

Service Manual



VSX-C301-S

ORDER NO.
RRV2753

AUDIO/VIDEO MULTI-CHANNEL RECEIVER

VSX-C301-S

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

Model	Type	Power Requirement	Remarks
VSX-C301-S	KUCXU	AC120V	



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

SAFETY INFORMATION



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

WARNING

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

Health & Safety Code Section 25249.6 – Proposition 65

NOTICE

(FOR CANADIAN MODEL ONLY)

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

REMARQUE

(POUR MODÈLE CANADIEN SEULEMENT)

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

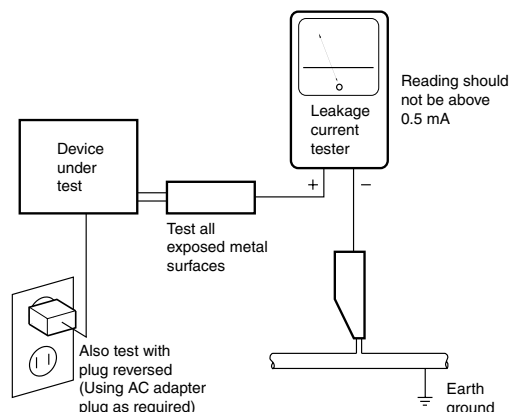
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

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

LEAKAGE CURRENT CHECK

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



AC Leakage Test

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

2. PRODUCT SAFETY NOTICE

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

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

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

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

[Important symbols for good services]

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

1. Product safety



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

2. Adjustments



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

3. Cleaning



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

4. Shipping mode and shipping screws



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

5. Lubricants, glues, and replacement parts



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

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1. SPECIFICATIONS

Amplifier section

Continuous average power output of 28 watts* per channel, min., at 6 ohms, from 20 Hz to 20,000 Hz with no more than 0.9 % total harmonic distortion (front).**

Continuous Power Output (STEREO mode)

Front. 28 W + 28 W
(FTC 20–20 kHz, THD 0.9 %, 6 Ω)

RMS Power Output

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

Audio section

Input (Sensitivity/Impedance) 200 mV/47 k Ω
Output (Level/Impedance)
DVR/VCR. 200 mV/2.2 k Ω

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

** Measured by Audio Spectrum Analyzer.

Video section

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

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

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

FM tuner section

Frequency Range. 87.5 MHz to 108 MHz
Usable Sensitivity. Mono: 13.2 dBf, IHF (1.3 μ V/ 75 Ω)
50 dB Quieting Sensitivity. Mono: 20.2 dBf
Stereo: 38.6 dBf
signal to noise ratio Mono: 76.0 dB (at 85 dBf)
Stereo: 72.0 dB (at 85 dBf)
Distortion Stereo: 0.6 % (1 kHz)
Alternate Channel Selectivity 60 dB (400 kHz)
Stereo Separation. 40 dB (1 kHz)
Frequency Response 30 Hz to 15 kHz (\pm 1dB)
Antenna Input (DIN) 75 Ω unbalanced

AM tuner section

Frequency Range. 530 kHz to 1,700 kHz (10kHz step)
Sensitivity (IHF, Loop antenna). 350 μ V/m
Selectivity 30 dB
Signal-to-Noise Ratio. 50 dB
Antenna. Loop antenna

Miscellaneous

Power Requirements. AC 120 V, 60 Hz
Power Consumption 130 W
In standby. 0.3 W
Dimensions. 16 9/16(W) x 2 13/16(H) x 15 1/8 (D) in.
Weight (without package) 14 lb 6 oz

Furnished parts

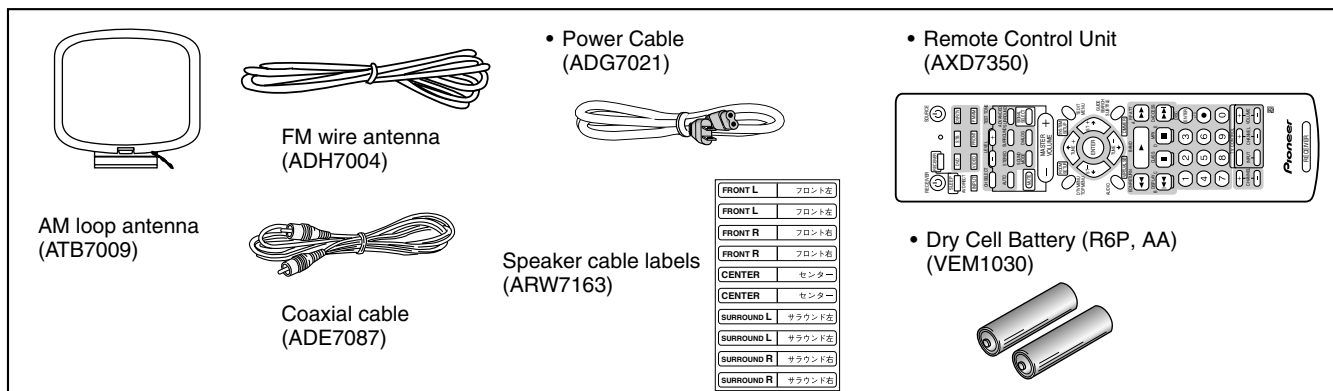
AM loop antenna 1
FM wire antenna. 1
Dry cell batteries (AA size IEC R6P) 2
Remote control unit. 1
Power cable 1
Coaxial cable 1
Speaker cable labels 1
Operating instructions. 1
Warranty card. 1



Note


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

● Accessories



2. EXPLODED VIEWS AND PARTS LIST

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

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

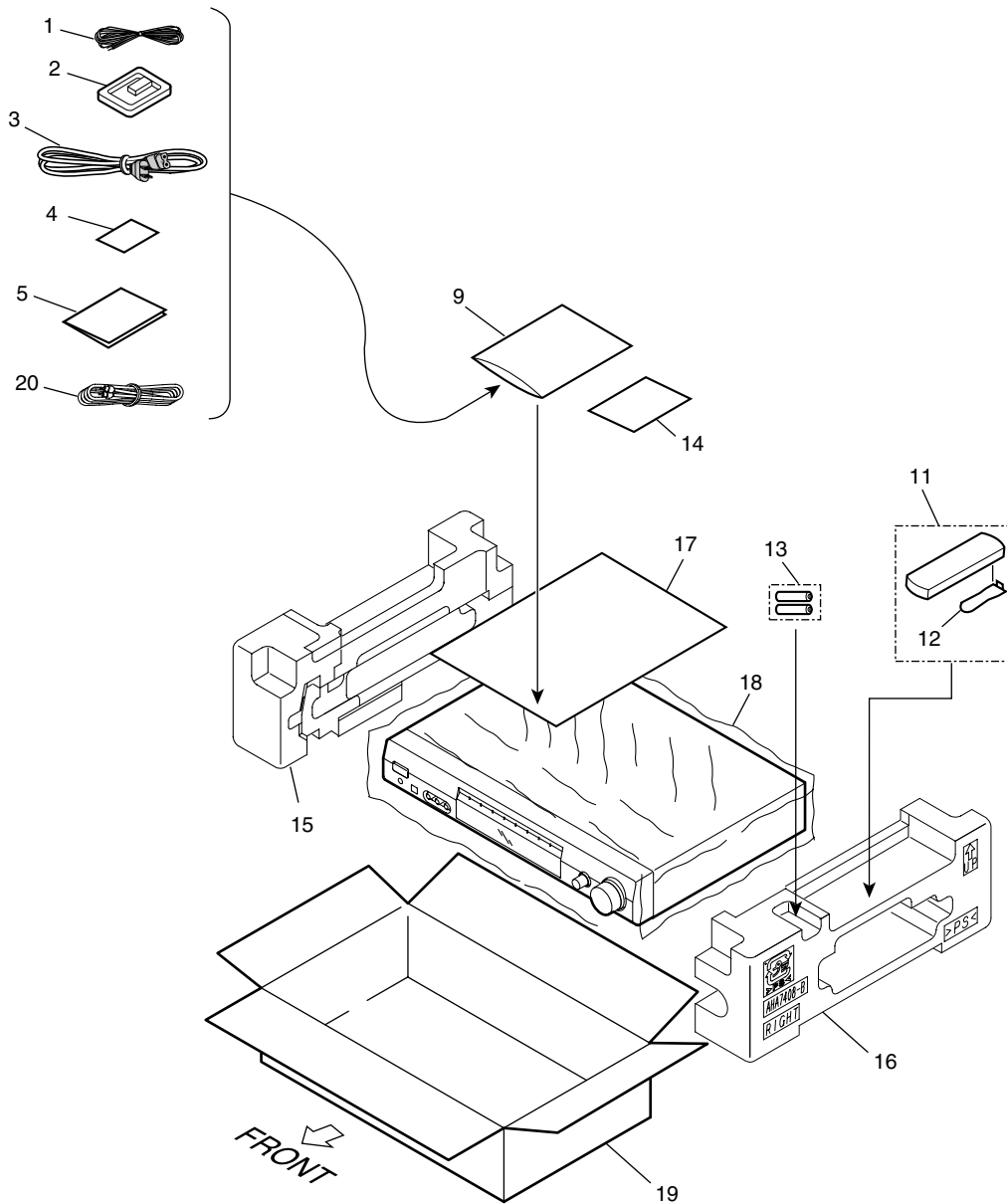
Therefore, when replacing, be sure to use parts of identical designation.

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

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

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

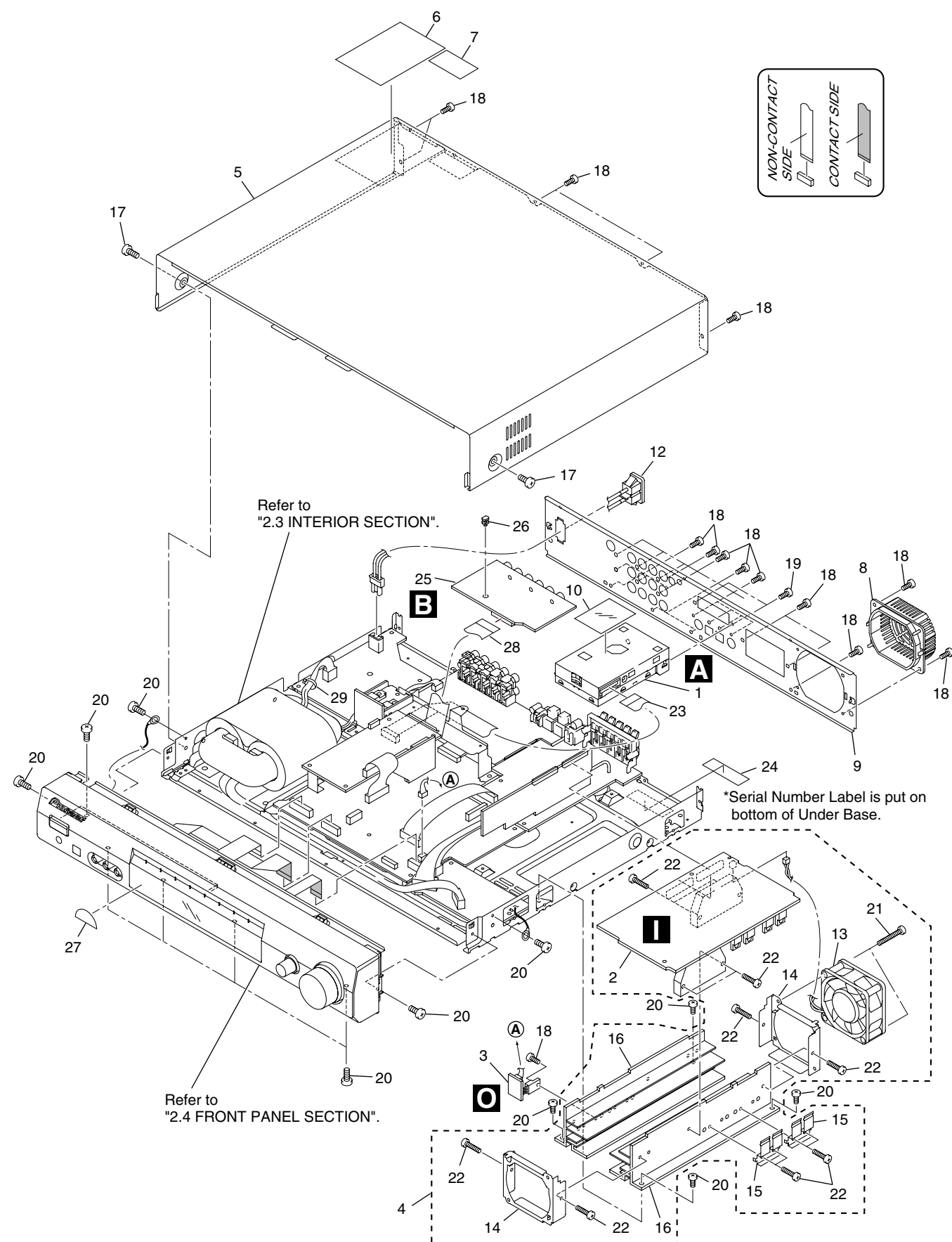
2.1 PACKING




PACKING parts List

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
1	FM Wire Antenna	ADH7004
2	AM Loop Antenna	ATB7009
⚠ 3	Power Cable	ADG7021
4	Speaker Cable Label	ARW7163
5	Operating instructions 301 (English)	ARE7328
6	•••••	
7	•••••	
8	•••••	
NSP 9	Polyethylene Bag (0.03*230*340)	Z21-038
10	•••••	
11	Remote Control Unit	AXD7350
12	Battery Cover	AZA7424
NSP 13	Dry cell batteries (R6P,AA)	VEM1030
NSP 14	Warranty Card	ARY7045
15	Left Pad 301	AHA7407
16	Right Pad 301	AHA7408
17	Spacer	AHB7088
18	Packing Sheet	AHG7015
19	Packing Case	AHD8158
20	Coaxial Cable	ADE7087

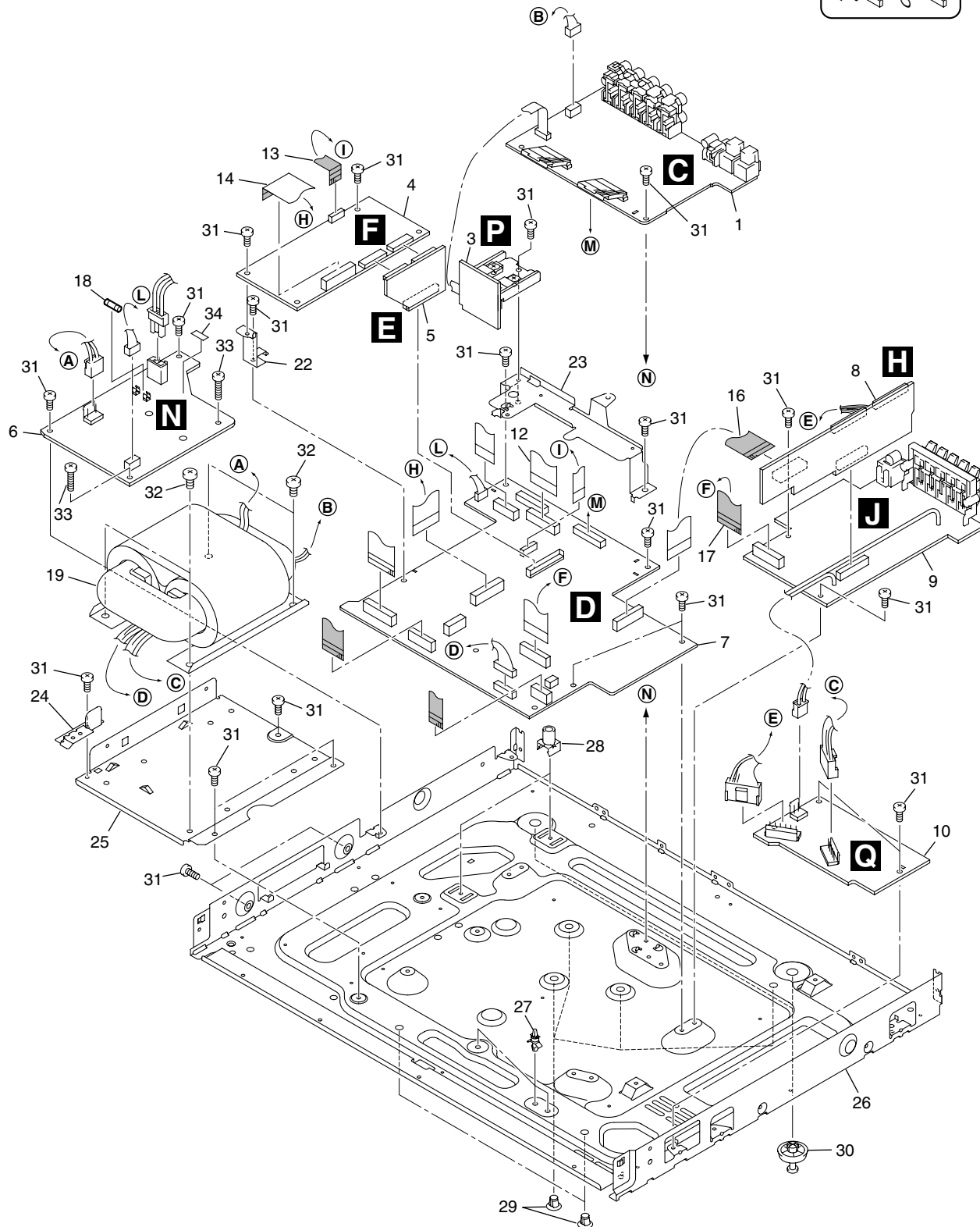
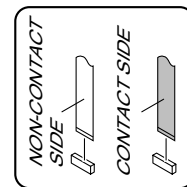
2.2 EXTERIOR SECTION





EXTERIOR SECTION parts List

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
1	FM/AM TUNER MODULE	AXQ7245
2	6CH AMP Assy	AWM7786
3	D5V Assy	AWX8224
NSP 4	AMP MODULE 6CH	AXQ7247
5	Bonnet Case	AZN7934
6	Label	ARW7217
7	License Label	ARW7220
8	Fan Cover	AMR7446
9	Rear Panel 301SKU	ANC8157
10	Tuner Barrier	AEC7383
11	•••••	
 12	AC Inlet Assy	VKP2126
13	DC Fan Motor	AXM7025
14	Fan Plate	ANG7462
15	FET Bracket A	ANG7418
NSP 16	Heat Sink	ANH7161
17	Screw	BCZ40P060FNI
18	Screw	BBZ30P080FZK
19	Screw	PPZ30P100FZK
20	Screw	BBZ30P060FMC
21	Screw	BBZ30P300FZK
22	Screw	BBZ30P140FMC
23	J1905 13P FFC/60V	ADD7402
NSP 24	Label	VRW1629
25	VIDEO Assy	AWX8225
NSP 26	PCB Spacer	AEC7156
NSP 27	Energy Star Label	AAX7876
28	J1911 19P FFC/60V	ADD7422
NSP 29	Binder	ZCA-BK1

2.3 INTERIOR SECTION



INTERIOR SECTION parts List

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
1	AUDIO-INPUT Assy	AWX8227
2	•••••	
3	12V Assy	AWX8170
4	DSP Assy	AWX8241
5	DSP KAWA Assy	AWX8167
6	PRIMARY Assy	AWX8190
7	MOTHER Assy	AWX8197
8	AMP KAWA Assy	AWX8223
9	AMP OUT Assy	AWX8177
10	VHVL Assy	AWX8259
11	•••••	
12	J1911 19P FFC/60V	ADD7422
13	J1906 10P FFC/60V	ADD7405
14	J1909 19P FFC/60V	ADD7422
15	•••••	
16	J1901 17P FFC/60V	ADD7398
17	J1904 17P FFC/60V	ADD7401
 18	FU1 Fuse (6.3A)	REK1069
 19	T1 Power Transformer	ATS7347
20	•••••	
21	•••••	
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
NSP 34	Fuse Card	AAX2374

2.4 FRONT PANEL SECTION

A

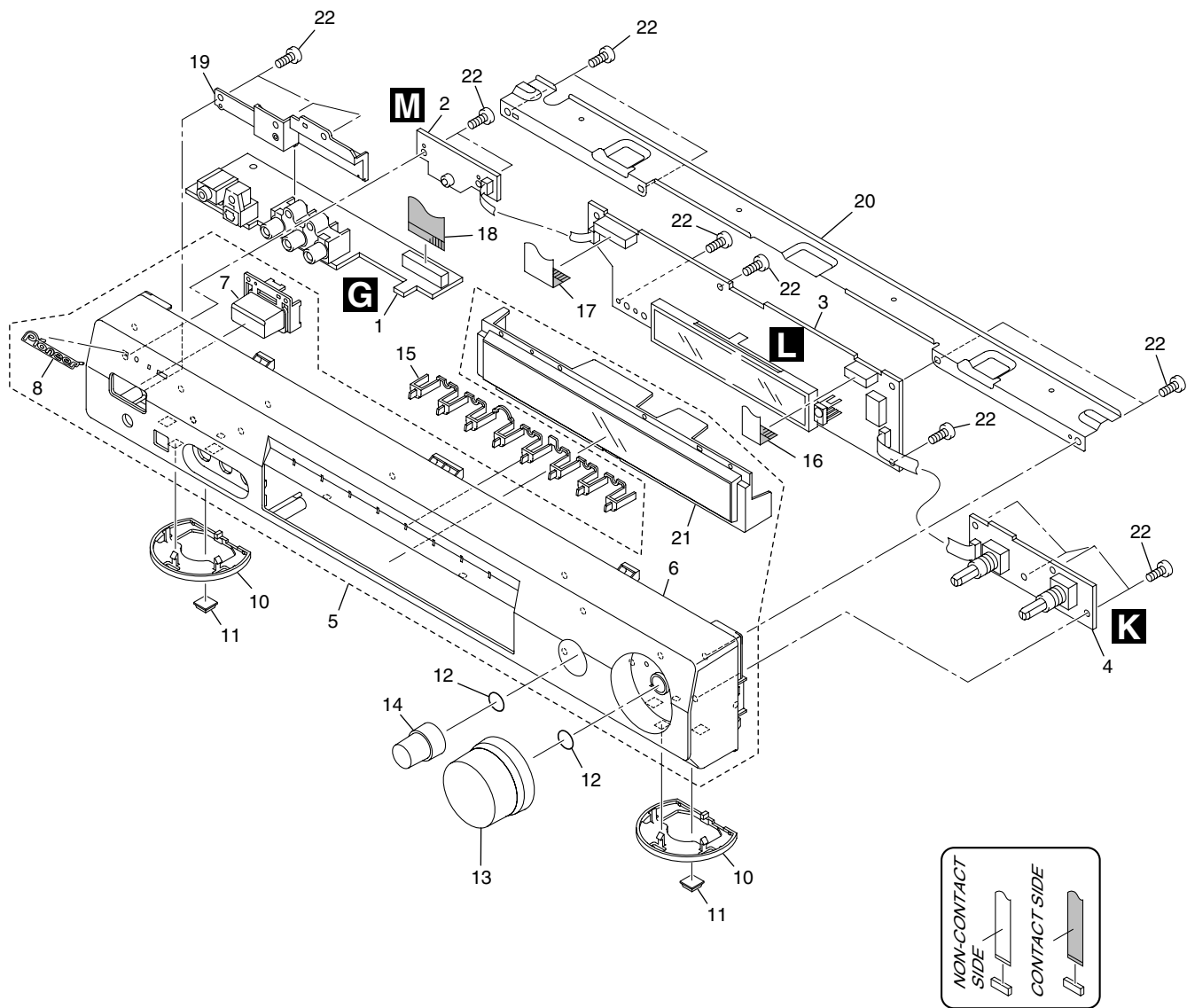
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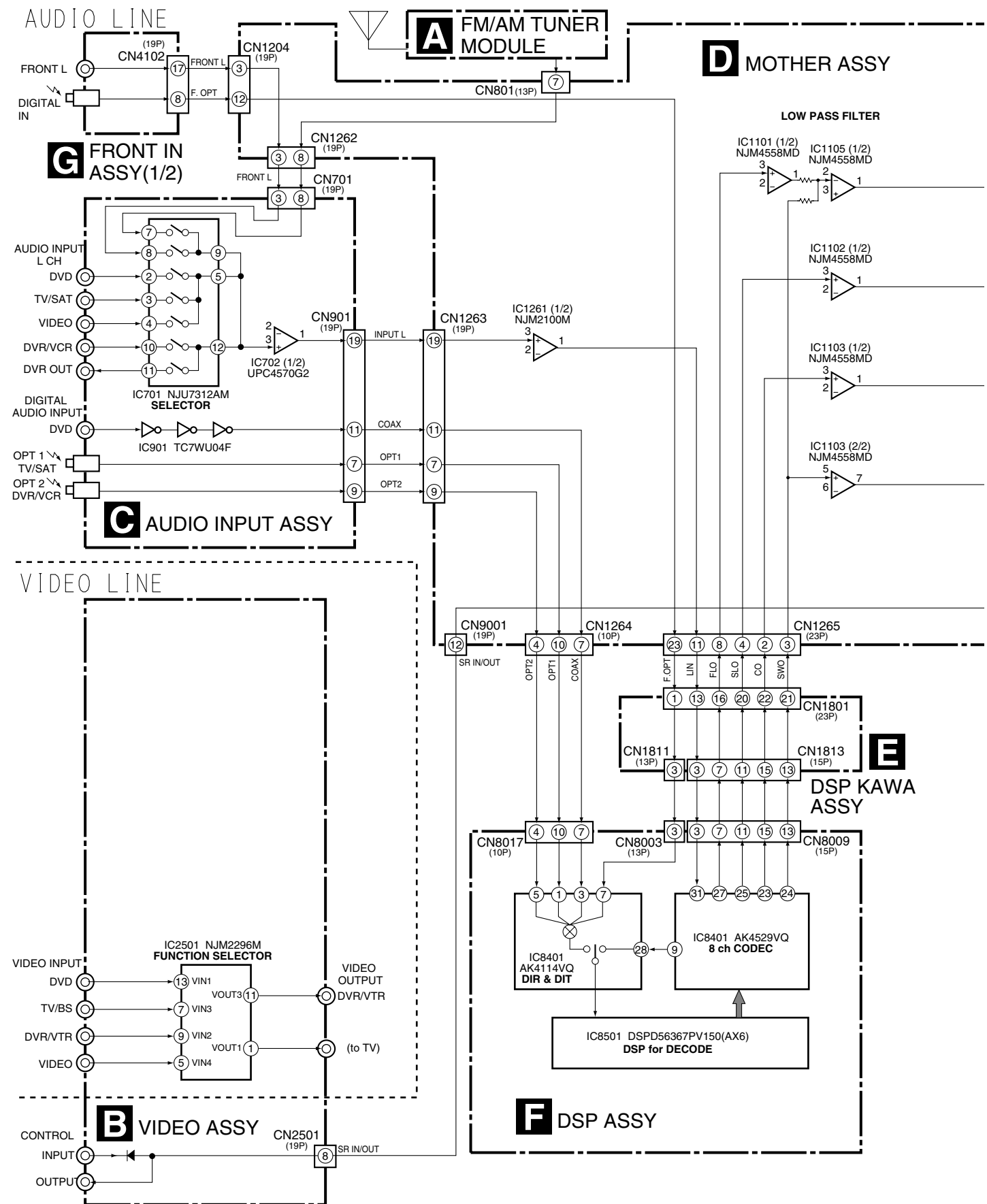
FRONT PANEL SECTION parts List

