all the preset codes have been cleared.

The default preset codes are shown in the table.

Input/control mode select button	Preset code	Component (manufacturer)
DVD	020	DVD (Pioneer)
STB	200	STB (Pioneer)
DVR/TV	459	DVD recorder (Pioneer)
VIDEO	600	TV (Pioneer)
FRONT	100	LD (Pioneer)
FM/AM	n/a	(built-in tuner)
TV CONTROL	600	TV (Pioneer)

Resetting the system

Use this feature to reset the system to its factory default settings.



1 Press RECEIVER

2 In standby, press ROOM SETUP and SYSTEM SETUP at the same time.

The display prompts you to confirm.

3 Within 5 seconds, press LEVEL –.

The display shows **OK**.

4 Within 5 seconds, press LEVEL +.

The receiver should now be reset.



Note

- If the receiver is disconnected from the power outlet for more than a month it will reset to the default settings.
- The above reset doesn't affect the presets that you have programmed into the remote control (see Using the remote control with other components).

Default receiver settings

The table below shows the factory default settings. When you reset the system, the receiver reverts to these defaults.

Setting type	Default setting
Input	DVD
Master volume	— — — dB (no sound)
Listening mode	AUTO (all inputs)
Listening mode (w/ headphones)	STEREO (all inputs)
Sound mode	OFF
Dialog	OFF
Virtual Surround Back	OFF
Input signal select	AUTO
Speakers (Front, Center, Surround) Setting	Automatically sensed
Subwoofer setting	200 Hz
LFE Attenuator	0 dB
Front speaker distance	2.0 m
Center speaker distance	2.0 m
Surround speaker distance	2.0 m
Dynamic Range Control	OFF
Dual Mono	ch1
Input Attenuator	OFF (all inputs)
DVD(STB) COAX jack assignment	DVD
STB(DVD) OPT1 jack assignment	STB
Setting the volume level of each channel	Front: 0 dB Center: 0 dB Surround: 0 dB Subwoofer: 0 dB
AV Direct setting	MANUAL
Auto Input Select setting	MANUAL
Room Setup	M / MID



Note

- The default settings for the remote control to control other components can be found in Using the remote control with other components.