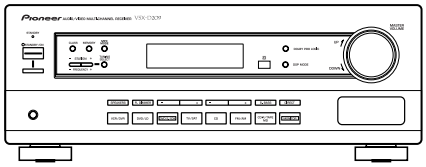
Service Manual



ORDER NO.
RRV2238

AUDIO/VIDEO MULTI-CHANNEL RECEIVER

VSX-D209
VSX-D209-G

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

Type	Model		Power Requirement	The voltage can be converted by the following method.
	VSX-D209	VSX-D209-G		
BXJI	◯	◯	AC110V/120-127V/220V/240V	With the voltage selector
HLXJI	—	◯	AC220-230V	AC240V, ✻

✻ : Alter the wiring of the Power-supply block at the primary winding of Power-transformer referring to the "Line Voltage Selection" described in Service Manual.

CONTENTS

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PIONEER ELECTRONIC (EUROPE) N.V. Haven 1087, Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS ASIACENTRE PTE. LTD. 253 Alexandra Road, #04-01, Singapore 159936

T – ZZK NOV. 1999 Printed in Japan

1. 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.

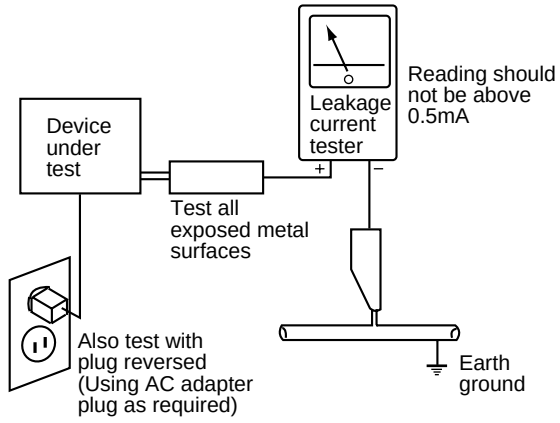
(FOR USA MODEL ONLY)

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 60Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5mA.



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.

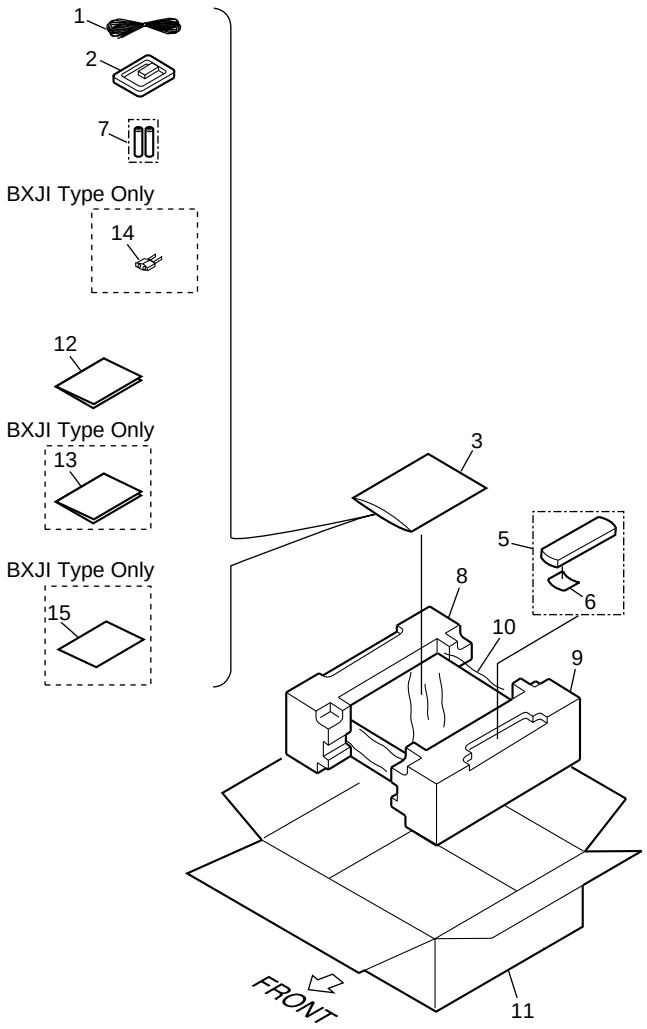
The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

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.