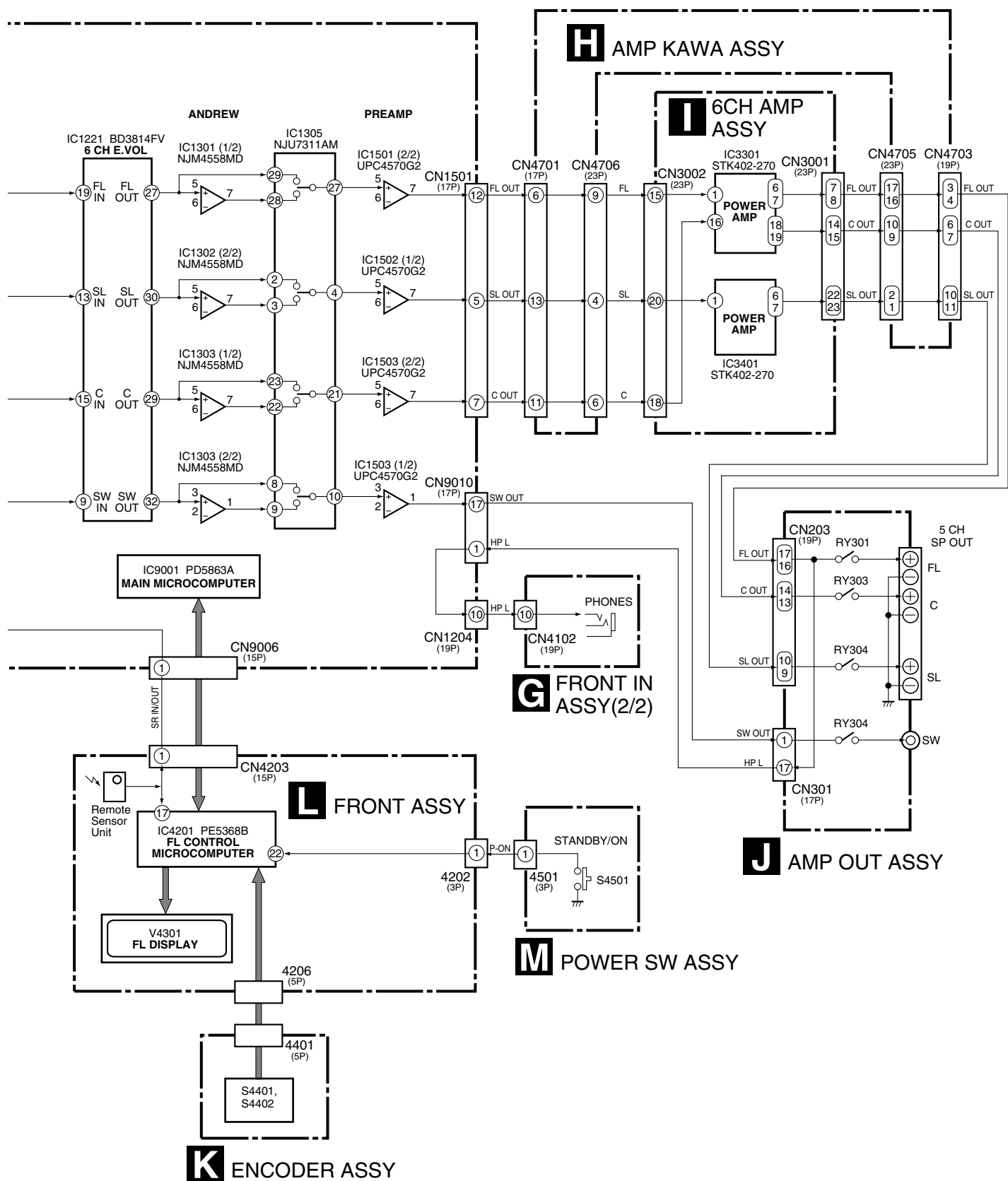
<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
1	FRONT IN Assy	AWX8219
2	POWER SW Assy	AWX8174
3	FRONT Assy	AWX8199
4	ENCODER Assy	AWX8175
5	Front Panel Assy	AXG7186
6	Front Panel	AMB7839
NSP 7	Power Button	AAD7696
8	PIONEER Name Plate	VAM1129
9	•••••	
10	Insulator Ring	AAK8091
11	Rubber Foot	VEB1325
12	VOL Ring	ABH7220
13	Volume Knob	AAB7252
14	Select Knob	AAB7254
15	LED Lens 301	AAK8084
16	J1903 9P FFC/60V	ADD7400
17	J1902 15P FFC/60V	ADD7399
18	J1911 19P FFC/60V	ADD7422
19	Jack Cover	AMR7447
20	Front Frame	ANG7445
NSP 21	Display Window 301	AAK8083
22	Screw	PPZ30P080FMC

3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

3.1 BLOCK DIAGRAM

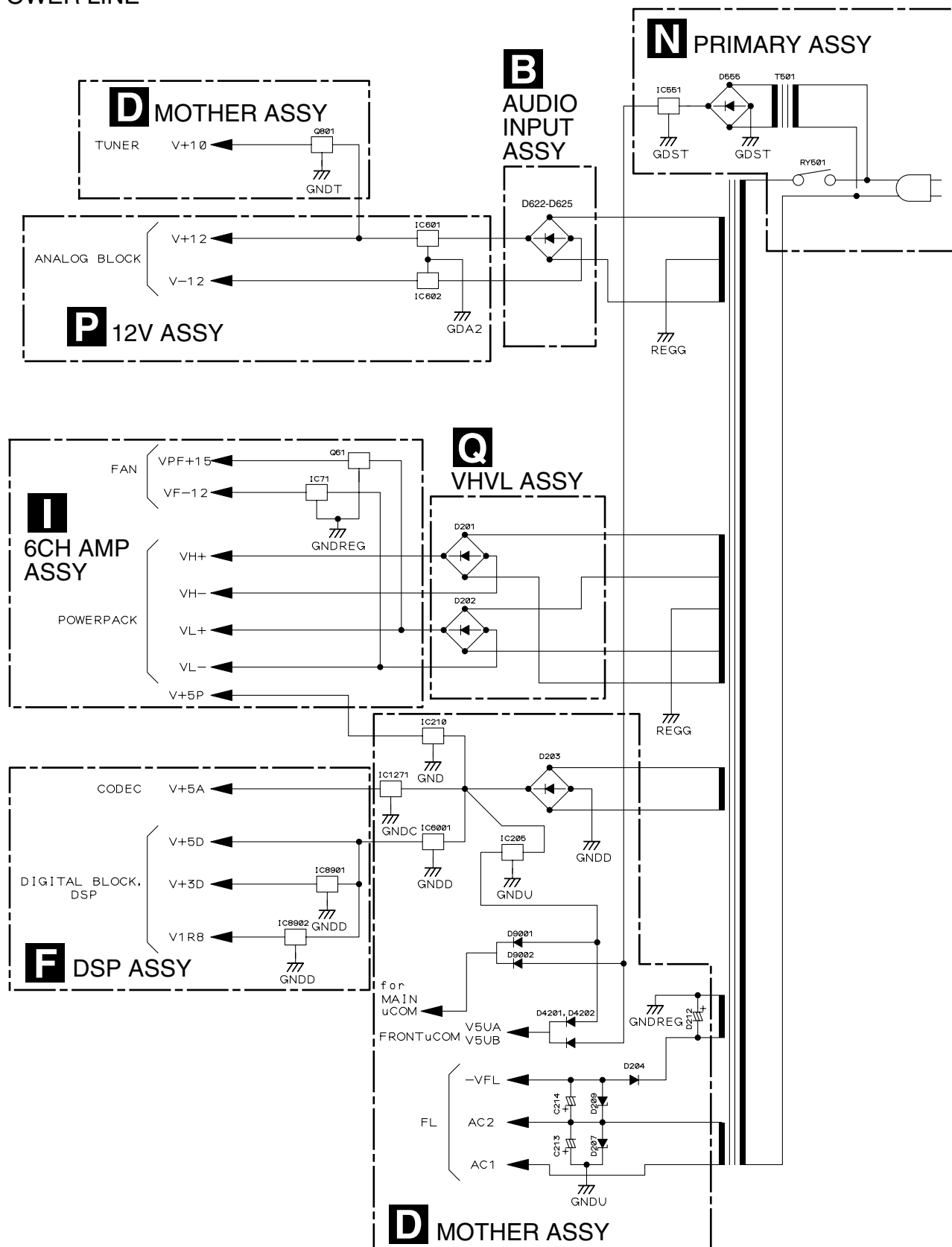
3.1.1 AUDIO AND VIDEO BLOCK





3.1.2 POWER SUPPLY BLOCKS

POWER LINE





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VSX-C301-S



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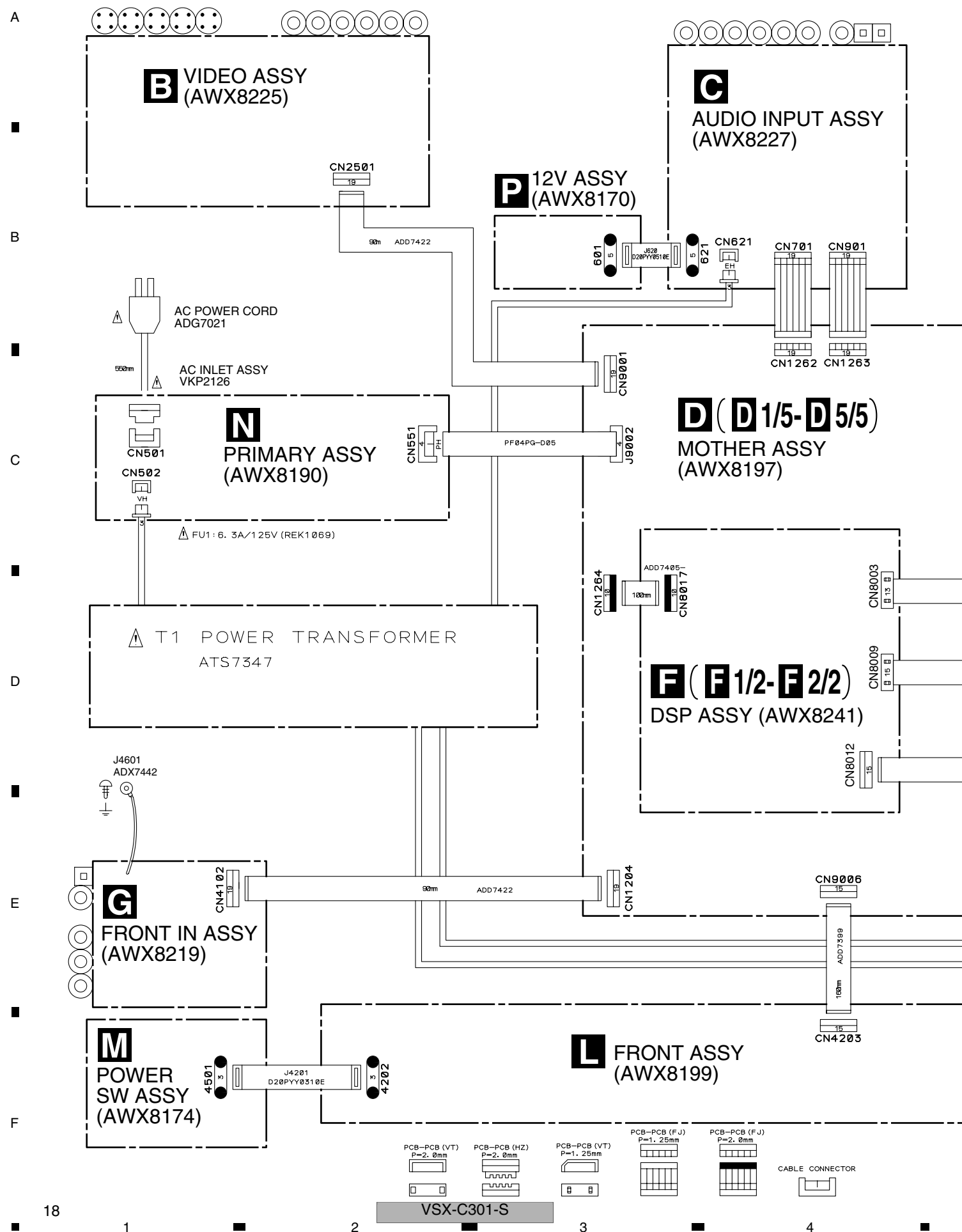


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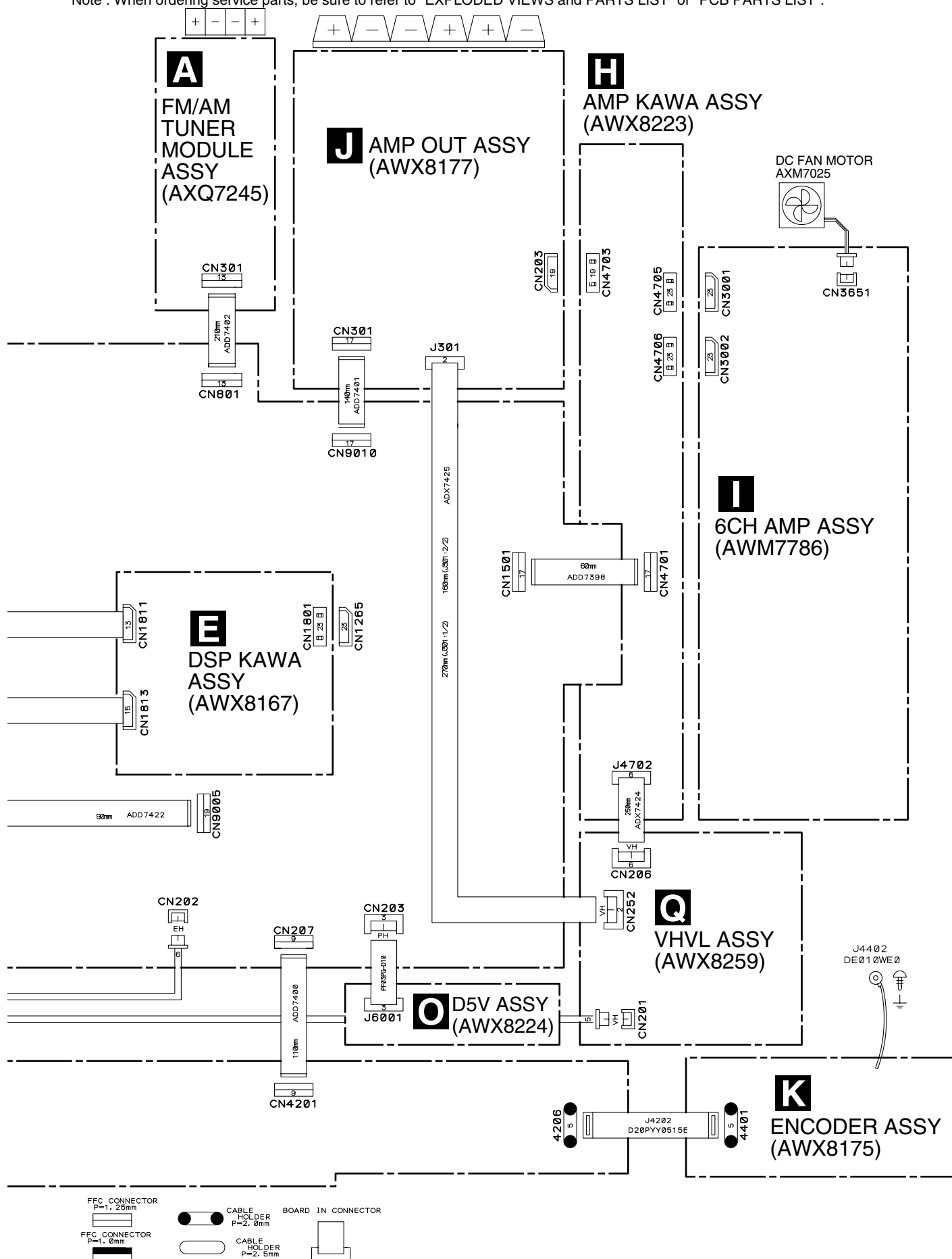
17



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

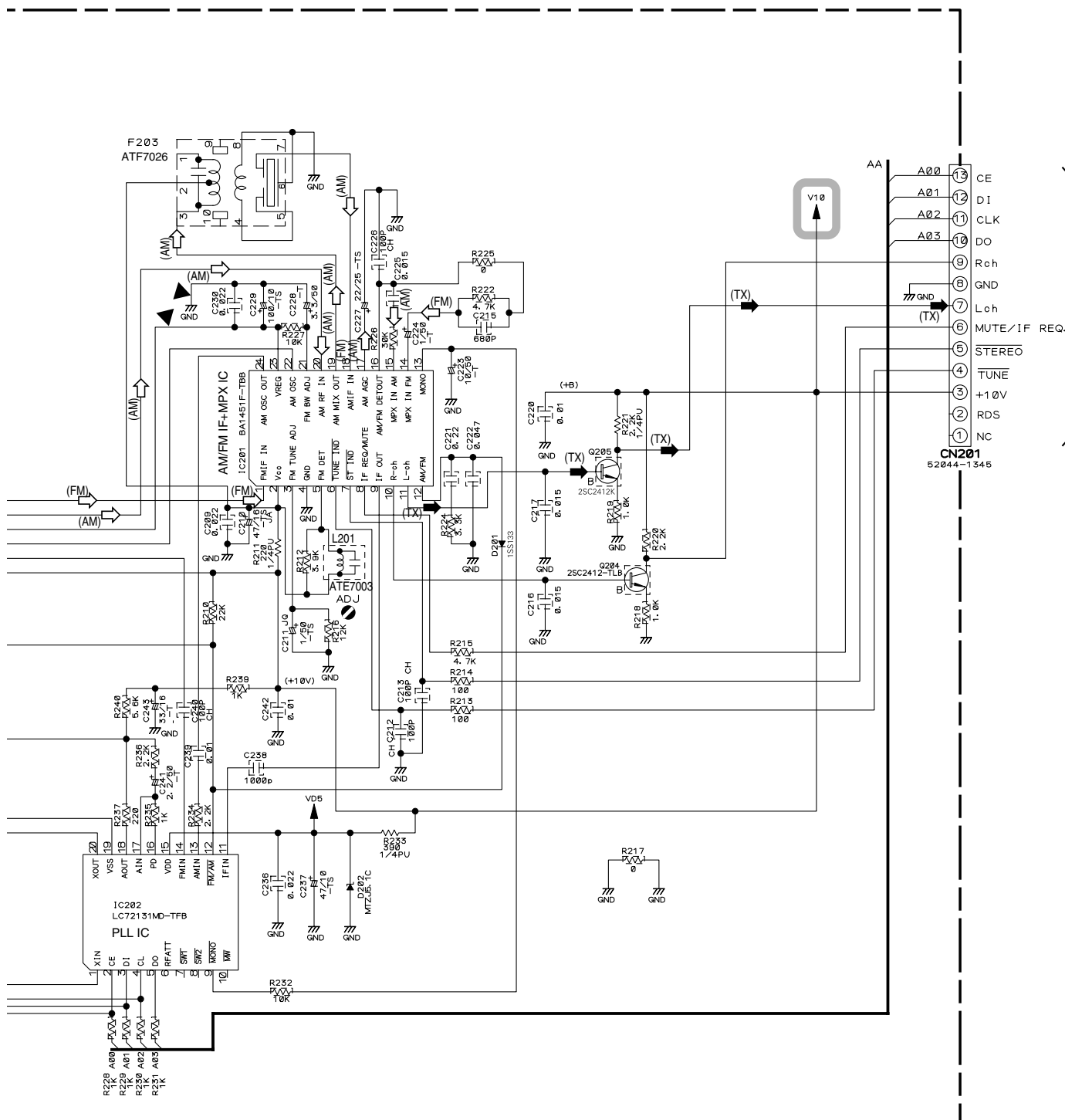
No mark diode is 1SS133.

 : The power supply is shown with the marked box.

 : AUDIO SIGNAL ROUTE (TUNER)

 : AM SIGNAL ROUTE

 : FM SIGNAL ROUTE





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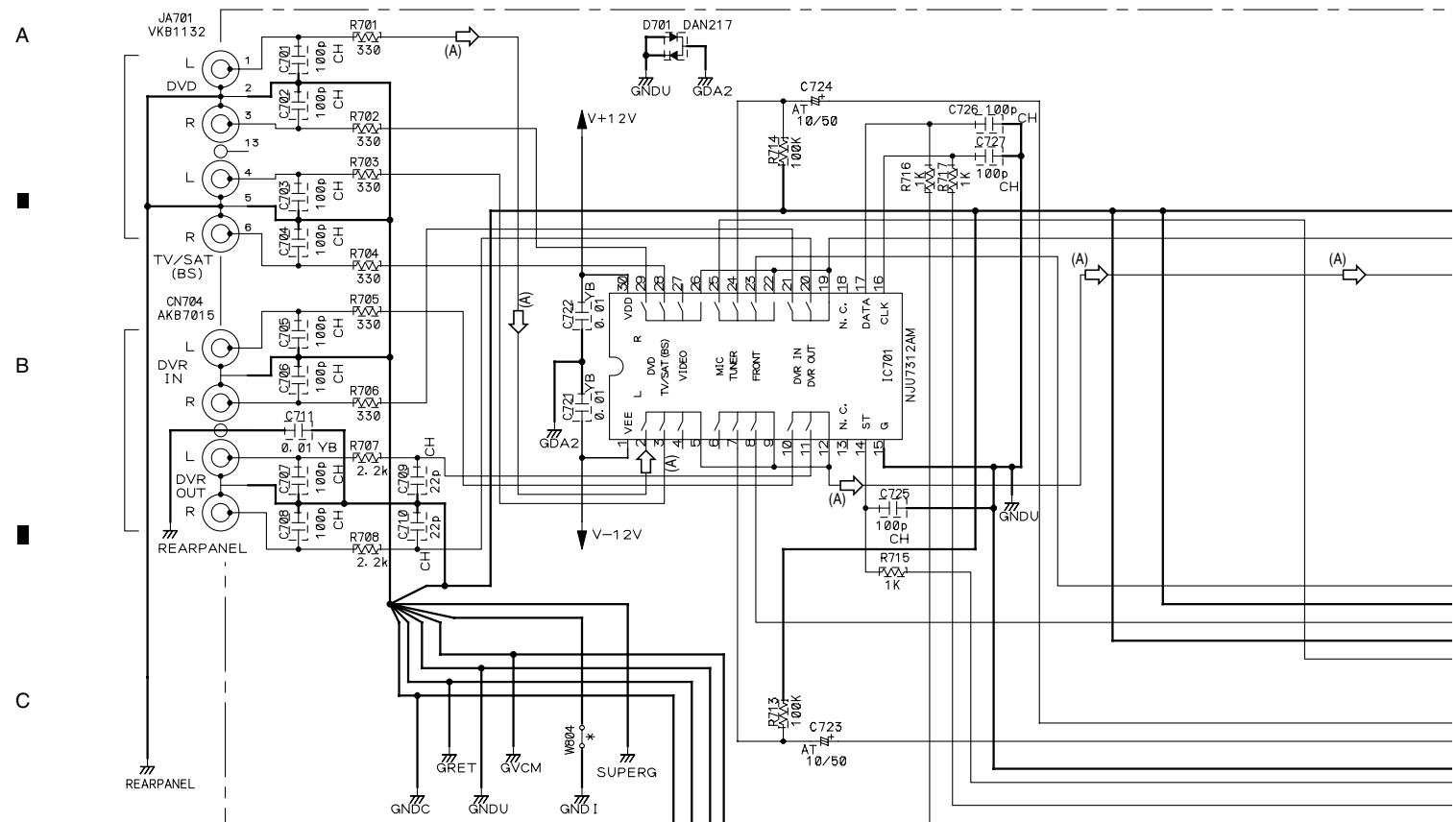


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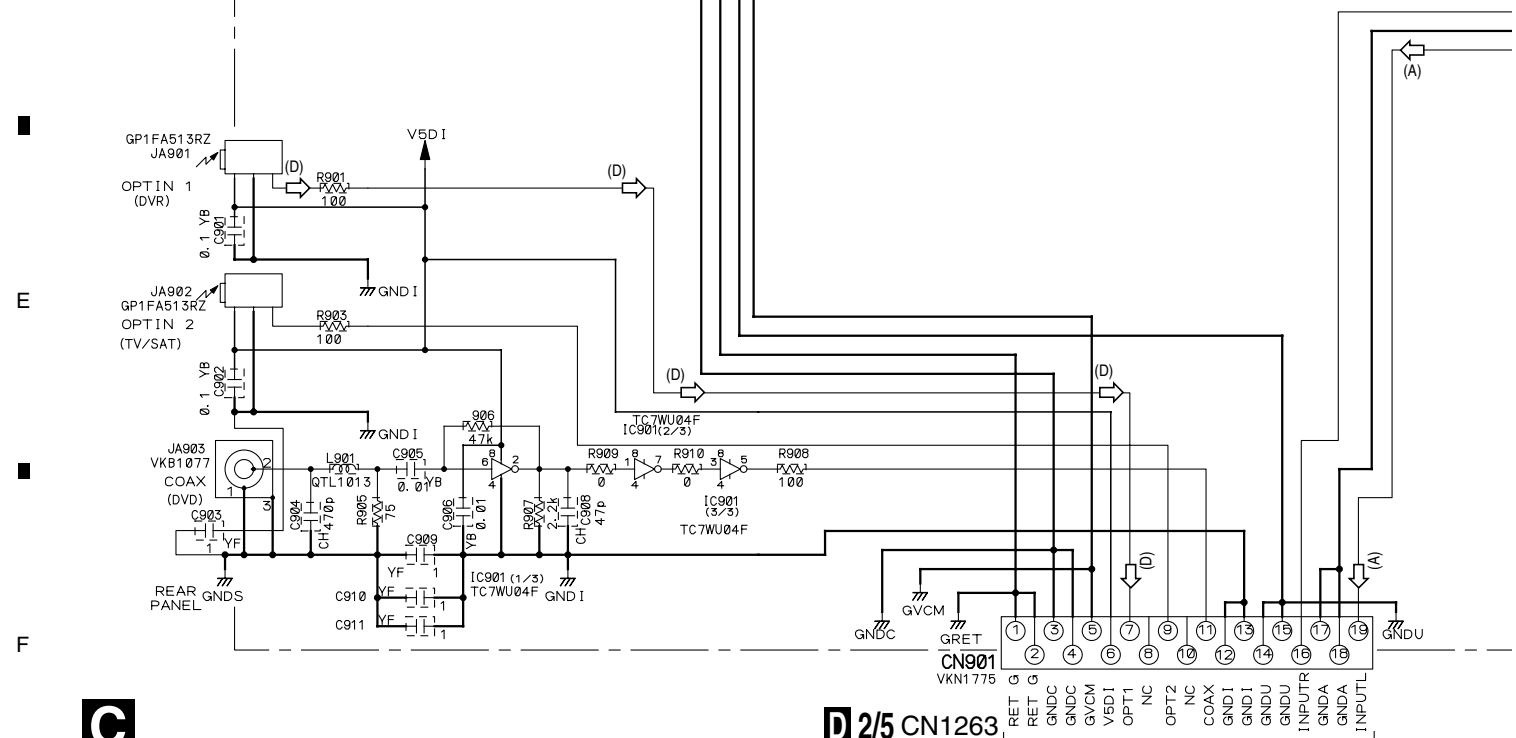


VSX-C301-S

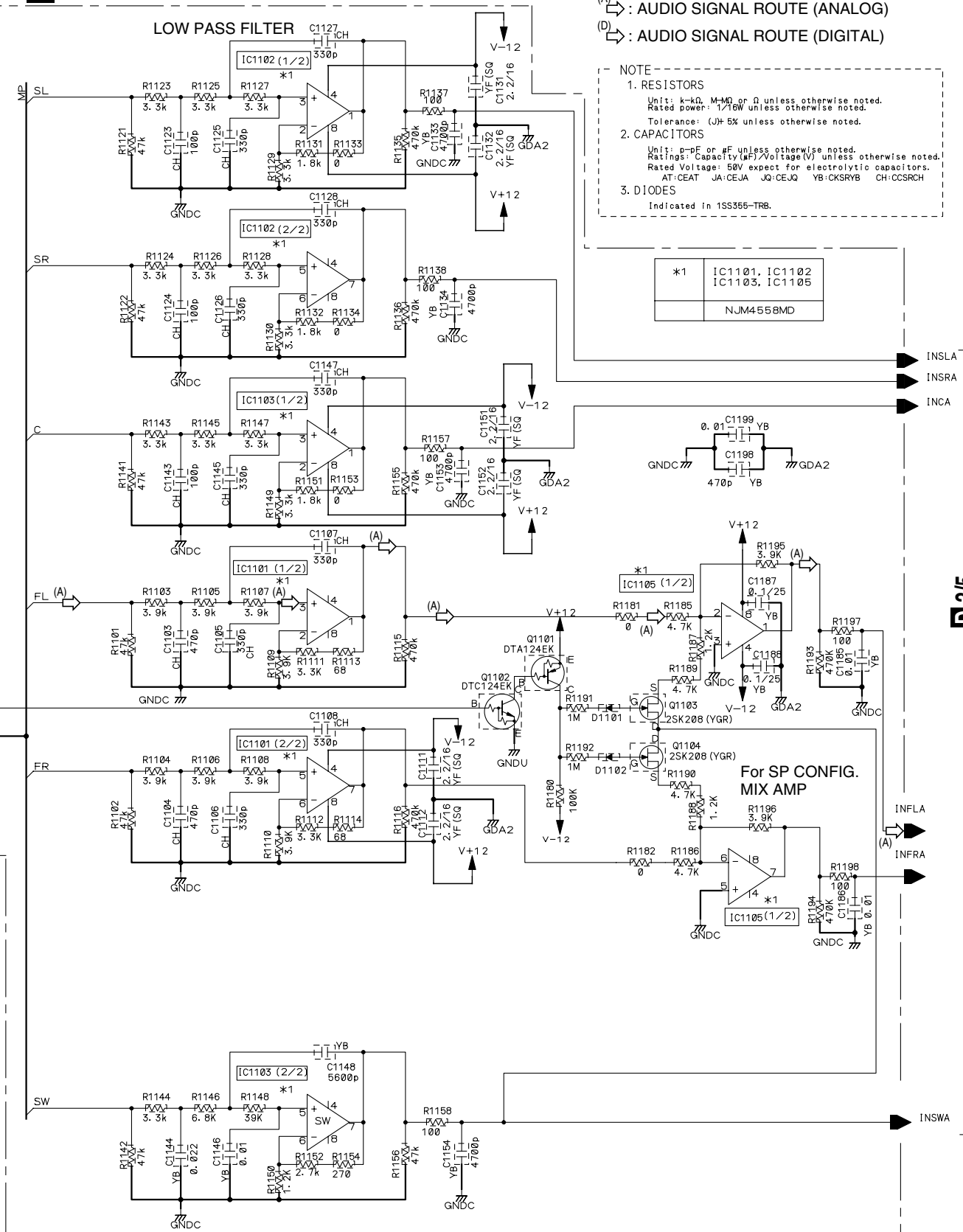
3.5 AUDIO INPUT ASSY



C AUDIO INPUT ASSY
(AWX8227)



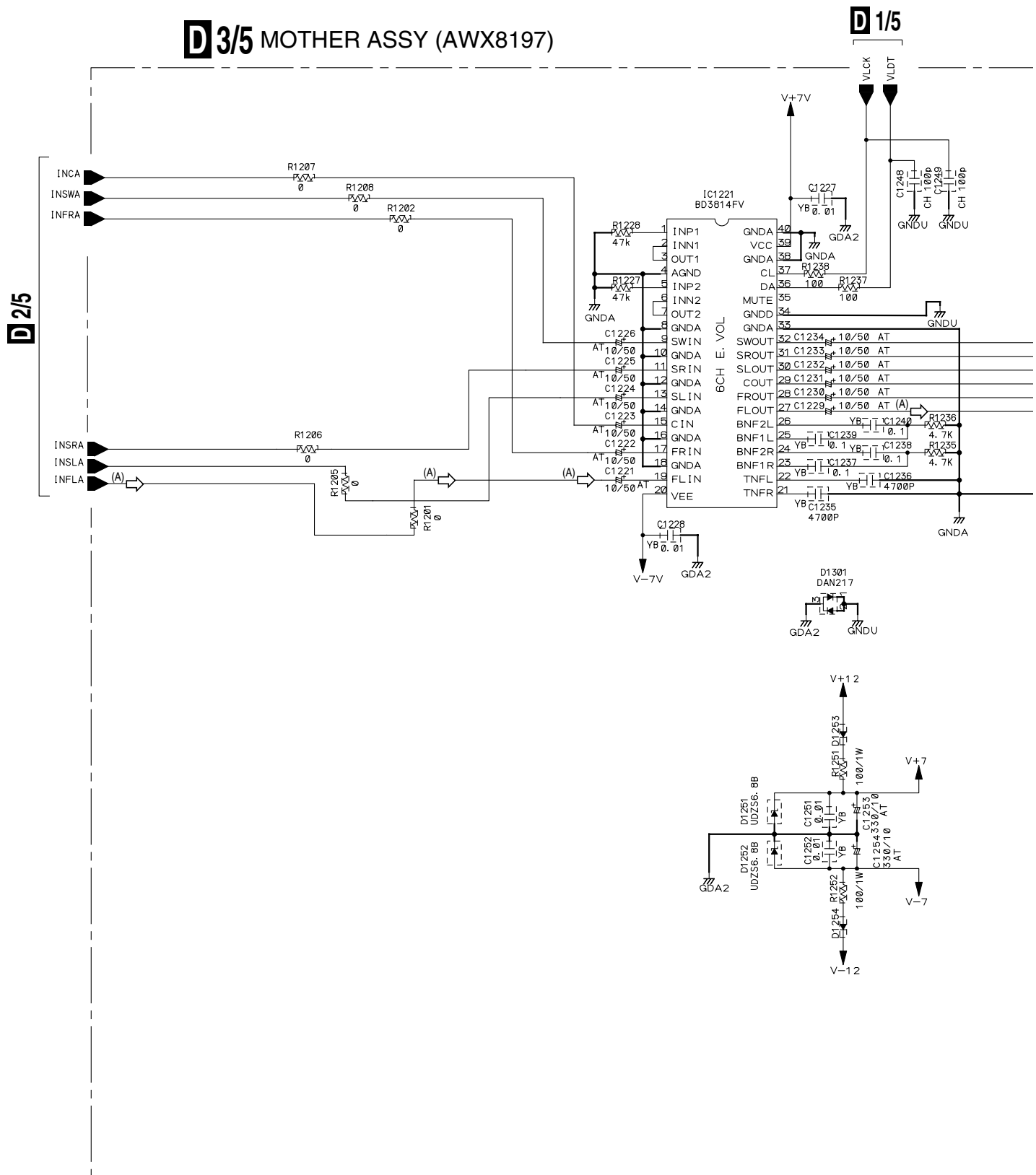
D2/5 MOTHER ASSY (AWX8197)



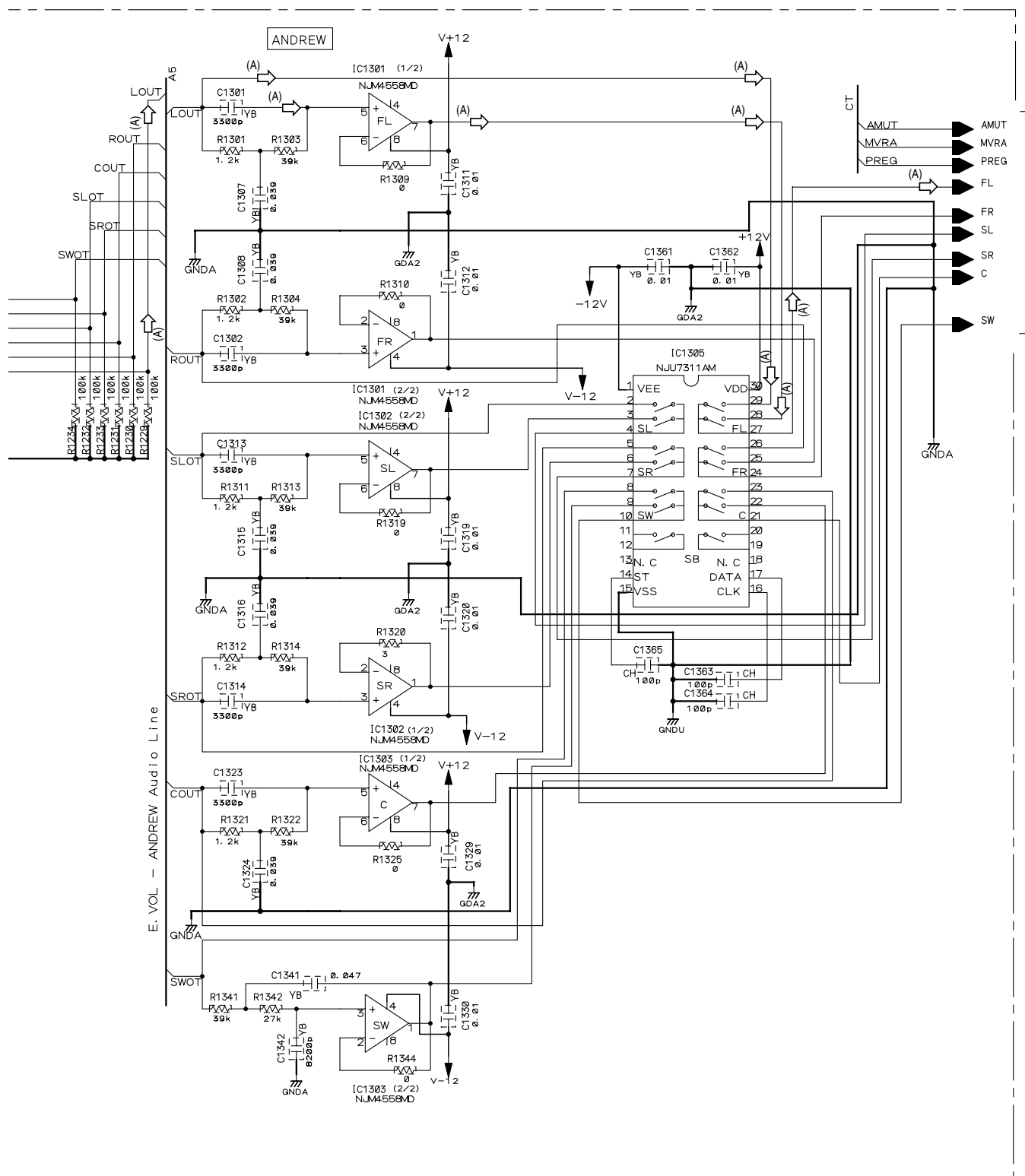
: The power supply is shown with the marked box.

D2/5

3.8 MOTHER ASSY (3/5)



D 3/5



NOTE

1. RESISTORS

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

2. CAPACITORS

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

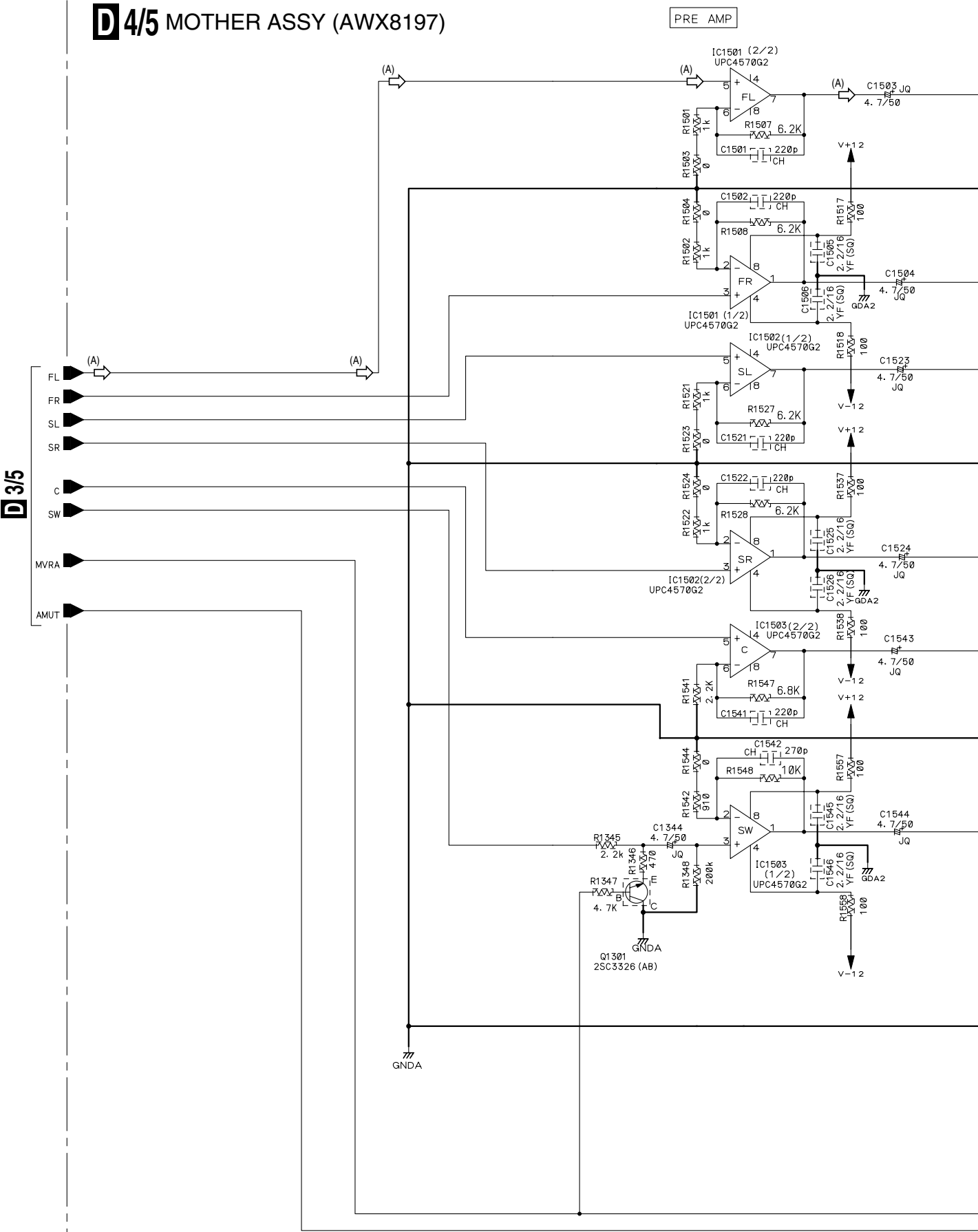
3. DIODES

Indicated in 1S355-TRB.

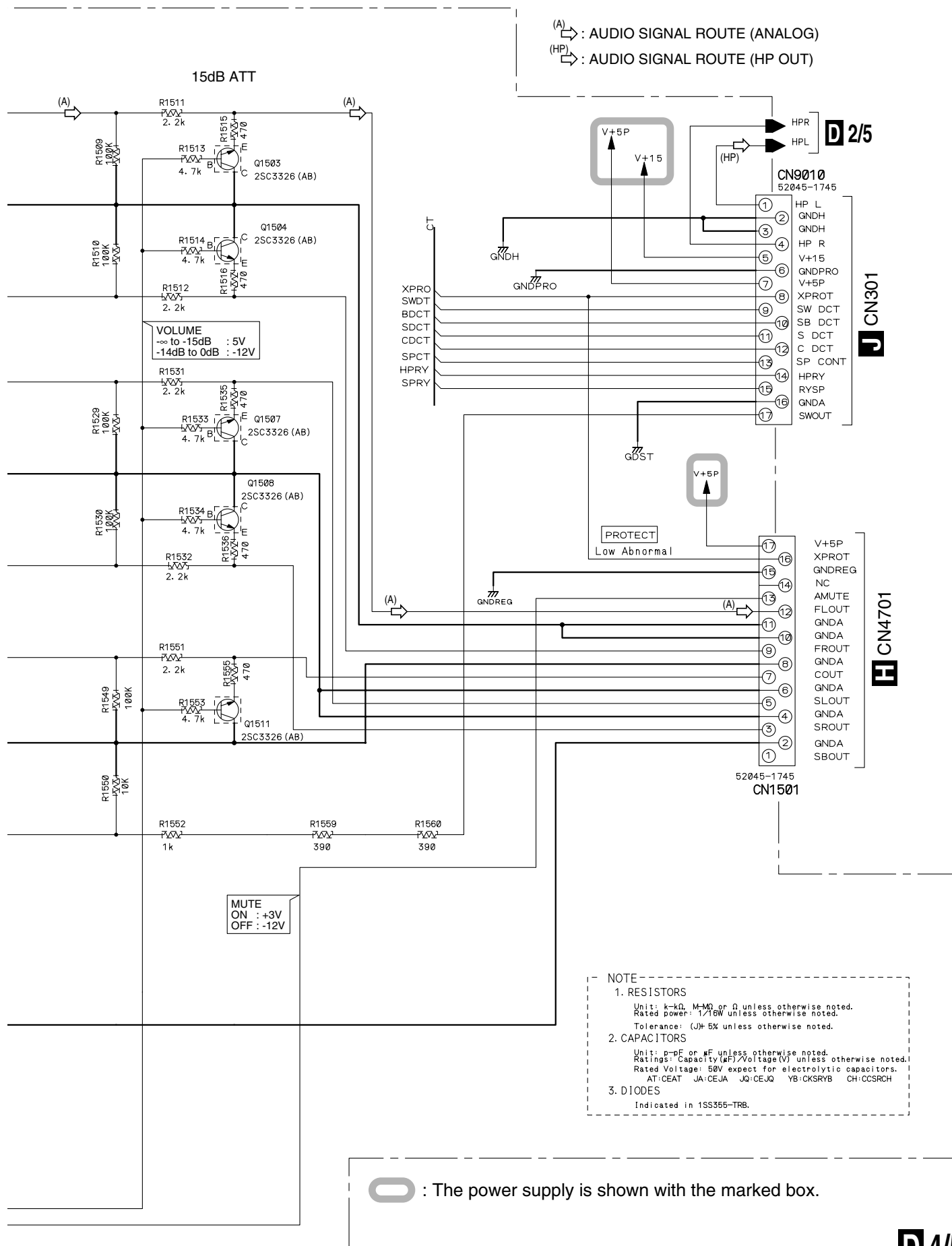
(A) : AUDIO SIGNAL ROUTE (ANALOG)