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 the product are used for disassembly.*

2.1 PACKING



(1) PACKING PARTS LIST

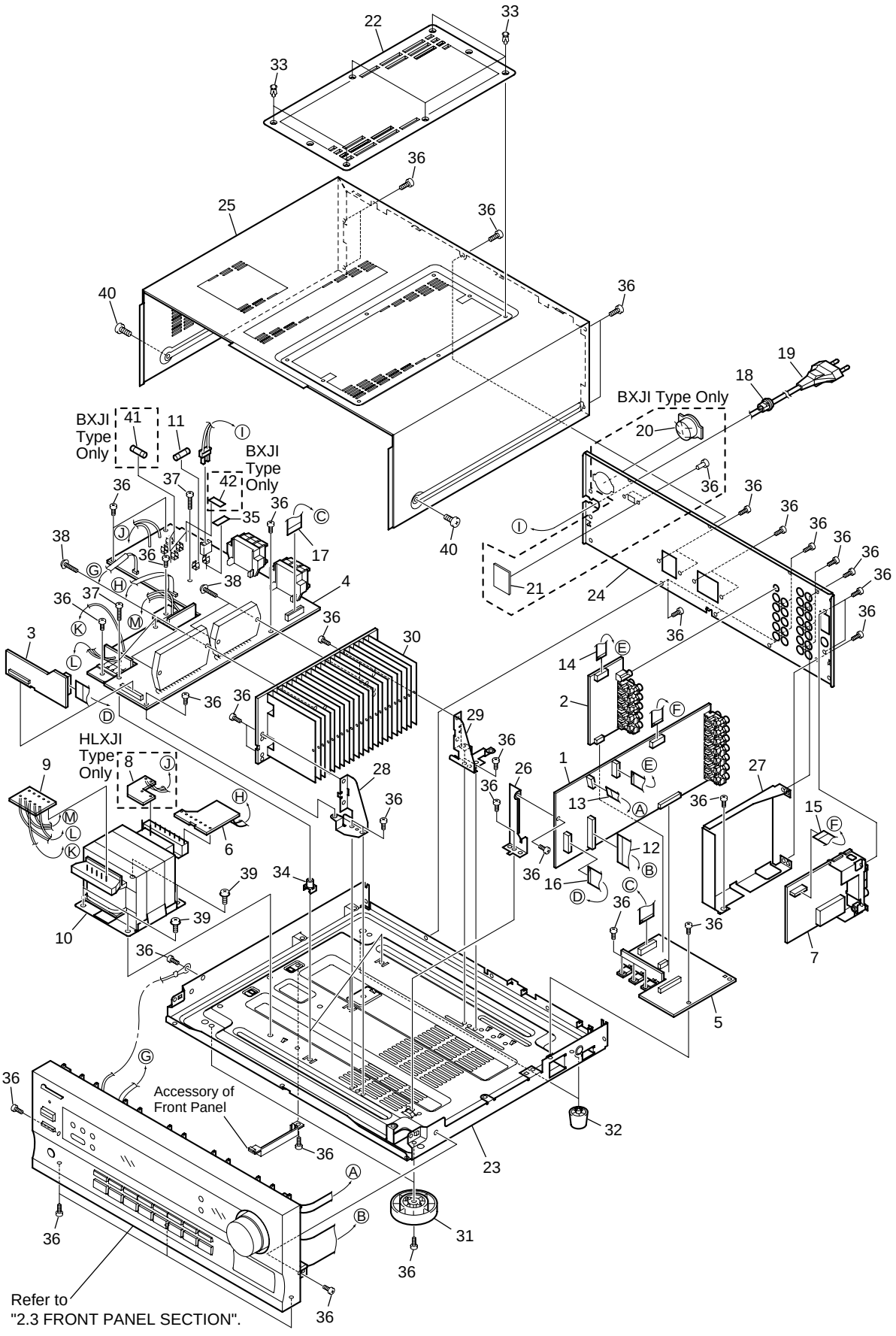
Mark	No.	Description	Part No.
	1	FM Wire Antenna	ADH7004
	2	AM Loop Antenna	ATB7009
	3	Polyethylene Bag (0.03 × 230 × 340)	Z21-038
	4	• • • • • •	
	5	Remote Control Unit (CU-VSX166)	AXD7245
	6	Battery Cover	RZN1156
NSP	7	Dry Cell Battery (R6P, AA)	VEM-013
	8	Left Pad	AHA7275
	9	Right Pad	AHA7276
	10	Packing Sheet	AHG7069
	11	Packing Case	See Contrast table (2)
	12	Operating Instructions (English/Chinese)	ARE7246
	13	Operating Instructions (Spanish)	See Contrast table (2)
⚠	14	AC Plug Adapter	See Contrast table (2)
	15	Caution 220V Label	See Contrast table (2)