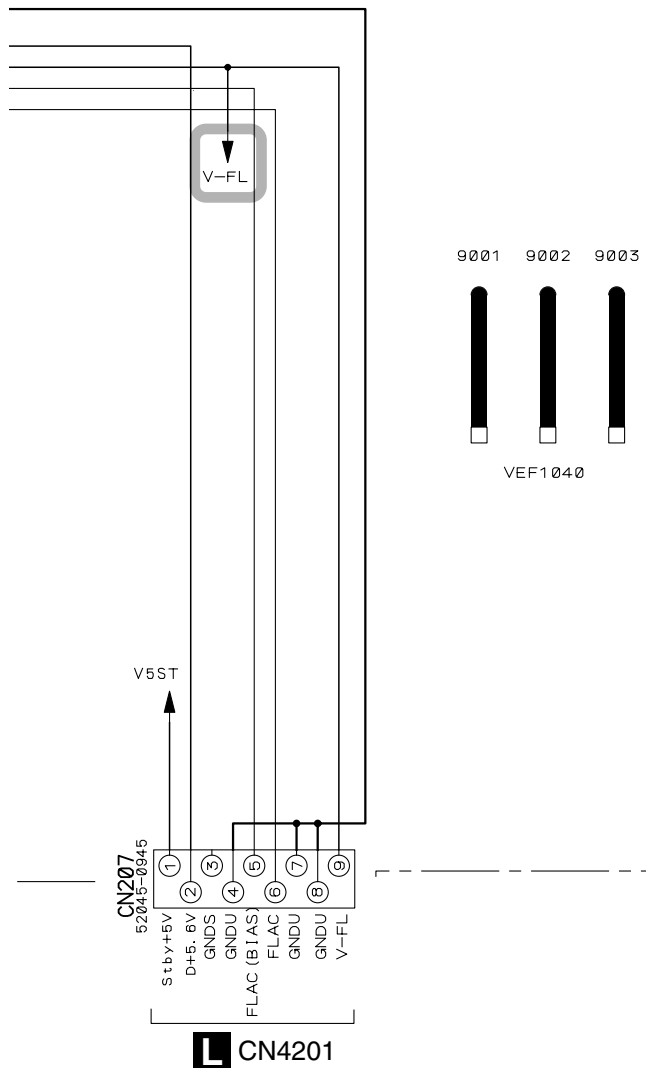
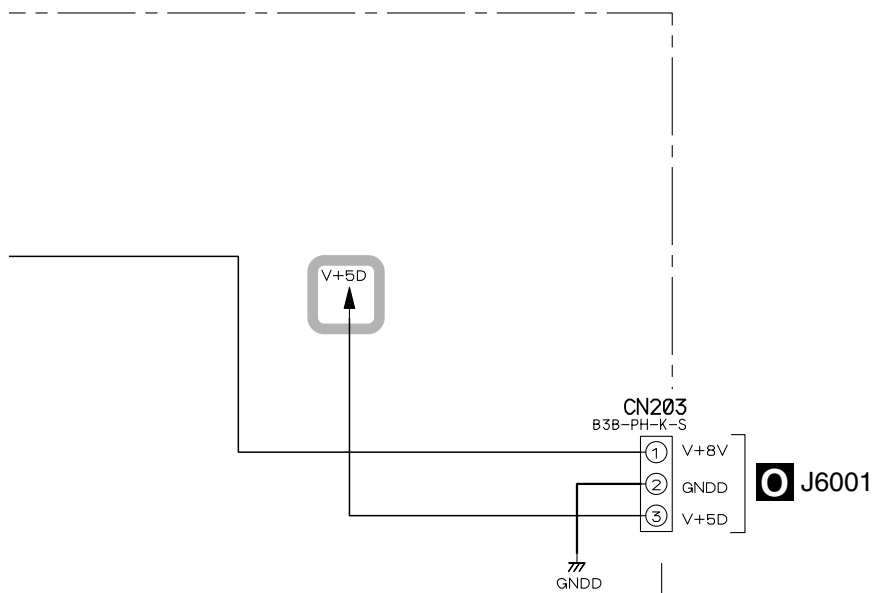
3.9 MOTHER ASSY (4/5)

D 4/5 MOTHER ASSY (AWX8197)



D 4/5





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)

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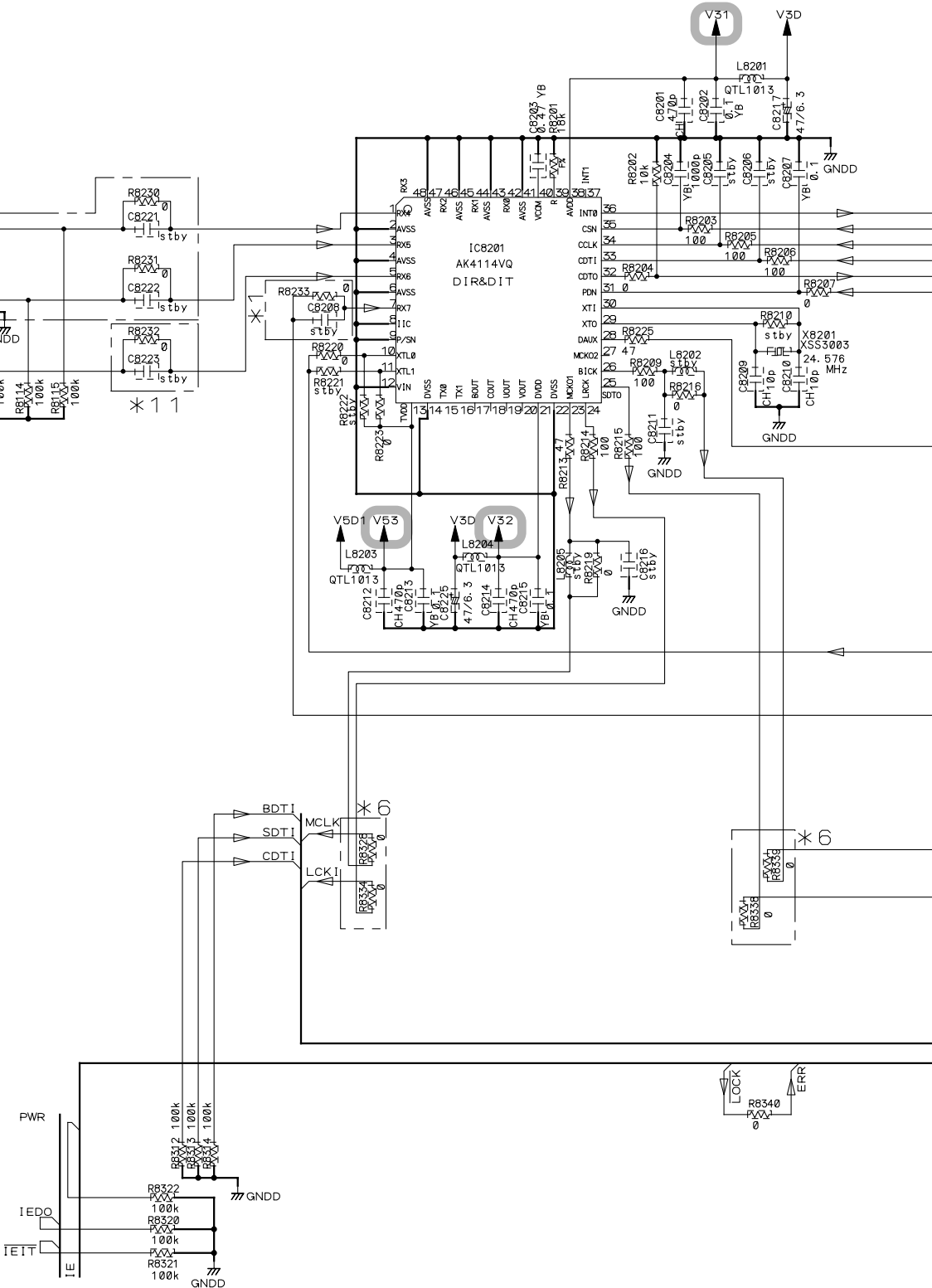
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D 2/5 CN1264

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F 1/2



3.12 DSP ASSY (2/2)

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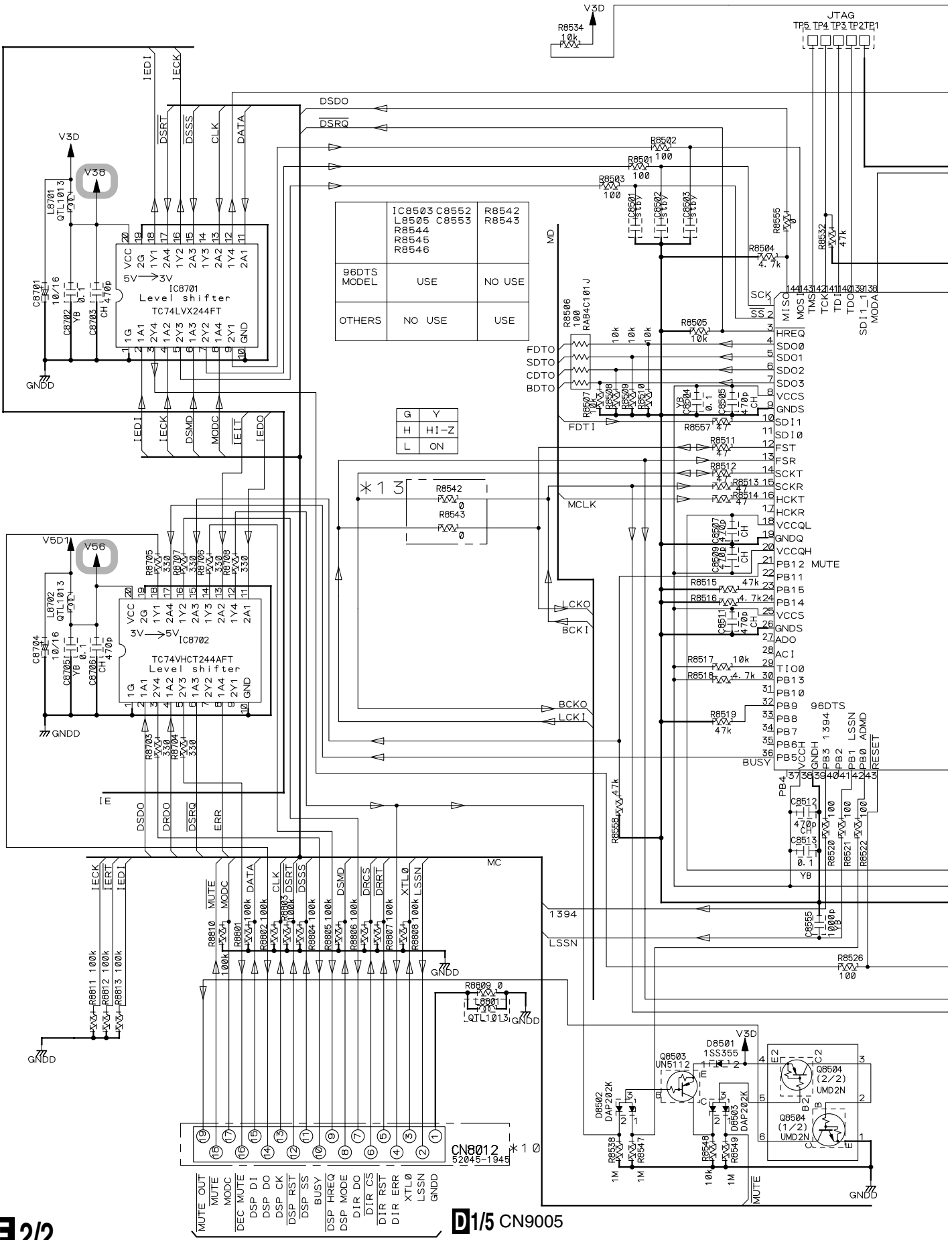
B

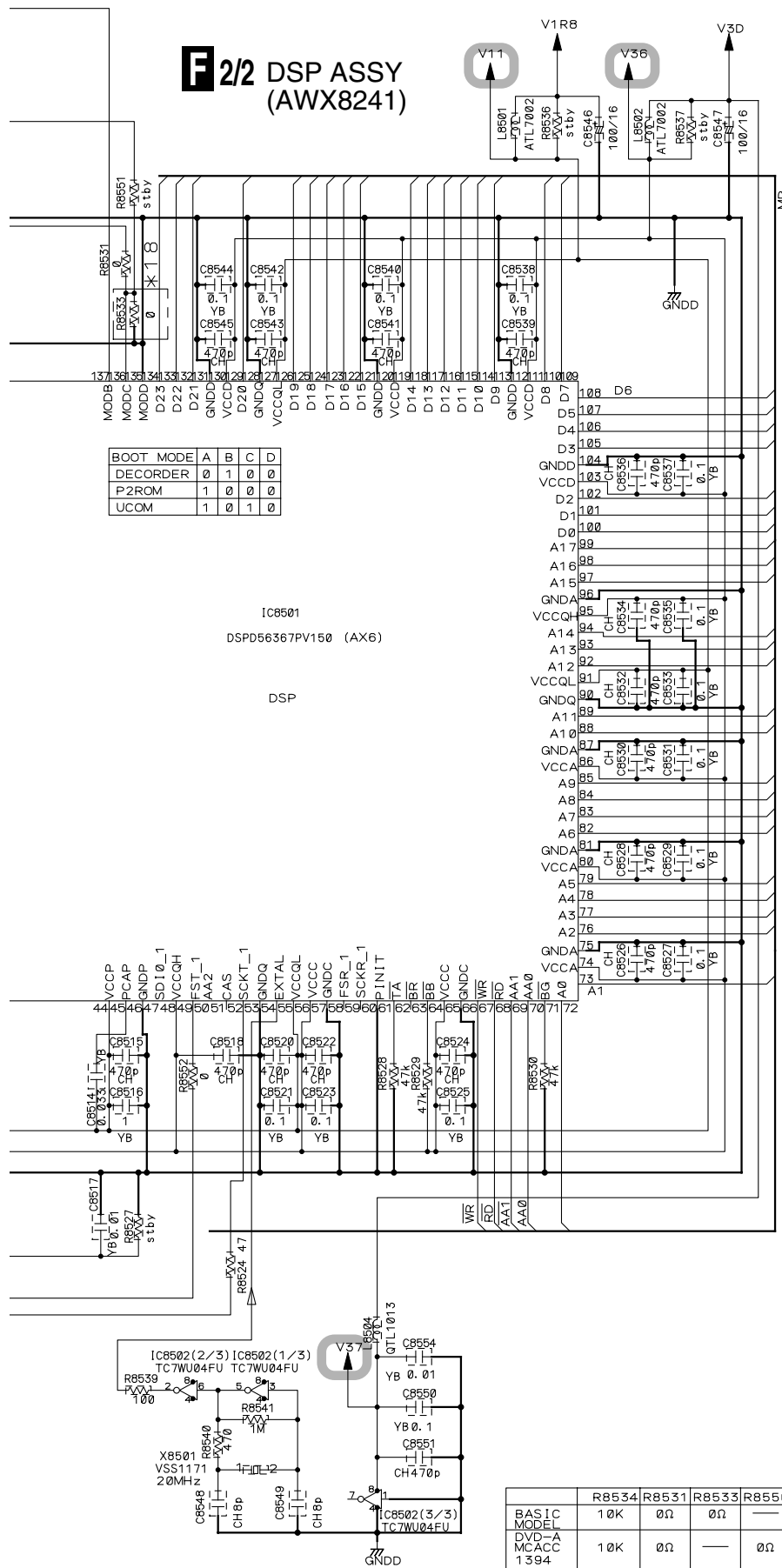
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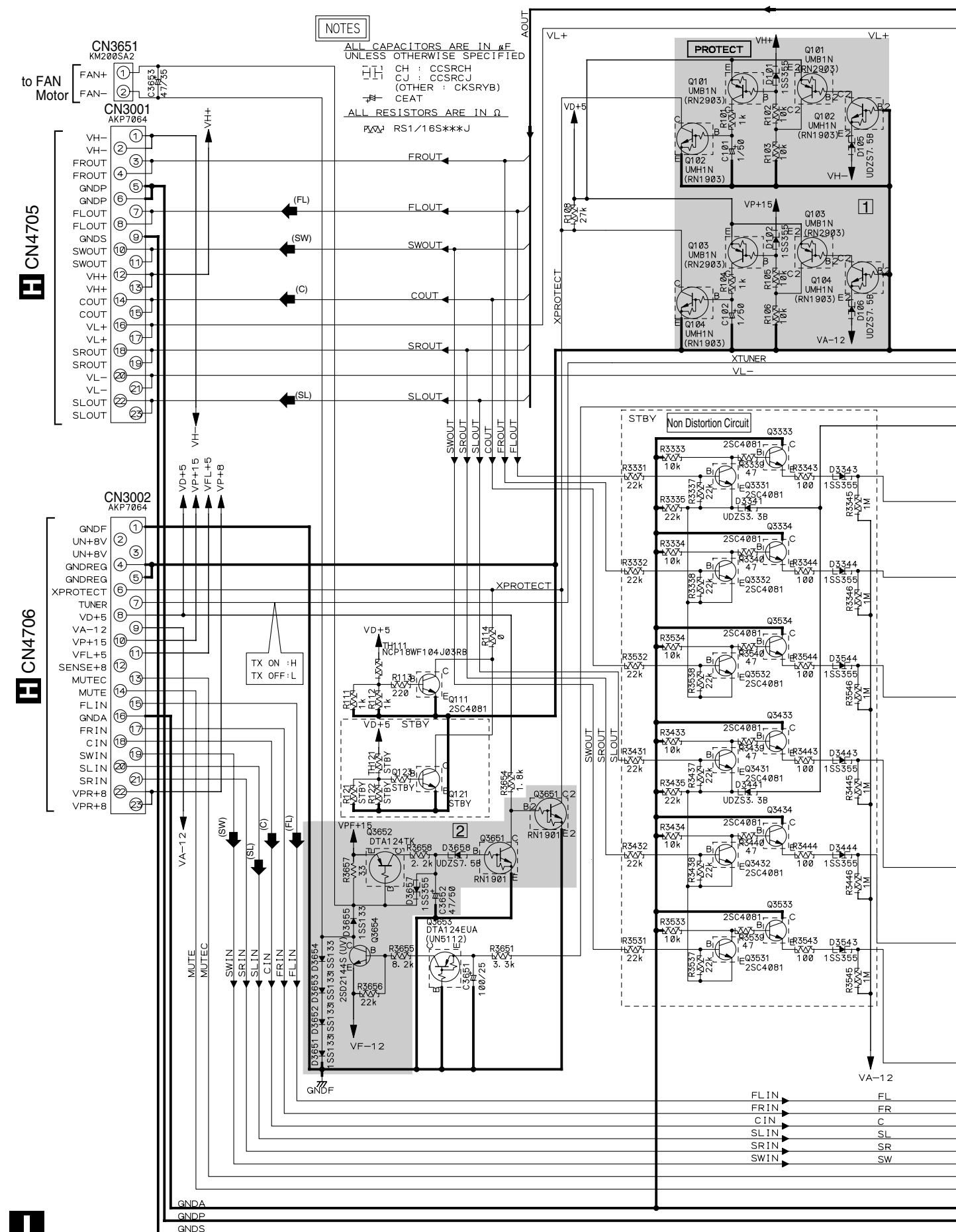
F





: The power supply is shown with the marked box.

3.14 6CH AMP ASSY



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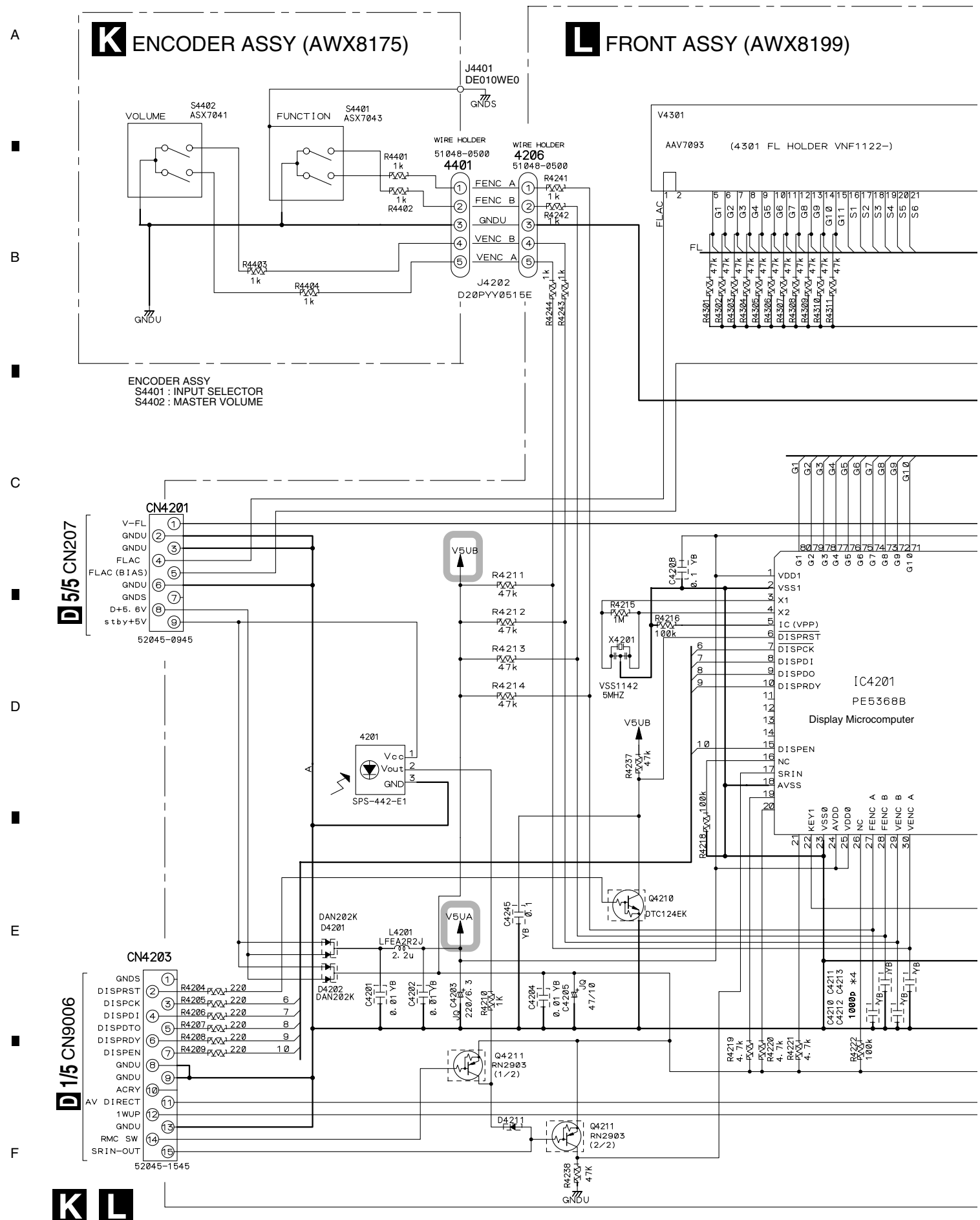
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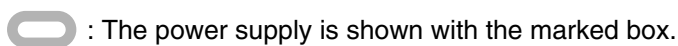
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VSX-C301-S

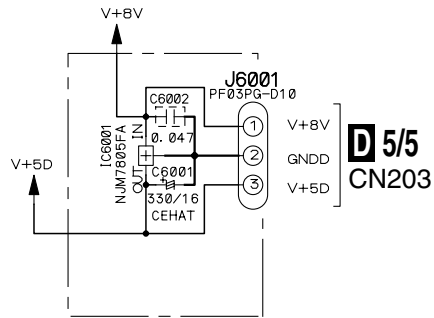
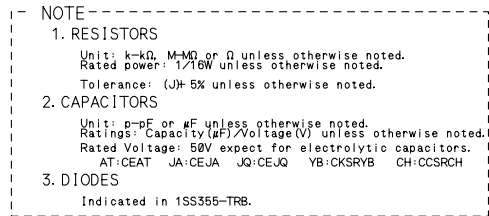
45

3.16 ENCODER, FRONT and POWER SW ASSYS





3.17 PRIMARY, D5V, 12V and VHVL ASSYS

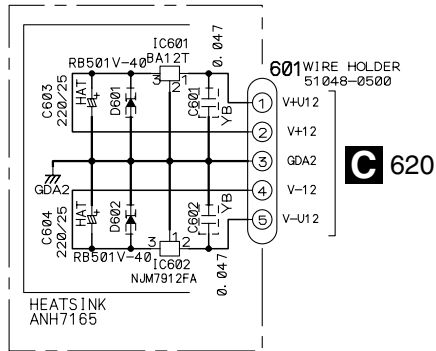
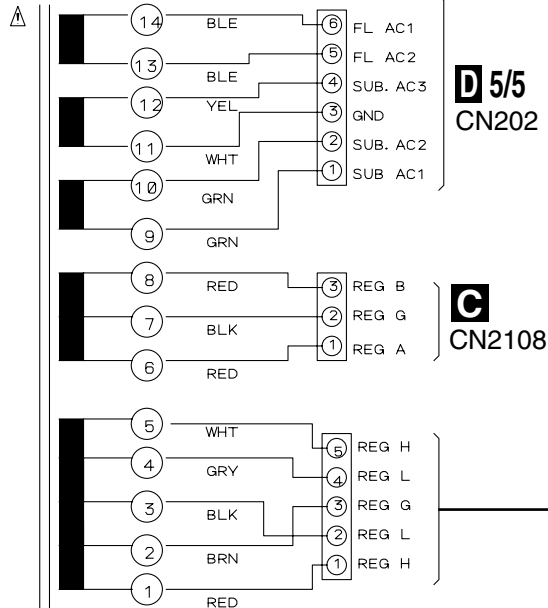


O D5V ASSY (AWX8224)

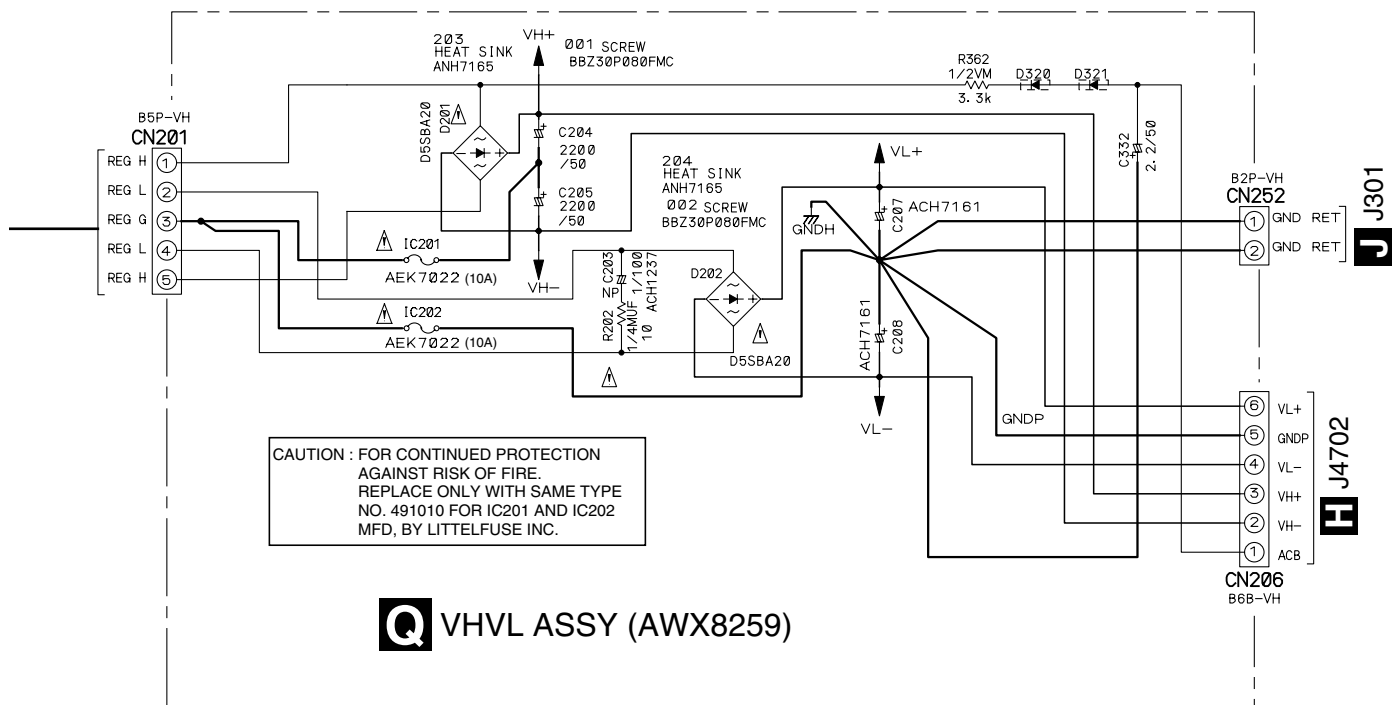
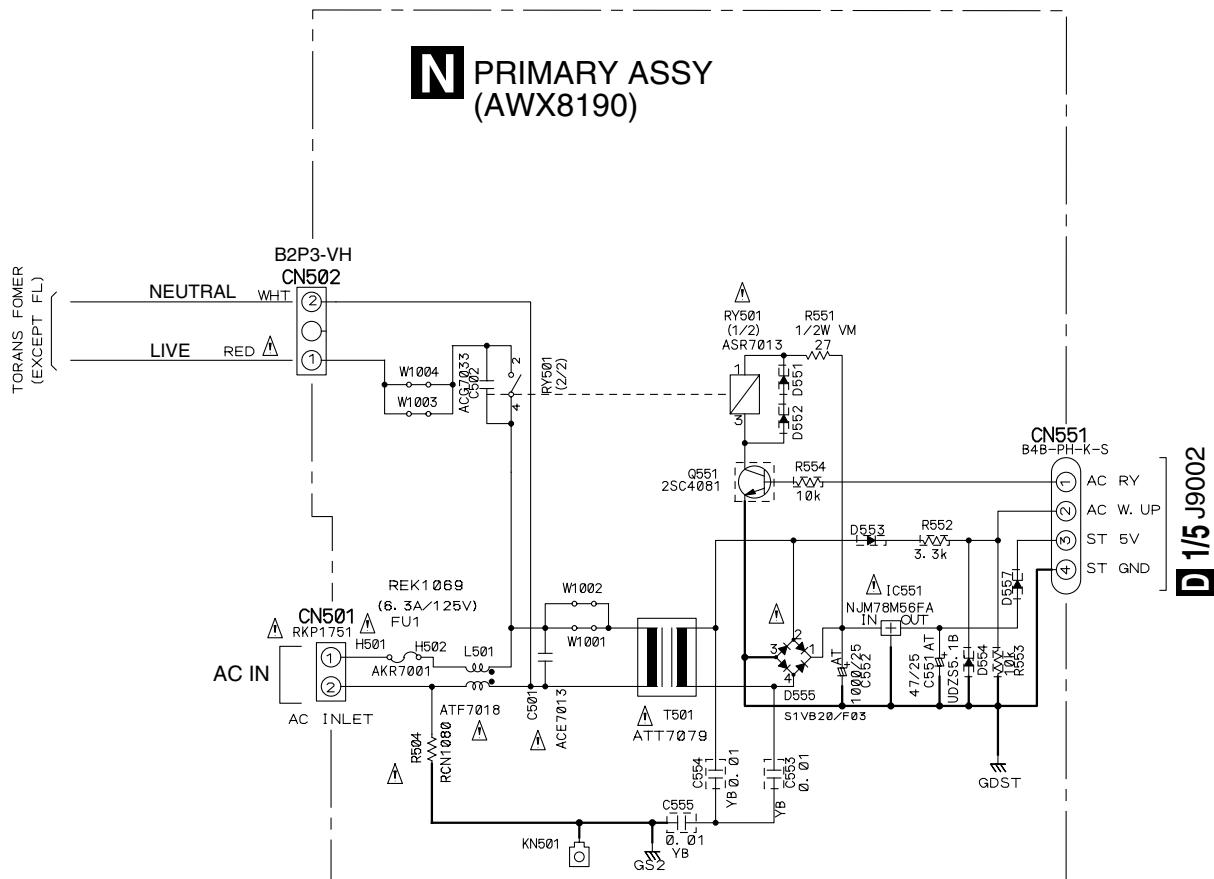
T1 POWER TRANSFORMER
ATS7347

Secon Dary

from transformer



P 12V ASSY (AWX8170)




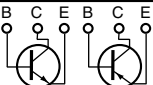

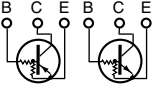

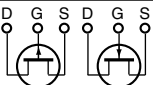

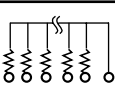


• NOTE FOR FUSE REPLACEMENT

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

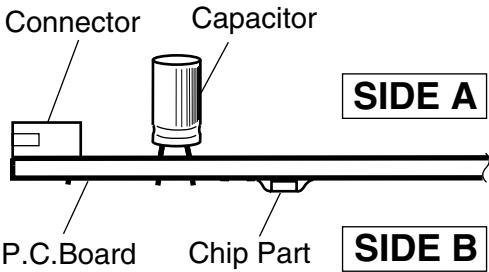
4. PCB CONNECTION DIAGRAM

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.

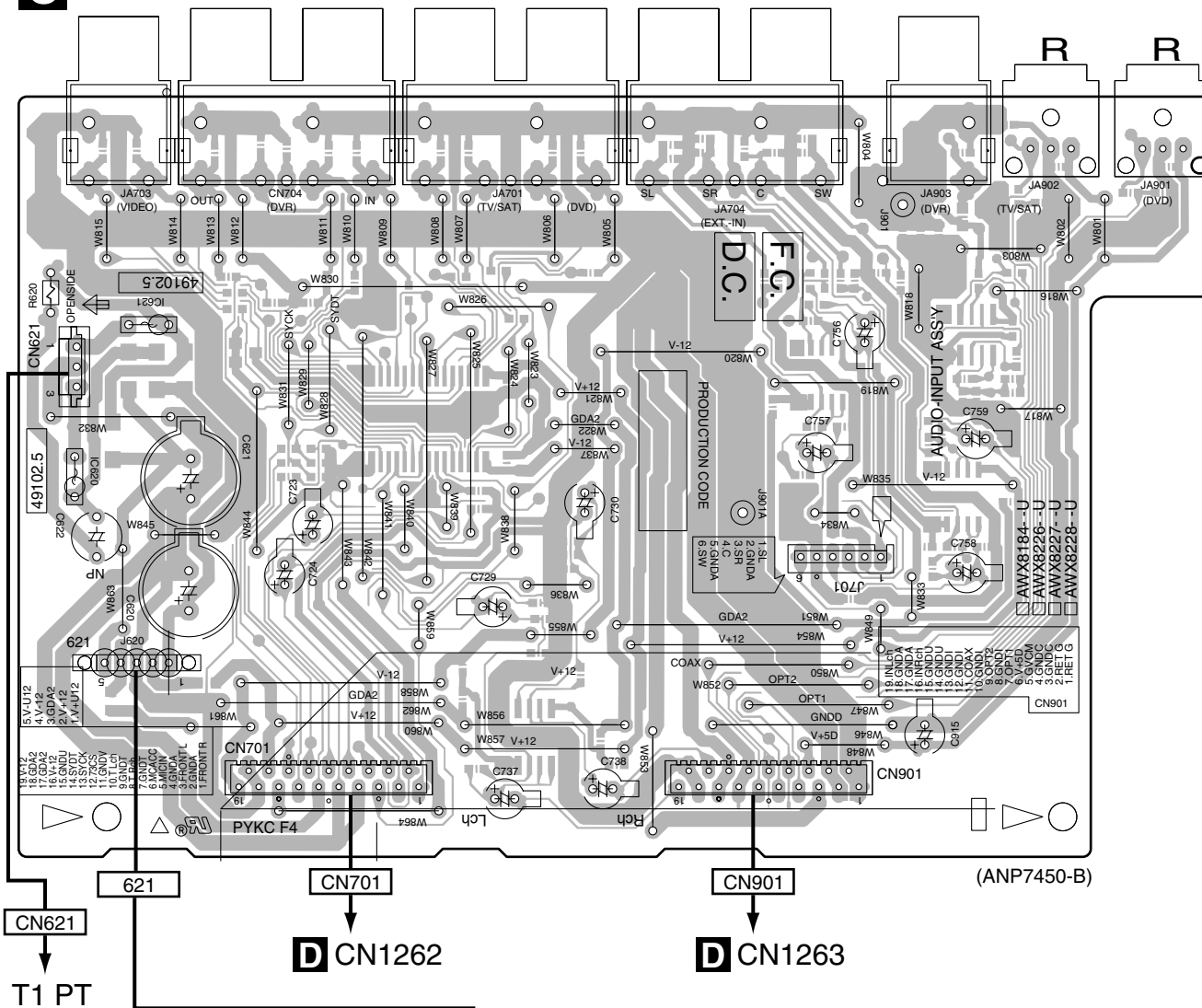


4.2 AUDIO INPUT and 12V ASSYS

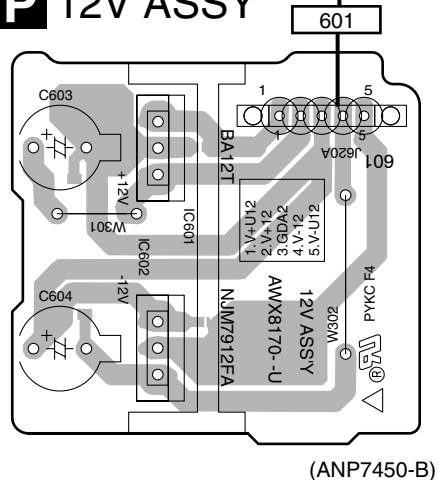
SIDE A**SIDE A**

IC620 IC621

C AUDIO INPUT ASSY



P 12V ASSY



(ANP7450-B)

IC601
IC602

CP

SIDE B

SIDE B

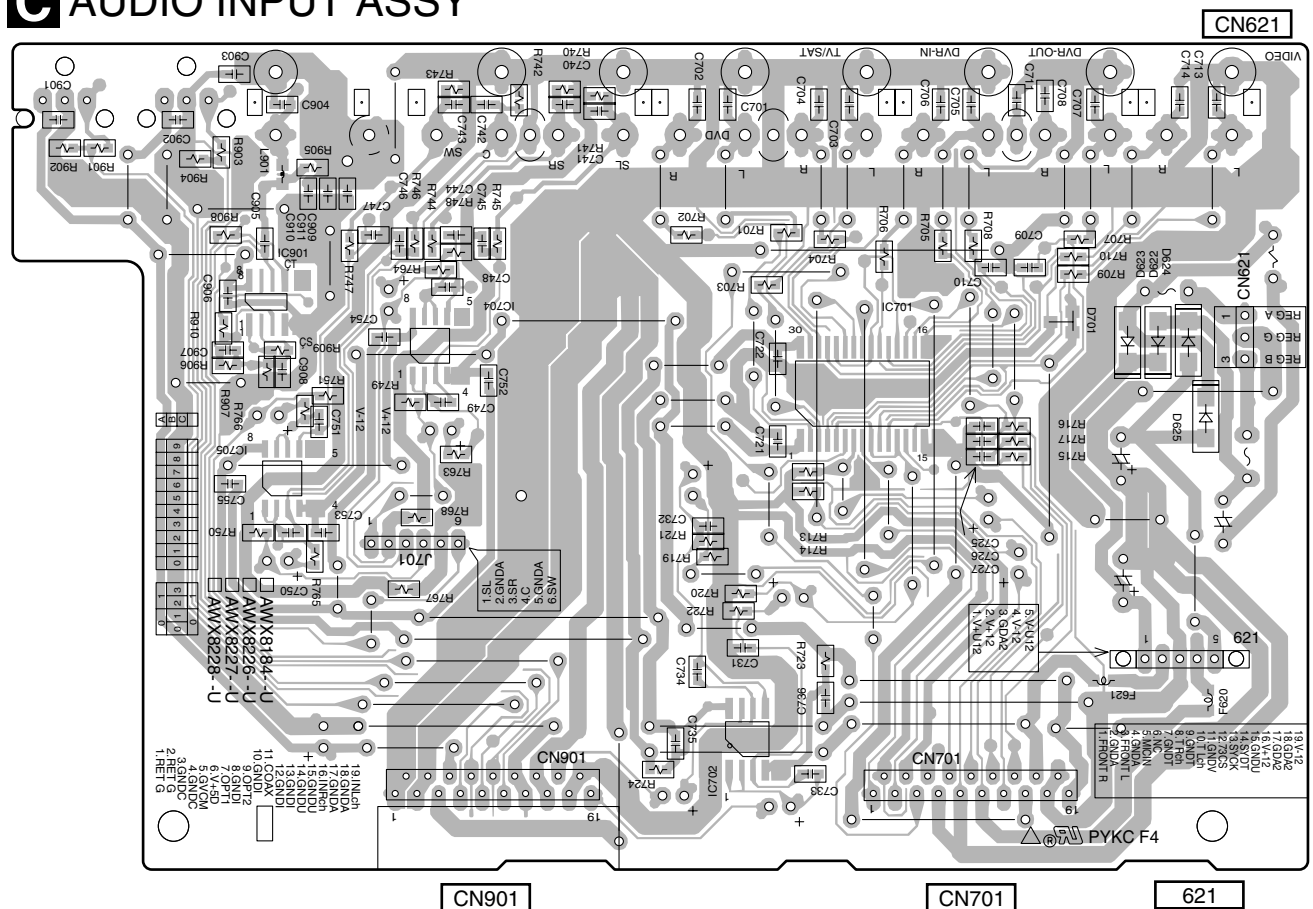
IC901
IC705

IC704

IC702

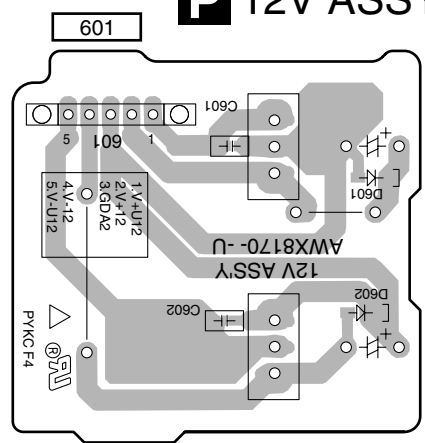
IC701

C AUDIO INPUT ASSY



(ANP7450-B)

P 12V ASSY



(ANP7450-B)

CP

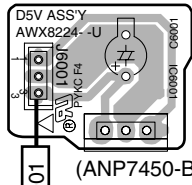
CP

4.3 MOTHER, DSP KAWA and D5V ASSYS

SIDE A

D5V ASSY

MOTHER ASSY



(ANP7450-B)

CN4201

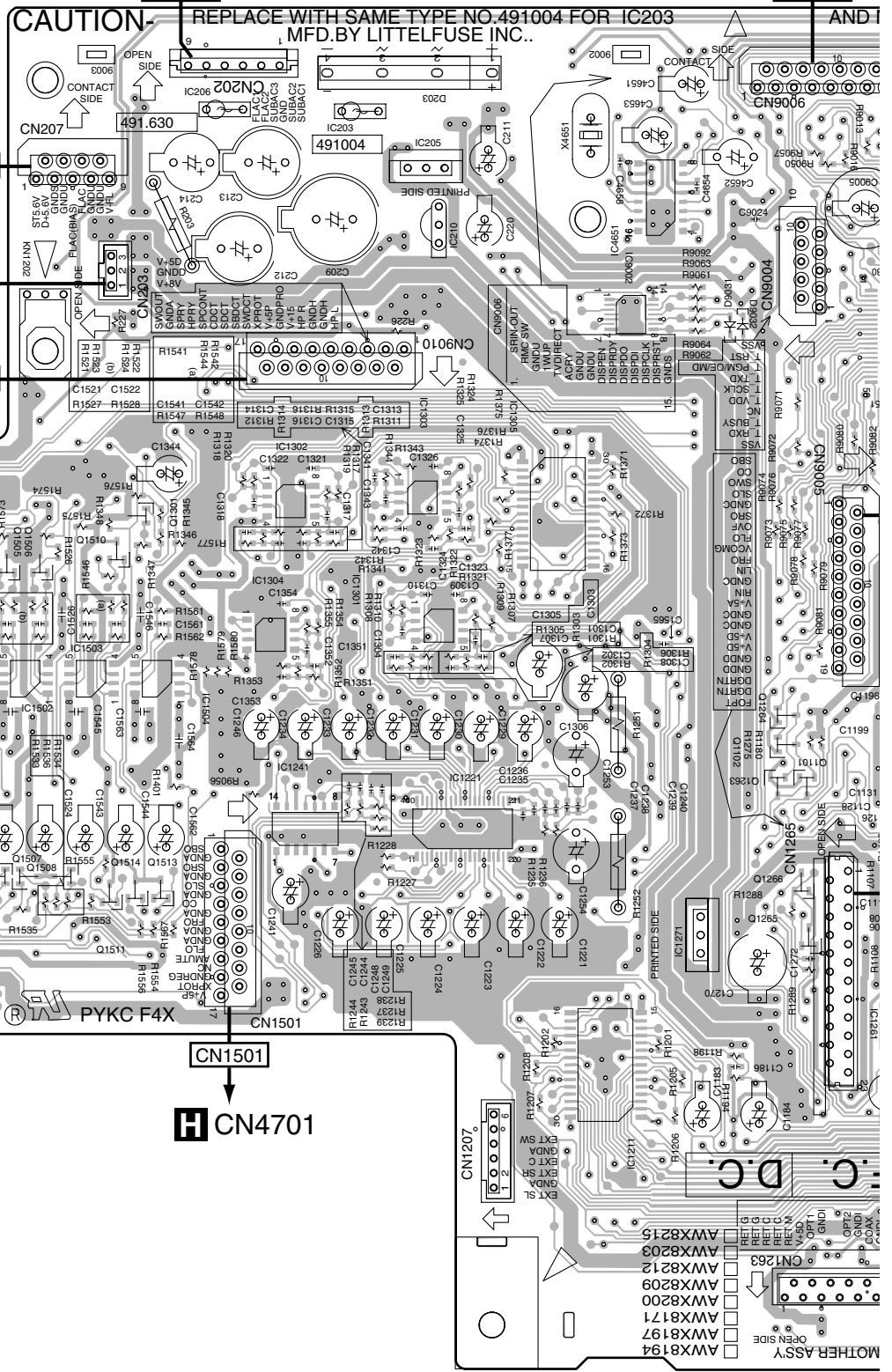
CN301

T1 PT

CN202

CN4203

CN9006



CAUTION - REPLACE WITH SAME TYPE NO.491004 FOR IC203
MFD.BY LITTELFUSE INC..

CN4701

CN901

Q1501	Q1502	Q1505	Q1506	Q1510	Q1301	IC206	IC203	IC205	IC210	IC203	IC4651	Q1264	Q1102	C
IC1501	IC1502	IC1503	IC1504	IC1504	IC1302	IC1304	IC1241	IC1303	IC1301	IC1221	IC9002	Q1263	Q1101	
Q1503	Q1504	Q1508	Q1511	Q1513								Q1266	Q1265	
Q1507	Q1514													

VSX-C301-S

A



C

4

F

F

DE

4.4 DSP ASSY

SIDE A

SIDE A

F DSP ASSY

R

D CN1264

CN8017

E CN1811

CN8003

E CN1813

CN8009

D CN9005

CN8012

IC8201

Q8504
IC8702 IC8301
Q8341

IC8701
Q8501
IC8501
IC8502

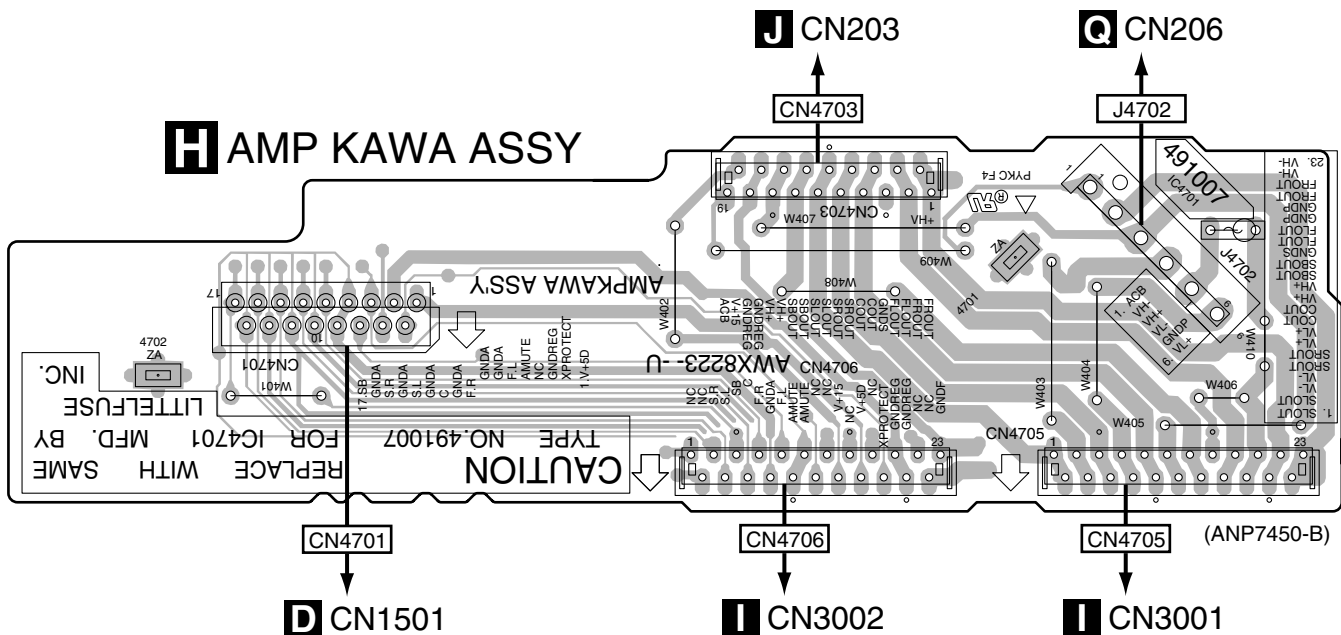
IC8603
IC8601

(ANP7465-A)