(2) CONTRAST TABLE

VSX-D209/BXJI, VSX-D209-G/BXJI and VSX-D209-G/HLXJI are constructed the same except for the following :

Mark	No.	Symbol and Description	Part No.			Remarks
			VSX-D209 /BXJI	VSX-D209-G /BXJI	VSX-D209-G /HLXJI	
	11	Packing Case	AHD7819	AHD7821	AHD7804	
	13	Operating Instructions (Spanish)	ARC7278	ARC7278	Not used	
⚠	14	AC Plug Adapter	AKX7011	AKX7011	Not used	
	15	Caution 220V Label	ARR1003	ARR1003	Not used	

2.2 EXTERIOR SECTION



(1) EXTERIOR SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	MAIN Assy	AWX7471
	2	VIDEO&6CH IN Assy	AWX7383
NSP	3	AMP INPUT Assy	AWX7382
	4	AMP&PRIMARY Assy	See Contrast table (2)
	5	REGULATOR Assy	AWX7389
	6	TRANS 2 Assy	AWX7391
	7	FM/AM TUNER Unit	AXX7047
NSP	8	TRANS 1 Assy	See Contrast table (2)
NSP	9	TRANS 3 Assy	AWX7392
⚠	10	Power Transformer	See Contrast table (2)
⚠	11	Fuse (FU1)	See Contrast table (2)
	12	FFC (J31 : 30P/190 BD 60V) (MAIN CN102 ↔ FRONT CN402)	ADD7186
	13	FFC (J32 : 8P/170 BD 60V) (MAIN CN103 ↔ FRONT CN401)	ADD7187
	14	FFC (J33 : 12P/200 BD 60V) (MAIN CN104 ↔ VIDEO&6CH IN CN305)	ADD7188
	15	FFC (J34 : 13P/80 BD 60V) (MAIN CN105 ↔ FM/AM TUNER CN1)	ADD7189
	16	FFC (J35 : 17P/110 BD 60V) (MAIN CN106 ↔ AMP INPUT CN290)	ADD7190
	17	FFC (J36 : 18P/80 BD 60V) (REGULATOR CN801 ↔ AMP&PRIMARY CN53)	ADD7191
	18	Strain Relief	CM-22B
⚠	19	AC Power Cord	See Contrast table (2)
⚠	20	Voltage Selector	See Contrast table (2)