4.6 AMP KAWA ASSY

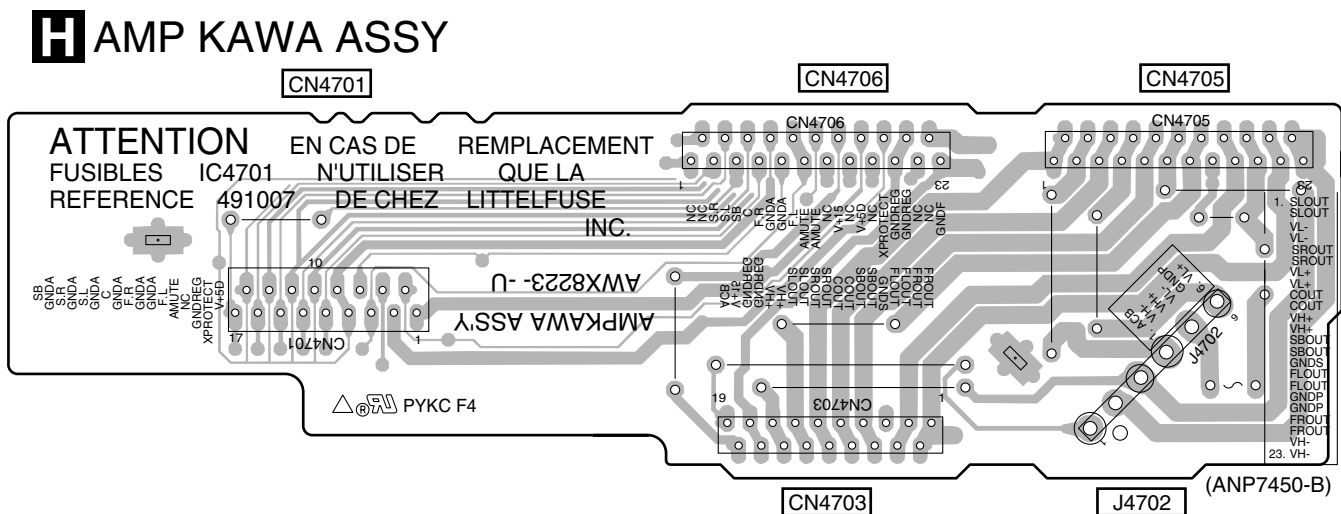
SIDE A

SIDE A



SIDE B

SIDE B

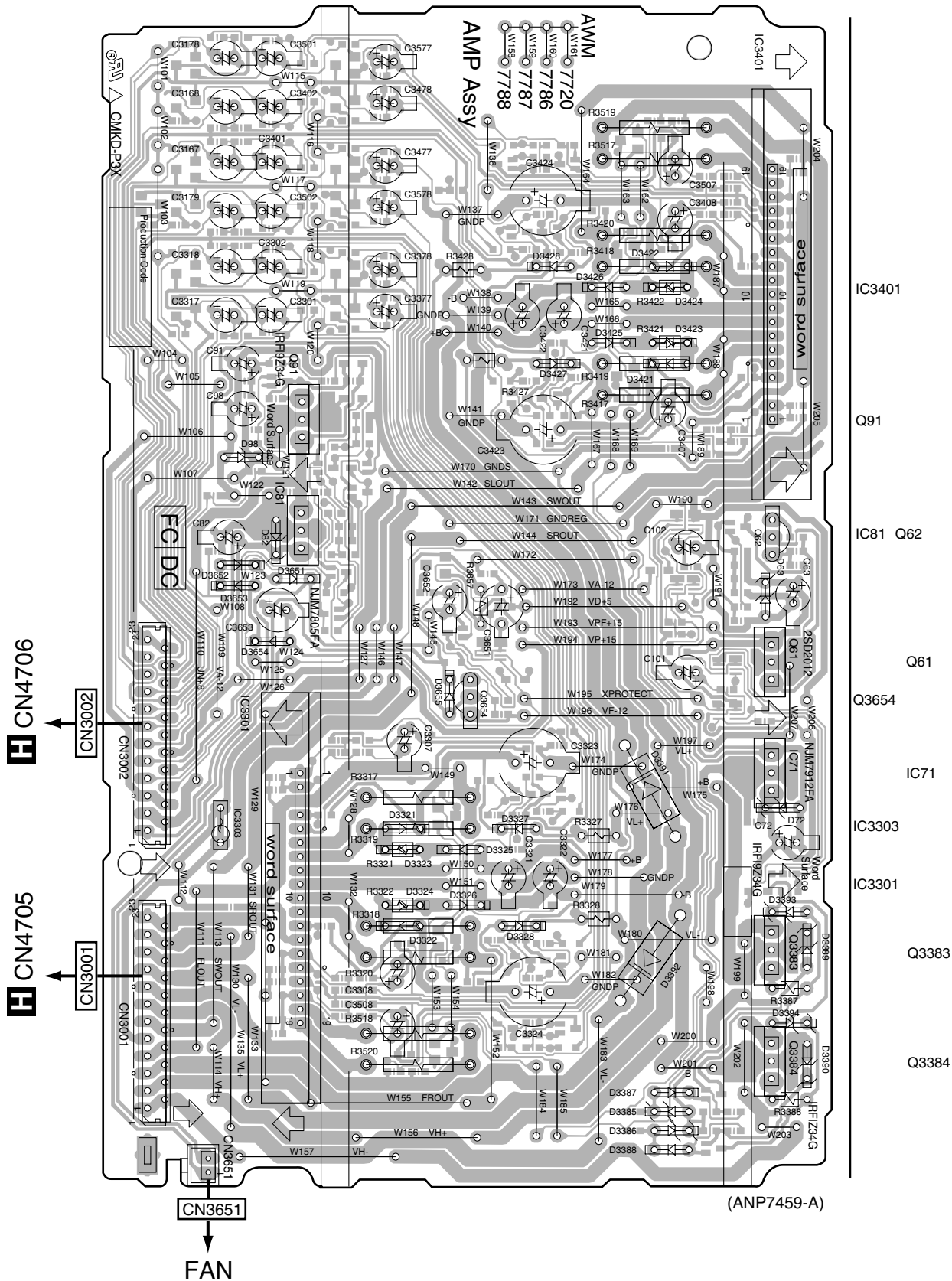


4.7 6CH AMP ASSY

SIDE A

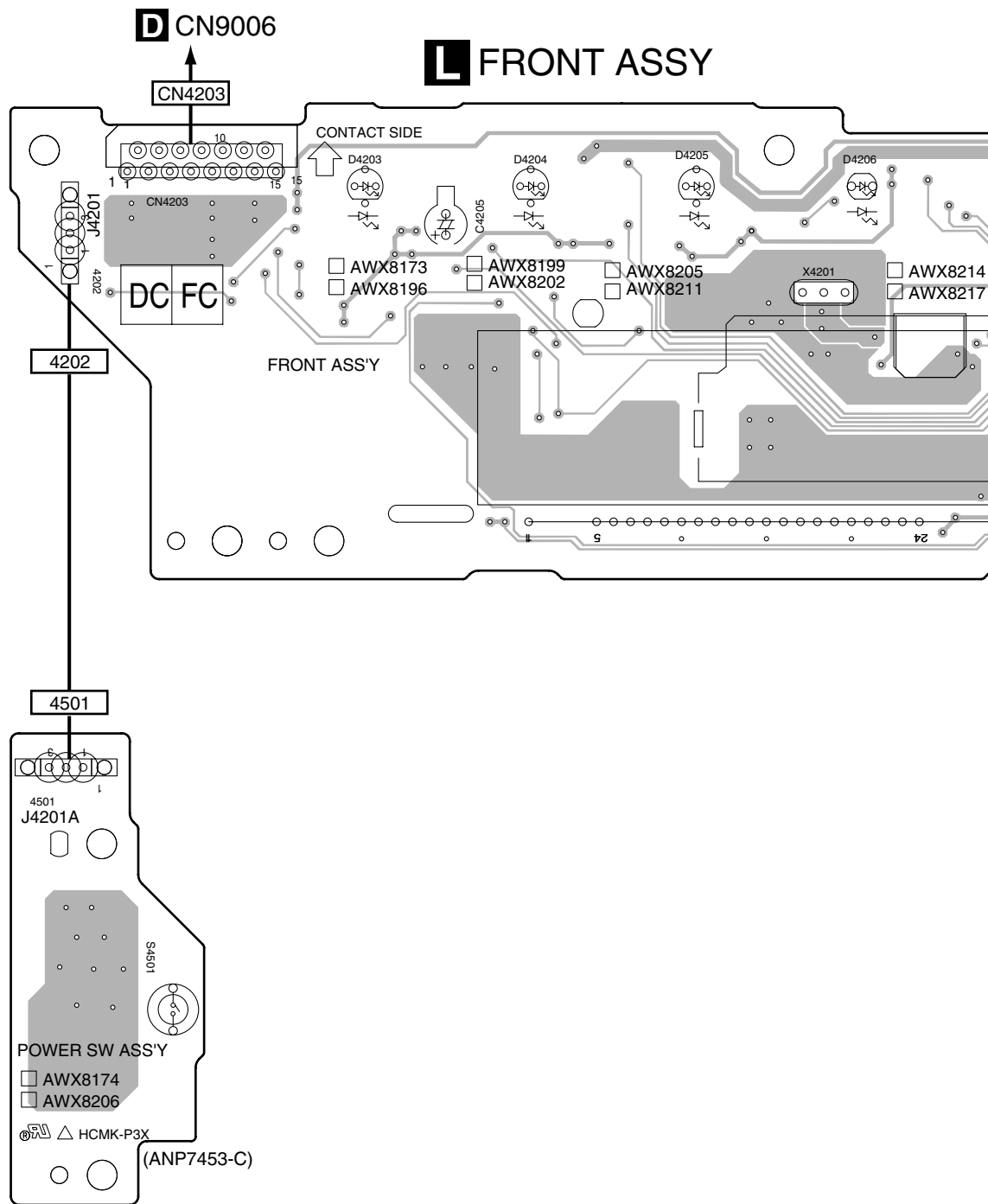
SIDE A

6CH AMP ASSY



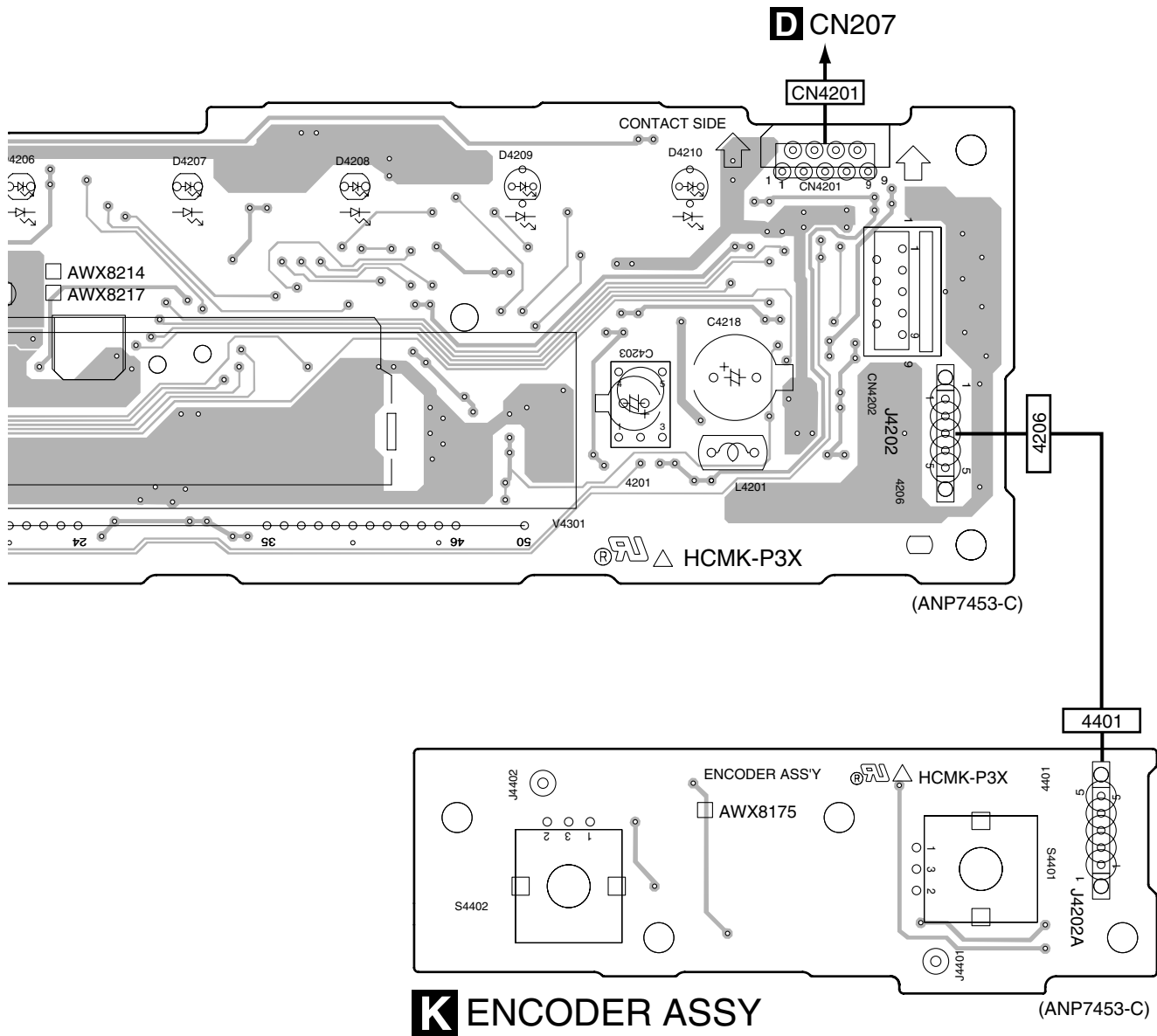
4.9 ENCODER, FRONT and POWER SW ASSYS

SIDE A



M POWER SW ASSY

L M



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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 10^1 \rightarrow 561 RD1/4PU561J

47k Ω \rightarrow 47 x 10^3 \rightarrow 473 RD1/4PU473J

0.5 Ω \rightarrow R50 RN2H50K

1 Ω \rightarrow 1R0 RS1P1R0K

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

5.62k Ω \rightarrow 562 x 10^1 \rightarrow 5621 RN1/4PC5621F

Mark No. Description Part No. LIST OF ASSEMBLIES

NSP	1..COMPLEX ASSY	AWM7765
	2..12V ASSY	AWX8170
	2..AMP OUT ASSY	AWX8177
	2..PRIMARY ASSY	AWX8190
	2..AMP KAWA ASSY	AWX8223
	2..D5V ASSY	AWX8224
	2..VIDEO ASSY	AWX8225
	2..AUDIO INPUT ASSY	AWX8227
	2..VHVL ASSY	AWX8259
NSP	1..MOTHER ASSY	AWM7766
	2..DSP KAWA ASSY	AWX8167
	2..MOTHER ASSY	AWX8197
NSP	1..FRONT ASSY	AWM7780
	2..FRONT ASSY	AWX8199
	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	AXQ7245
	1..DSP ASSY	AWX8241

Mark No.	Description	Part No.
C206		CCSRCH100D50
C212, C213, C226, C233-C235		CCSRCH101J50
C240		CCSRCH101J50
C231, C232		CCSRCH150J50
C223		CEAT100M50
C229		CEAT101M10
C224		CEAT1R0M50
C227		CEAT220M25
C241		CEAT2R2M50
C243		CEAT330M16
C228		CEAT3R3M50
C237		CEAT470M10
C211		CEJQ1R0M50
C210		CEJQ470M16
C204, C238, C602		CKSRYB102K50
C101, C102, C208, C220, C239		CKSRYB103K50
C242, C601		CKSRYB103K50
C216, C217, C225		CKSRYB153K50
C201, C205, C209, C214, C230		CKSRYB223K50
C236, C603		CKSRYB223K50
C221		CKSRYB224K10
C202, C222		CKSRYB473K16
C215		CKSRYB681K50

RESISTORS

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

OTHERS

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

Mark No. Description Part No.

A FM/AM TUNER MODULE SEMICONDUCTORS

IC201	BA1451F
IC202	LC72131MD
Q201, Q204, Q205	2SC2412K
Q202	DTA124ES
Q203	DTC124EK
D201	1SS133
D202	MTZJ5.1C

COILS AND FILTERS

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

CAPACITORS

B VIDEO ASSY SEMICONDUCTORS

IC2501	NJM2296M
Q2501	2SA1515

Mark No.	Description	Part No.
Q2502		2SC3377
Q2505		DTA124EUA
D2509-D2511		1SS355
D2501-D2504		DAN202K
D2505,D2506		UDZS6.2B

CAPACITORS

C2505-C2507,C2517	CCSRCH221J50
C2513,C2514	CEAT470M10
C2501-C2504,C2511,C2512	CEAT470M25
C2518,C2524	CKSRYB103K50
C2519	CKSRYB104K25

RESISTORS

R2514,R2515	RS2LMF181J
Other Resistors	RS1/16S###J

OTHERS

CN2501 19P CONNECTOR	52044-1945
JA2504 MINI JACK	AKN7037
JA2505 REMOCON JACK	RKN1026
JA2506 1P PIN JACK	VKB1122
JA2501,JA2502 2P PIN JACK	VKB1134

C AUDIO INPUT ASSY SEMICONDUCTORS

⚠ IC620, IC621 PROTECTOR(2.5A)	AEK7014
IC701	NJU7312AM
IC901	TC7WU04F
IC702	UPC4570G2
D622-D625	1SR154-400
D701	DAN217

COILS AND FILTERS

F620, F621 CHIP BEADS	DTF1070
L901 CHIP SOLID INDUCTOR	QTL1013

CAPACITORS

C622 (1/100V)	ACH1237
C701-C708, C725-C727	CCSRCH101J50
C731, C732	CCSRCH101J50
C709, C710	CCSRCH220J50
C908	CCSRCH470J50

C904	CCSRCH471J50
C723, C724	CEAT100M50
C620, C621	CEAT222M25
C737, C738	CEAT470M25
C729, C730	CEAT4R7M50

C711, C721, C722, C735, C736	CKSRYB103K50
C905, C906	CKSRYB103K50
C901, C902	CKSRYB104K25
C903, C909-C911	CKSRYB105K10

RESISTORS

⚠ R620	RD1/4MUF4R7J
Other Resistors	RS1/16S###J

OTHERS

621 5P CABLE HOLDER	51048-0500
CN704 4P PIN JACK	AKB7015
CN621 3P TOP POST	B3B-EH
J620 JUMPER WIRE 5P	D20PYY0510E
JA901, JA902 OPT. LINK IN	GP1FA513RZ

Mark No.	Description	Part No.
JA903 1P PIN JACK		VKB1077
JA701 4P PIN JACK		VKB1132
CN701, CN901 19P CONNECTOR		VKN1775

D MOTHER ASSY SEMICONDUCTORS

⚠ IC206 PROTECTOR(630mA)	AEK7006
⚠ IC203 PROTECTOR(4A)	AEK7018
IC1221	BD3814FV
IC1261	NJM2100M
IC1101-IC1103,IC1105,IC1301-IC1303	NJM4558MD

IC210	NJM78L05A
IC1271	NJM78M05FA
IC205	NJM78M56FA
IC1305	NJU7311AM
IC9001	PD5863A

IC1501-IC1503	UPC4570G2
Q801	2SC2412K
Q1261,Q1262,Q1301,Q1503,Q15042	SC3326
Q1507,Q1508,Q1511	2SC3326
Q1103,Q1104	2SK208

Q1101,Q1263,Q1266,Q9004	DTA124EK
Q9008-Q9010	DTA124EK
Q1102,Q1265	DTC124EK
Q1264,Q9001	DTC143EK
Q9011	DTC143TK

D204	1SR154-400
D1101,D1102,D1253,D1254,D801	1SS355
D9001-D9004,D9010,D9012	1SS355
D9020-D9024,D9026	1SS355
⚠ D203	D3SBA20

D1301	DAN217
D210	RB501V-40
D207	UDZS20B
D1251,D1252,D209	UDZS6.8B

COILS AND FILTERS

L9001,L9002 CHIP FELITE BEADS	ATL7002
F1271,F201, F202 CHIP BEADS	DTF1070
L9003 RADIAL INDUCTOR	LFEA2R2J
L801 CHIP SOLID INDUCTOR	QTL1013

CAPACITORS

C9003 (0.22F/5.5V)	ACH7144
C1123,C1124,C1143,C1248,C1249	CCSRCH101J50
C1261,C1262,C1363-C1365	CCSRCH101J50
C1501,C1502,C1521,C1522	CCSRCH221J50
C1542	CCSRCH271J50

C1105-C1108,C1125-C1128,C1145	CCSRCH331J50
C1147	CCSRCH331J50
C1103,C1104	CCSRCH471J50
C1221-C1226,C1229-C1234	CEAT100M50
C9005	CEAT101M10

C1270,C807	CEAT101M16
C9007	CEAT102M6R3
C211	CEAT220M50
C214	CEAT221M25
C9002	CEAT221M6R3

C1253,C1254	CEAT331M10
C212	CEAT331M50
C209	CEAT332M16

Mark No.	Description	Part No.
C220		CEAT470M16
C213		CEAT471M35
C9013		CEAT471M6R3
C1263,C1264		CEAT4R7M50
C1265		CEJQ221M6R3
C1344,C1503,C1504,C1523,C1524		CEJQ4R7M50
C1543,C1544		CEJQ4R7M50
C1111,C1112,C1131,C1132		CKSQYF225Z16
C1151,C1152,C1505,C1506		CKSQYF225Z16
C1525,C1526,C1545,C1546		CKSQYF225Z16
C801, C9015,C9022,C9024		CKSRYB102K50
C1146,C1185,C1186,C1199		CKSRYB103K50
C1227,C1228,C1251,C1252,C1269		CKSRYB103K50
C1311,C1312,C1319,C1320		CKSRYB103K50
C1329,C1330,C1361,C1362,C802		CKSRYB103K50
C804, C9001,C9004,C9008,C9021		CKSRYB103K50
C1266		CKSRYB104K16
C1187,C1188,C1237-C1240,C1271		CKSRYB104K25
C215, C216		CKSRYB104K25
C1272,C803, C805, C9006		CKSRYB105K10
C1144		CKSRYB223K50
C1301,C1302,C1313,C1314,C1323		CKSRYB332K50
C1307,C1308,C1315,C1316,C1324		CKSRYB393K25
C1198		CKSRYB471K50
C1133,C1134,C1153,C1154		CKSRYB472K50
C1235,C1236		CKSRYB472K50
C1341		CKSRYB473K25
C210, C217		CKSRYB473K50
C1148		CKSRYB562K50
C1342		CKSRYB822K50
C1402,C1403		CKSRYF224Z25
C1565		CKSRYF474Z16

RESISTORS

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

OTHERS

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

DSP KAWA ASSY CAPACITORS

C1802	CCSRCH101J50
-------	--------------

Mark No.	Description	Part No.
C1267,C1268		CEAT100M50
C1101,C1102,C1121,C1122		CEAT2R2M50
C1141,C1142,C1161		CEAT2R2M50
C1801		CEAT331M16

RESISTORS

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

OTHERS

CN1811 13P PLUG	AKP7059
CN1813 15P PLUG	AKP7060
CN1801 23P SOCKET	AKP7075

DSP ASSY SEMICONDUCTORS

IC8201	AK4114VQ
IC8401	AK4529VQ
IC8501	DSPD56367PV150
IC8901	NJM2391DL1-33
IC8902	NJU7223DL1-18
IC8701	TC74LVX244FT
IC8702	TC74VHCT244AFT
IC8502	TC7WU04FU
Q8504	UMD2N
Q8503	UN5112
D8501	1SS355
D8401	DAN202K
D8402,D8502,D8503	DAP202K

COILS AND FILTERS

L8002,L8004,L8501,L8502	ATL7002
CHIP FELITE BEADS	
L8201,L8203,L8204,L8401,L8402	QTL1013
L8504,L8701,L8702	QTL1013
CHIP SOLID INDUCTOR	

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

Mark No. Description Part No.

RESISTORS

R8506
R8201
Other Resistors

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

OTHERS

CN8012 19P FFC CONNECTOR
CN8003 13P SOCKET
CN8009 15P SOCKET
CN8017 10P FFC CONNECTOR
X8501 CRYSTAL RESONATOR
(20MHz)

52045-1945
AKP7070
AKP7071
VKN1414
VSS1171

X8201 CRYSTAL RESONATOR
(24.576MHz)

XSS3003

G FRONT-IN ASSY CAPACITORS

C4103,C4104
C4107,C4111,C4122
C4108
C4105,C4109,C4117,C4124
C4102,C4106,C4110,C4123

CCSRCH101J50
CCSRCH471J50
CEAL470M16
CKSRYB103K50
CKSRYB104K25

C4112,C4113
C4120,C4121

CKSRYB223K50
CKSRYF105Z10

RESISTORS

All Resistors

RS1/16S###J

OTHERS

CN4102 19P FFC CONNECTOR
J4601 BOARD IN LEAD WIRE
JA4101 PIN JACK(3P)GOLD
JA4102 OPT. LINK IN
JA4103 HEADPHONE JACK

52045-1945
ADX7442
AKB7098
GP1FA513RZ
RKN1006

KN4101 WRAPPING TERMINAL

VNF1084

H AMP KAWA ASSY SEMICONDUCTORS

⚠ IC4701 PROTECTOR(7A)

AEK7021

OTHERS

CN4701 17P FFC CONNECTOR
J4702 LEAD WITH HOUSING
CN4703 19P SOCKET
CN4705,CN4706 23P SOCKET
4701,4702 PCB BINDER

52045-1745
ADX7424
AKP7073
AKP7178
VEF1040

I 6CH AMP ASSY SEMICONDUCTORS

⚠ IC71
⚠ IC3301,IC3401
Q3382
Q62
Q111, Q3381,Q63

NJM7912FA
STK402-270
2SA1576A
2SB1237X
2SC4081

⚠ Q61
Q3301,Q3302,Q3401,Q3402
Q3501,Q3502,Q3504
Q3654
Q3653

2SD2012
2SD2114K
2SD2114K
2SD2144S
DTA124EUA

Mark No. Description Part No.

Q3652
⚠ Q3383
⚠ Q3384
Q3651
Q101, Q103

DTA124TK
IRFI9Z34G
IRFIZ34G
RN1901
UMB1N

Q102, Q104
⚠ D3321-D3326
D3327,D3328
⚠ D3421-D3426
D3427,D3428

UMH1N
1SR139-400
1SR139-400
1SR139-400
1SR139-400

D3387,D3388,D3651-D3655
D101, D102, D3657,D42
⚠ D3391,D3392
⚠ D3381,D3382,D3481,D3482
⚠ D3581,D3582

1SS133
1SS355
30PDA20-FC6
DAN217
DAN217

D3389,D3390
⚠ D72
D3393,D3394
⚠ D63
D3385,D3386

MTZJ10C
MTZJ15C
MTZJ18B
MTZJ18C
MTZJ36A

D105, D106, D3658
TH111

UDZS7.5B
NCP18WF104J03RB

CAPACITORS

C3305,C3306,C3405,C3406
C3505,C3506,C62
C3309,C3310,C3409,C3410
C3509,C3510
C3307,C3308,C3407,C3408,C3508

CCSRCH221J50
CCSRCH221J50
CCSRCJ3R0C50
CCSRCJ3R0C50
CEAL100M16

C3507
C72
C3651
C101, C102
C3323,C3324,C3423,C3424

CEAL470M6R3
CEAT100M50
CEAT101M25
CEAT1R0M50
CEAT221M50

C3167,C3168,C3178,C3179
C3301,C3302,C3317,C3318
C3401,C3402,C3501,C3502
C3652,C63
C3653

CEAT2R2M50
CEAT2R2M50
CEAT2R2M50
CEAT470M25
CEAT470M35

C3321,C3322,C3421,C3422
C3303,C3304,C3403,C3404
C3503,C3504
C71

CEATR22M50
CKSRYB102K50
CKSRYB102K50
CKSRYB473K50

RESISTORS

R3317-R3320,R3417-R3420
R3517-R3520 (0.22/2W)
⚠ R3327,R3328,R3427,R3428
R3387,R3388
R3657

ACN7122
ACN7122
RD1/4MUF470J
RD1/4PU101J
RD1/4PU330J

⚠ R3323,R3324,R3351,R3423,R3424
⚠ R3451
R67, R68
⚠ R62
R65

RS1/16S1R0J
RS1/16S1R0J
RS1/16S2201F
RS1/16S330J
RS1/16S4700F

Other Resistors

RS1/16S###J

OTHERS

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

AKP7064
KM200SA2

Mark No. Description Part No.**J AMP OUT ASSY
SEMICONDUCTORS**

Q320, Q321
Q303
Q301, Q302, Q305, Q308–Q310
Q312, Q318, Q319
Q307

2SA1037K
2SC2712
2SC4081
2SC4081
2SD1858X

Q313
Q306
Q311, Q317
Q316
Q314

DTA124EUA
DTA143EUA
DTC124EUA
DTC143EUA
RN2903

D301, D302, D304–D307, D309
D311–D314, D316, D317
D322–D327
D319
D303, D310, D315

1SS355
1SS355
1SS355
DAN202K
DAP202K

D318

UDZS5.1B

COILS AND FILTERS

L301, L302, L304–L306
AF CHOCKCOIL

ATH-059

SWITCHES AND RELAYS

RY301–RY304

ASR7008

CAPACITORS

C336
C335
C334
C333
C301–C304, C316, C318

CCSRCH221J50
CCSRCH331J50
CEAT100M50
CEAT471M6R3
CKSQYB104K50

C325–C328
C329, C331
C337
C319–C323

CKSQYB104K50
CKSRYB102K50
CKSRYB104K25
XCG3008

RESISTORS

R303, R304, R324, R345, R346
(0.1, 2W)

ACN7120

⚠ R309, R310, R330, R351, R352
R358

RD1/2LMF101J
RD1/2VM103J
RS1/10S150J

⚠ R311, R312, R317–R320, R332

⚠ R336–R341, R353, R354
R313, R314

RS1/10S150J
RS1/10S222J
RS1LMF331J
RS1/16S###J

⚠ R315, R316

Other Resistors

OTHERS

CN301 17P FFC CONNECTOR
J301 2P CONNECTOR ASSY
JA301 PIN JACK(1P)
401 SPEAKER TERMINAL10-P
CN203 19P PLUG

52045-1745
ADX7425
AKB7080
AKE7093
AKP7062

**K ENCODER ASSY
SWITCHES AND RELAYS**

S4402
S4401

ASX7041
ASX7043

RESISTORS

All Resistors

RS1/16S###J

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

4401 5P CABLE HOLDER

51048-0500

**L FRONT ASSY
SEMICONDUCTORS**

IC4201
Q4202, Q4203, Q4210
Q4204, Q4206, Q4208
Q4211
D4211

PE5368B
DTC124EK
RN1903
RN2903
1SS355

D4201, D4202
D4207
D4203, D4204, D4208, D4209
D4205, D4206, D4210

DAN202K
SLR-343MC
SLR-343VC
SLR-343YC

COILS AND FILTERS

L4201

LFEA2R2J

CAPACITORS

C4203
C4205
C4210-C4213, C4228
C4201, C4202, C4204, C4215-C4217
C4208, C4245

CEJQ221M6R3
CEJQ470M10
CKSRYB102K50
CKSRYB103K50
CKSRYB104K25

C4220-C4227

CKSRYB473K50

RESISTORS

All Resistors

RS1/16S###J

OTHERS

4202 3P CABLE HOLDER
4206 5P CABLE HOLDER
CN4201 9P FFC CONNECTOR
CN4203 15P FFC CONNECTOR
V4301 FL TUBE

51048-0300
51048-0500
52045-0945
52045-1545
AAV7093

J4201 JUMPER WIRE 3P
J4202 JUMPER WIRE 5P
4201 REMOTE RECEIVER UNIT
4301 FL HOLDER
X4201 CERAMIC RESONATOR(5MHz)

D20PYY0310E
D20PYY0515E
SPS-442-E1
VNF1122
VSS1142

**M POWER SW ASSY
SWITCHES AND RELAYS**

S4501

VSG1009

OTHERS

4501 3P CABLE HOLDER

51048-0300

**N PRIMARY ASSY
SEMICONDUCTORS**

⚠ IC551
Q551
D551–D553, D557
⚠ D555
D554

NJM78M56FA
2SC4081
1SS355
S1VB20/F03
UDZS5.1B

COILS AND FILTERS

⚠ L501 LINE FILTER

ATF7018

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

TRANSFORMERS

⚠ T501 STANDBY TRANSFORMER ATT7079

SWITCHES AND RELAYS

⚠ RY501 ASR7013

CAPACITORS

⚠ C501 (0.01/AC275V) ACE7013
⚠ C502 (10000P/AC250V) ACG7033
C552 CEAT102M25
C551 CEAT470M25
C553—C555 CKSRYB103K50

RESISTORS

⚠ R504 2.2M/ 1/2W RCN1080
R551 RD1/2VM270J
Other Resistors RS1/16S###J

OTHERS

H501, H502 FUSE CLIP AKR7001
⚠ CN502 2P-VH CONNECTOR B2P3-VH
CN551 4P CONNECTOR B4B-PH-K
⚠ CN501 AC CORD SOCKET RKP1751
KN501 WRAPPING TERMINAL VNF1084

**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**

⚠ IC201, IC202 PROTECTOR(10A) AEK7022
D320, D321 1SS355
⚠ D201, D202 D5SBA20

CAPACITORS

C203 1/100V ACH1237
C207, C208 ACH7161
C204, C205 CEAT222M50
C332 CEAT2R2M50

RESISTORS

R362 RD1/2VM332J

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

⚠ 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.

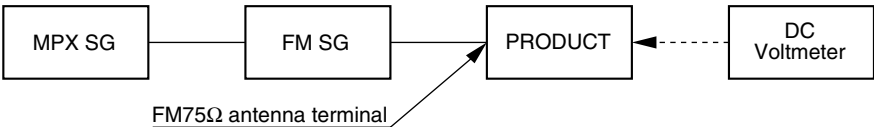


Fig.1 Adjustment Wiring Diagram

A FM/AM TUNER MODULE

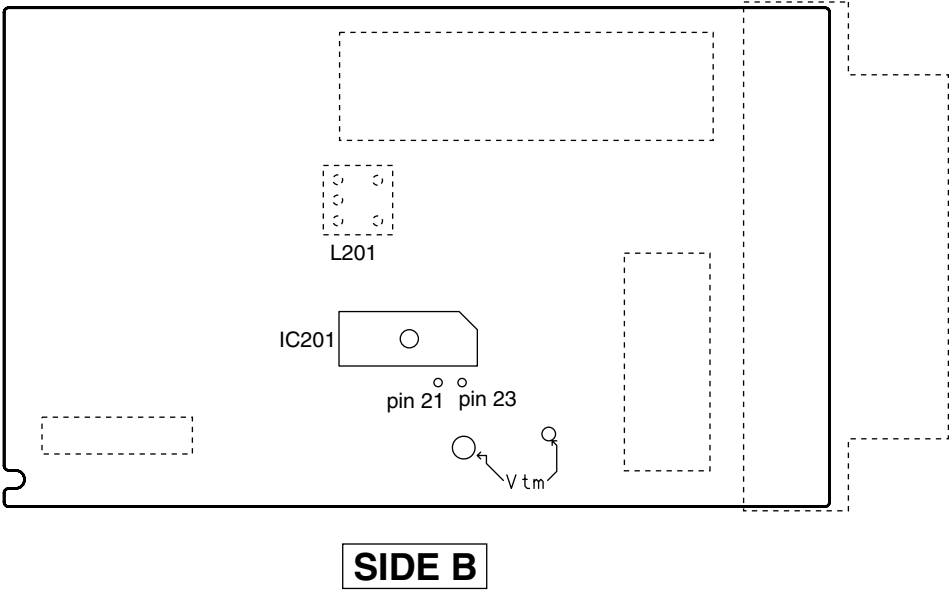


Fig.2 Adjustment Point

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

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 \rightarrow 0 dB \rightarrow

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. 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 WXS

10. 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.

11. 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.

12. 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.

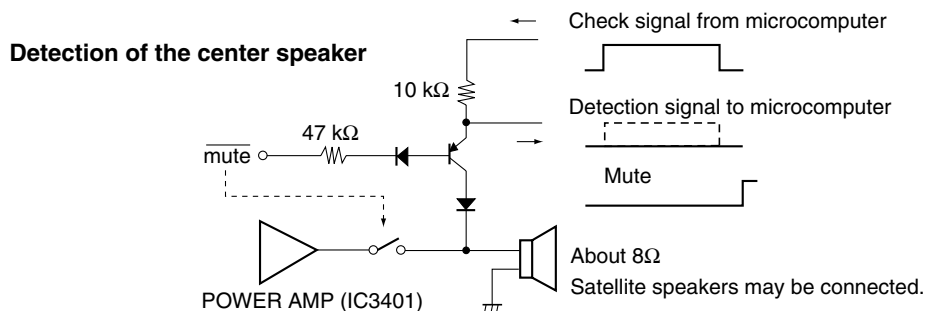
Rules: The setting for the front speakers depends on whether a subwoofer is connected or not. If a subwoofer is connected, the setting for the front speakers is "small." Settings for other speakers are "small" or "not connected" depending on the results of detection. Settings for the rear surround speakers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

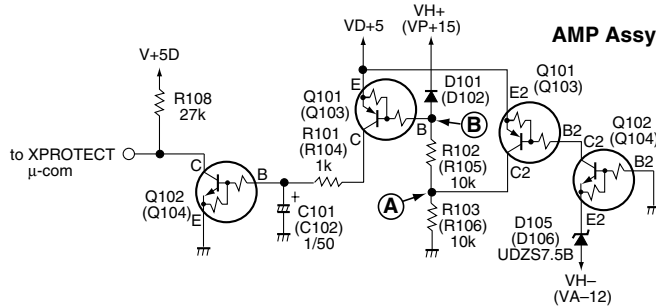


7.1.4 Circuit Description

Note: Refer to the Schematic Diagram about the actual circuit.
(The □ number corresponds to the ■ marked circuits.)

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

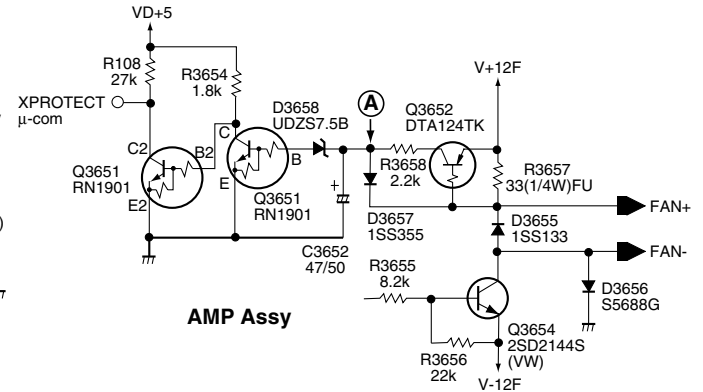
As the electric potential of VE at Q102 (Q104) (E2, C2, B2) becomes the same as that at VB, Q102 (Q104) (E2, C2, B2) is turned off. Following this, Q101 (Q103) (E2, B2, C2) is turned off, which changes the voltage at Points (A) and (B) to a value other than 5 V. Therefore, Q101 (Q103) (E, C, B) then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

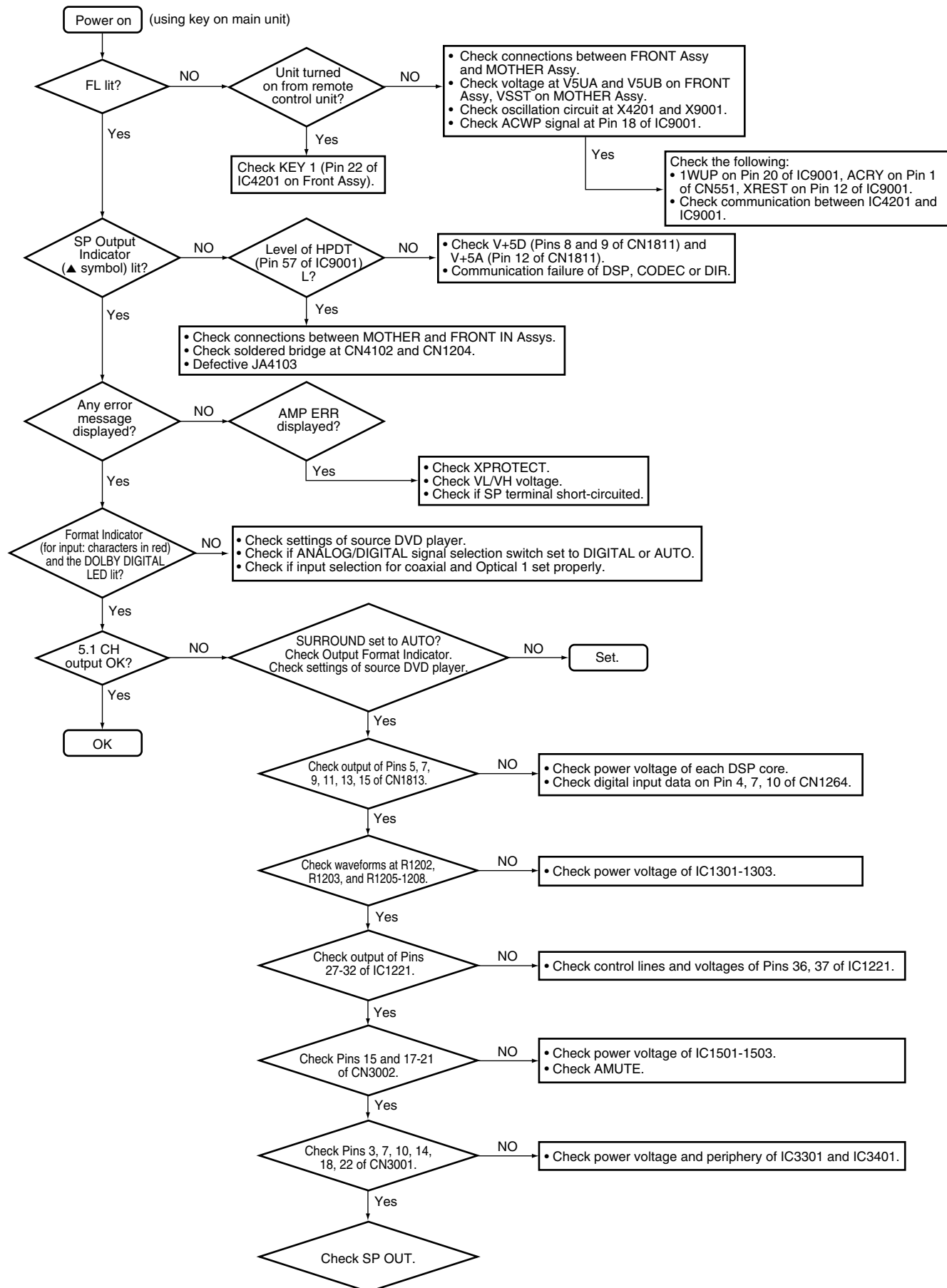


If no fan is connected between FAN+ and FAN-, or when the fan cannot rotate because of a foreign object caught in the blades, the BASE of Q3652 becomes OPEN, and Q3652 and Q3651 (E, C, B) are turned off. Then Q3651 (E2, B2, C2) is turned on, and the level of XPROTECT becomes low.

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

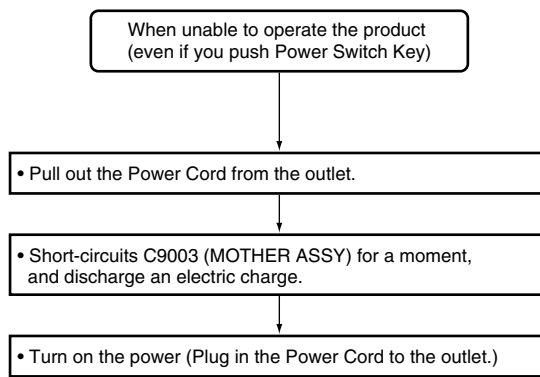
When FAN+ and FAN- are short-circuited, the electric potential at Point (A) becomes higher than GND level by the addition of the values at D3656 and D3657. As this value is lower than that at D3658, Q3651 (E, C, B) is turned off, Q3651 (E2, B2, C2) is turned on, and the level of XPROTECT becomes low.

7.1.5 Troubleshooting



Troubleshooting 2

- This troubleshooting is the repair method when the Microcomputer is hanged up by unexpected use environment.



7.1.6 Timing Chart

A

B

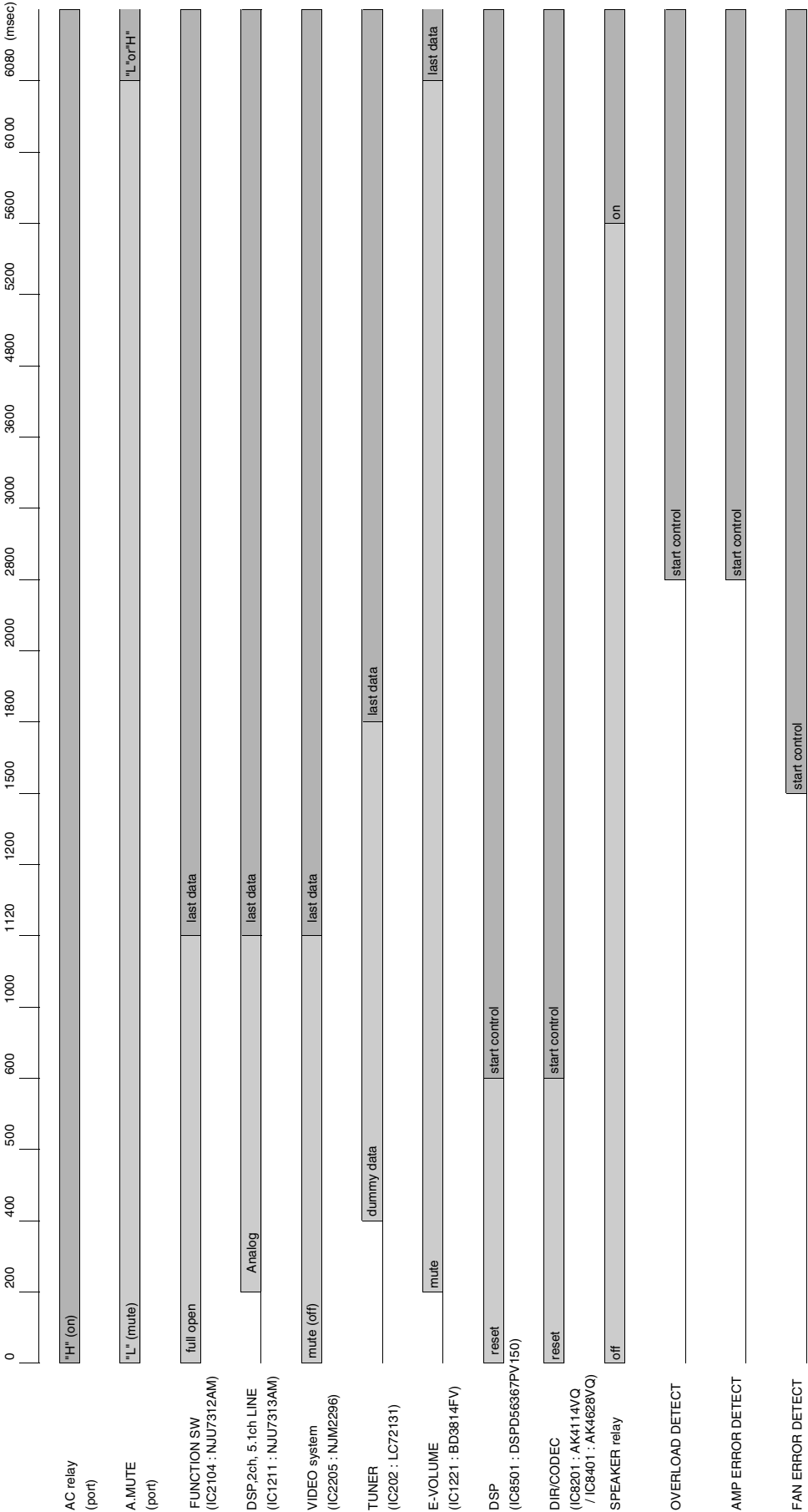
C

D

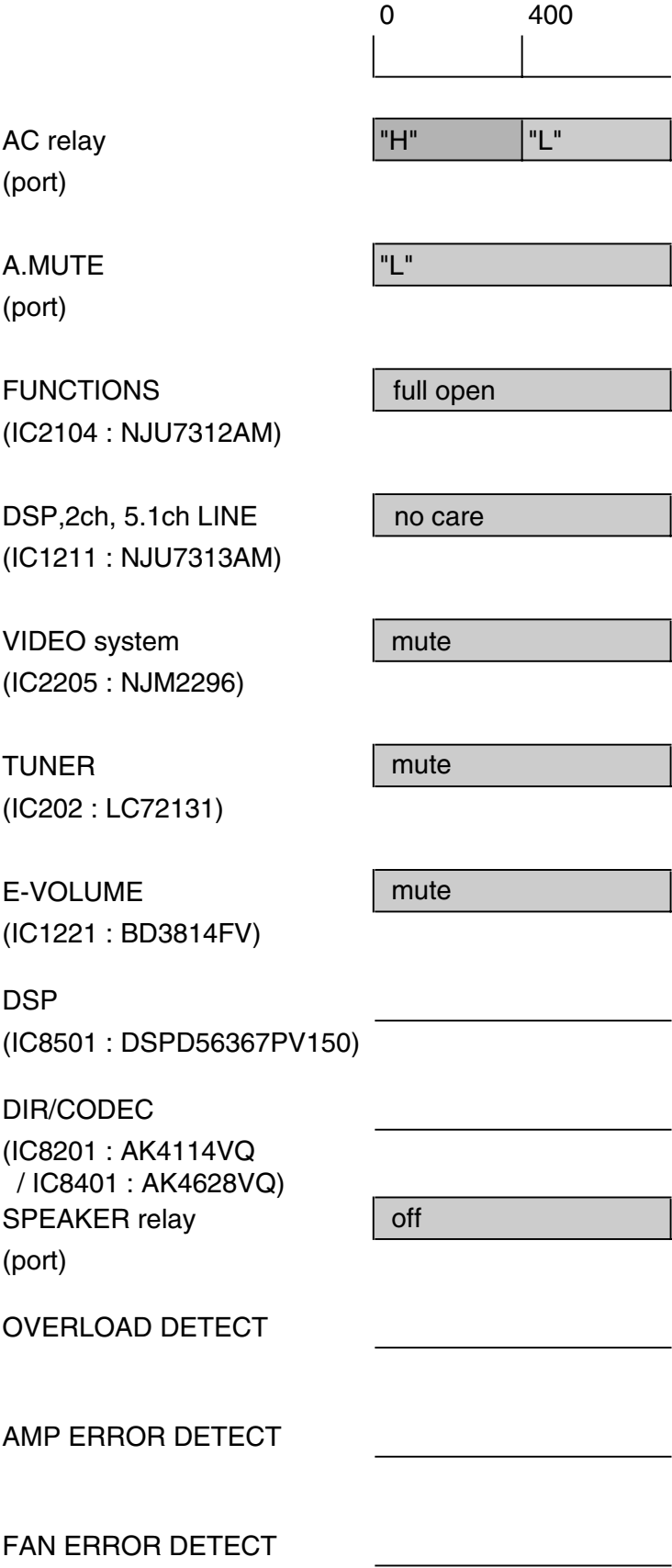
E

F

Power ON initial timing chart

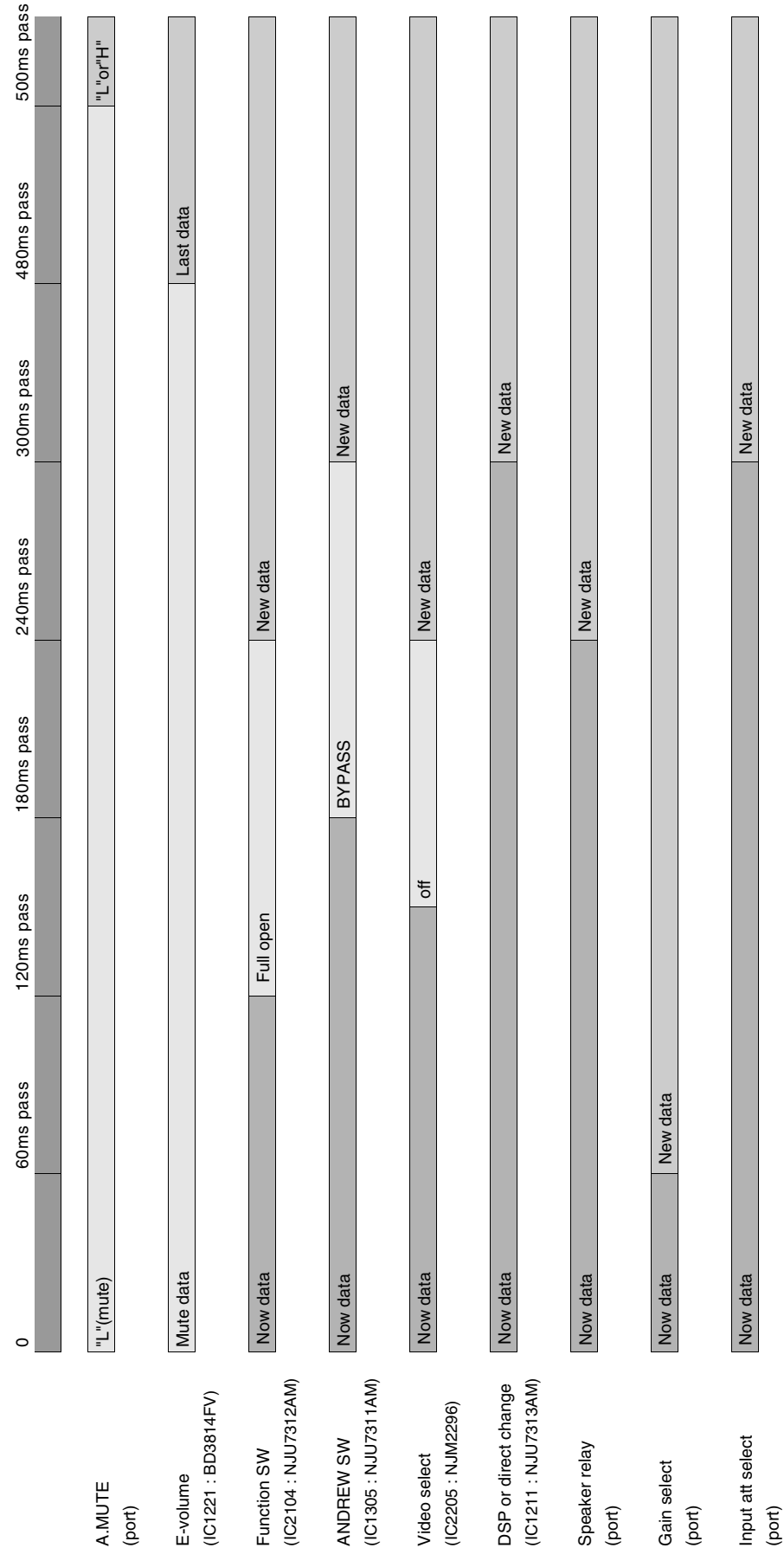


■ Power OFF initial timing chart



■ IC data transmission timing chart

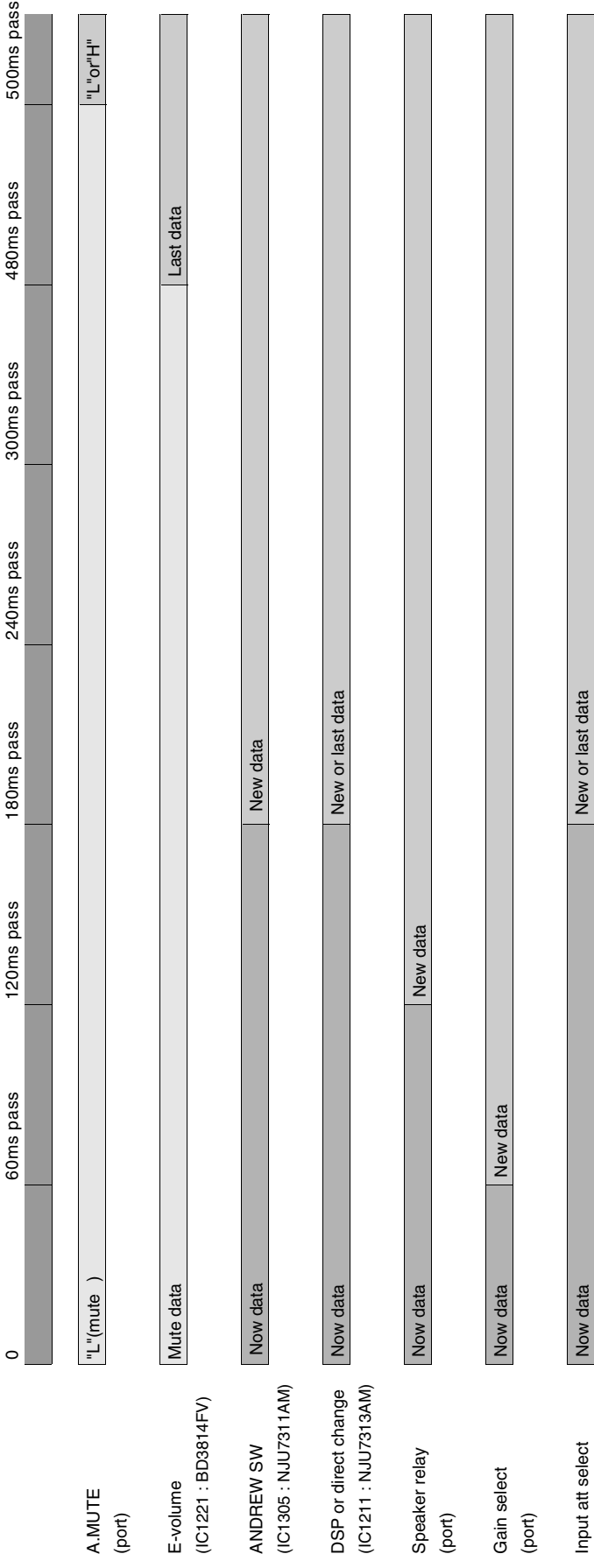
1. When function change



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

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

2. When except function change



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

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

7.2 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.

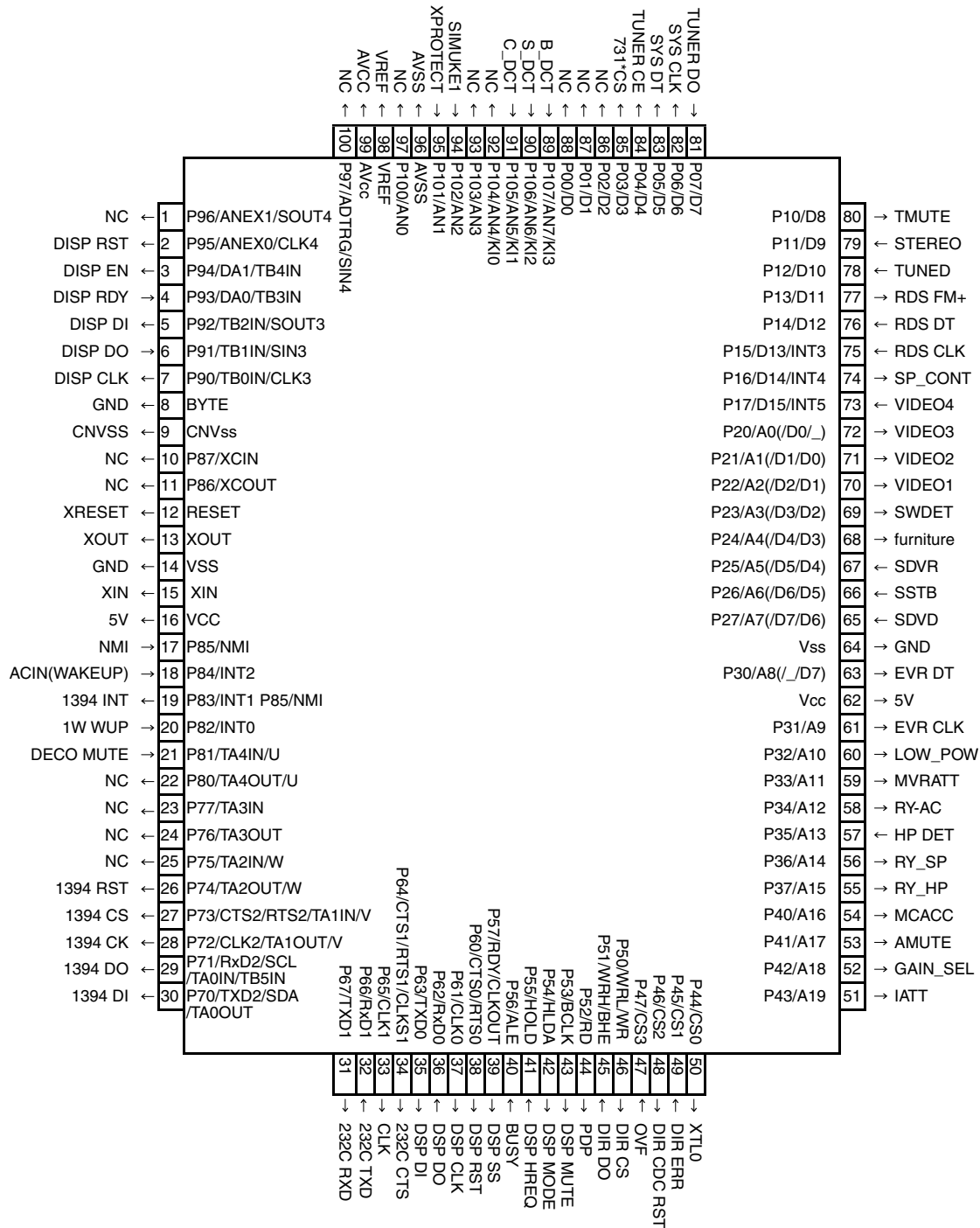
- List of IC**

PD5863A, PE5368B

- 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

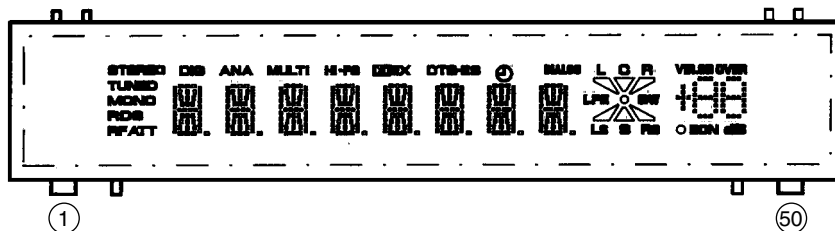
No.	Port	Pin Name	I/O	Pin Function
41	FIP37/P45	LED3	O	LED output
42	FIP36/P44	LED4	O	LED output
42	FIP35/P43	LED5	O	LED output
44	FIP34/P42	LED6	O	LED output
45	FIP33/P41	LED7	O	LED Output
46	FIP32/P40	LED8	O	LED output
47	FIP31/P37	S21	O	Display
48	FIP30/P36	S20	O	Display
49	FIP29/P35	S19	O	Display
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

7.2.2 DISPLAY

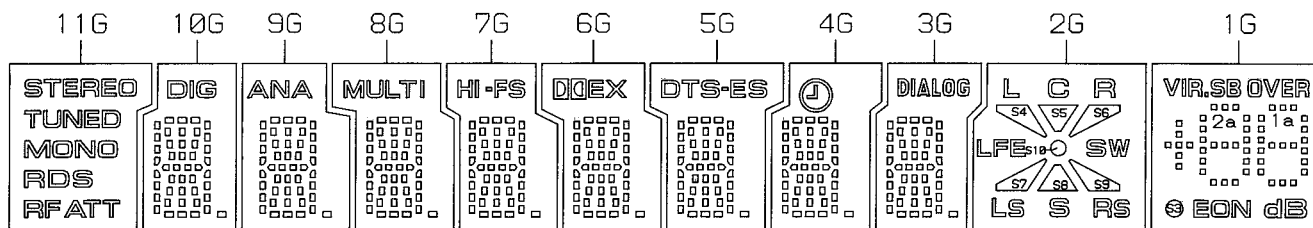
■ AAV7093 (FRONT ASSY : V4301)

● FL Display

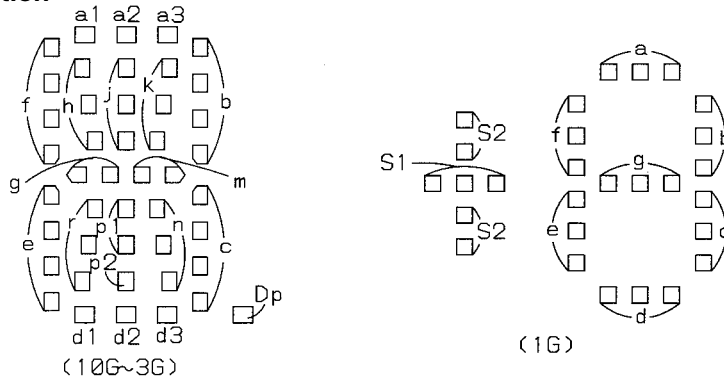
● Pin Assignment



● 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	F2			
	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

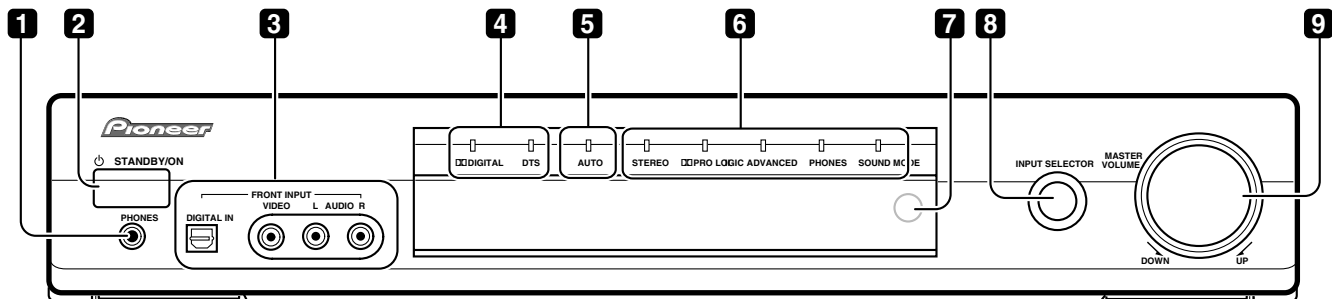


Before shipping out the product, be sure to clean the following positions by using the prescribed cleaning tools:

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 Digital surround format indicators

DIGITAL indicator

Lights when the current source is Dolby Digital.

DTS indicator

Lights when the current source is DTS.

5 AUTO indicator

Lights when Auto audio format decoding is selected.

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

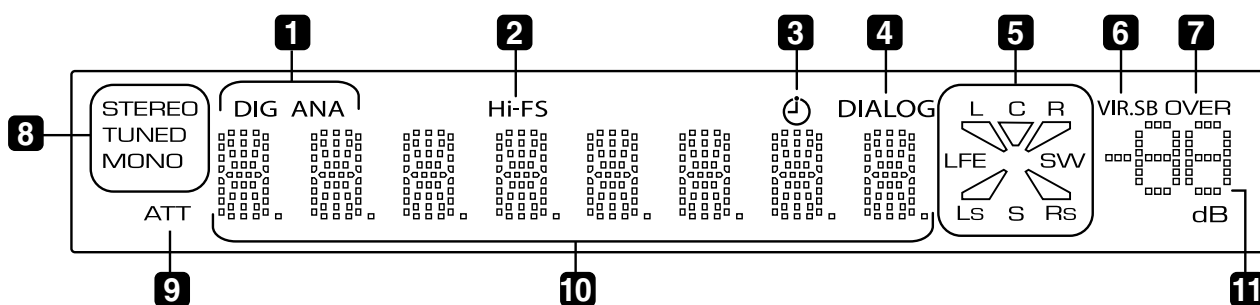
8 INPUT SELECTOR knob

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. **S** lights in Dolby Surround or Surround Monoaural.

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.

9 ATT

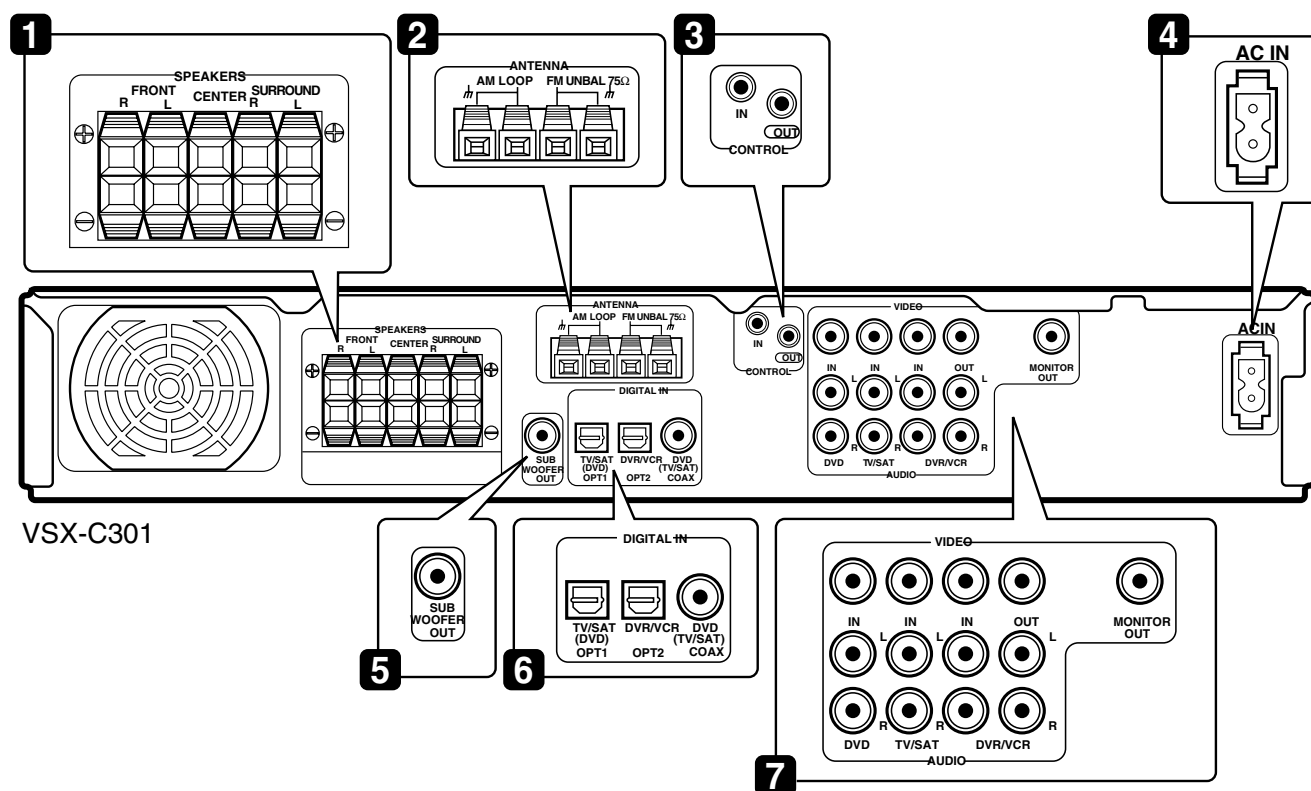
Lights when the input attenuator is on.

10 Character display

11 Volume level indicator

Indicates the volume level in dB.

Rear panel



VSX-C301



Important

- Before making or changing the connections, switch off the power and disconnect the power cable from the power outlet.

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

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, CD and DVR players, satellite receivers, etc.

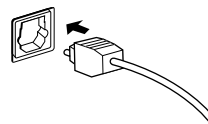
TV/SAT(DVD) OPT1 jack

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

DVR/VCR OPT2 jack

Optical digital audio jack for the **DVR/VCR** 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(TV/SAT) COAX jack

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

7 Audio/Video input/output jacks

DVD IN jacks

Jack connections for the **DVD** input.

TV/SAT IN jacks

Jack connections for the **TV/SAT** input.

DVR/VCR IN/OUT jacks

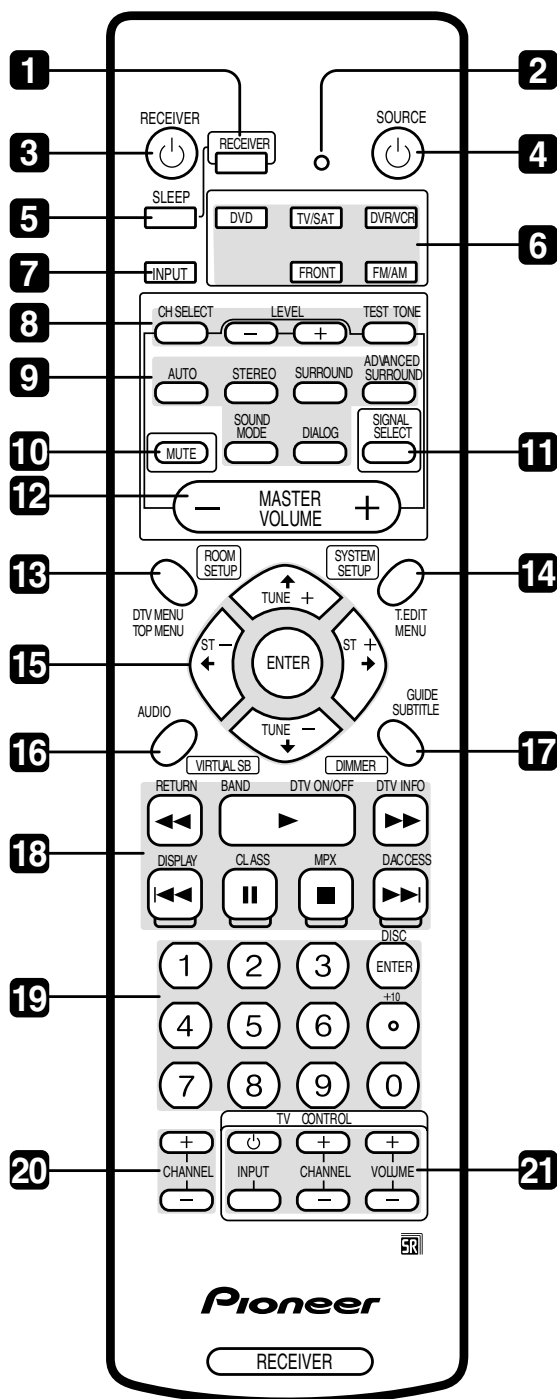
AV connector for the **DVR/VCR** input. When the receiver is set to any other input, that signal is output from the **DVR/VCR IN/OUT** jacks.

MONITOR OUT video jack

Jack connection for your TV.

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 (see Using the tuner). Other functions relate to other equipment that you can control using this remote. See also Controlling other equipment.



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 SLEEP

Use to set the sleep timer.

6 Input/remote control mode select buttons

When the Remote Direct function is set to on, these buttons (except **FM/AM**) change the remote mode and the receiver input simultaneously. When set to off, they only switch the remote mode (see also Remote Direct function).

7 INPUT

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

DVD

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

TV/SAT

Press to select **TV/SAT** (set-top box) as the current input.

DVR/VCR

Press to select **DVR/VCR** 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.

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**, **TV/SAT**, **DVR/VCR** 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.

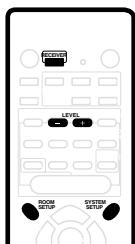
The LED on the remote control blinks three times indicating all the preset codes have been cleared.

The default preset codes are shown in the table.

Input/control mode select button	Preset code	Component (manufacturer)
DVD	020	DVD (Pioneer)
TV/SAT	200	STB (Pioneer)
DVR/VCR	466	DVD recorder (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 (see Resetting the system).

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	10 ft.
Center speaker distance	10 ft.
Surround speaker distance	10 ft.
Dynamic Range Control	OFF
Dual Mono	ch1
Input Attenuator	OFF (all inputs)
DVD(TV/SAT) COAX jack assignment	DVD
TV/SAT(DVD) OPT1 jack assignment	TV/SAT
Setting the volume level of each channel	Front: 0 dB Center: 0 dB Surround: 0 dB Subwoofer: 0 dB
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.