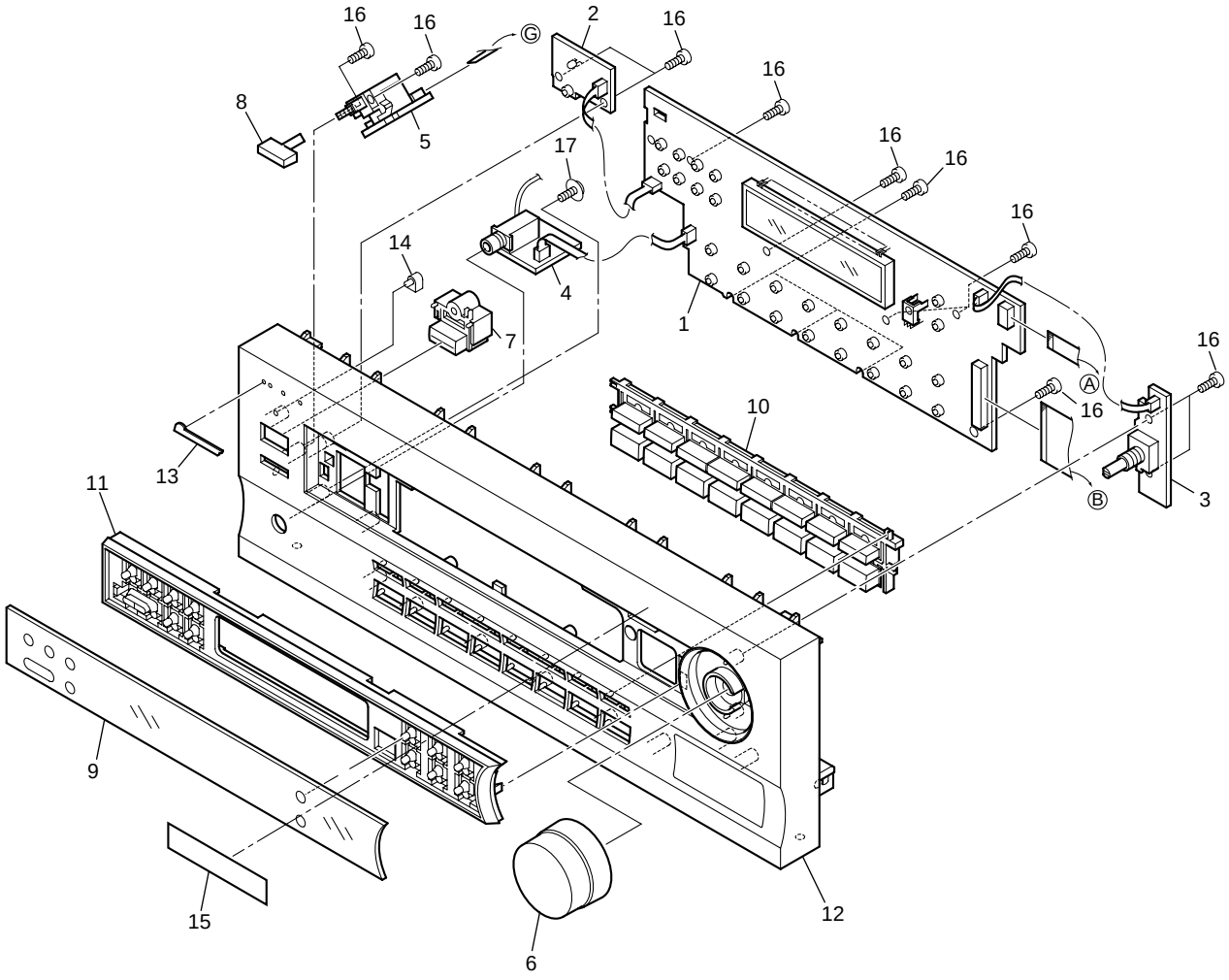
Mark	No.	Description	Part No.
NSP	21	VOLTAGE SELECT SW Assy	See Contrast table (2)
	22	Top Cover	See Contrast table (2)
NSP	23	Under Base 409	ANA7094
	24	R Panel	See Contrast table (2)
	25	Bonnet Case	See Contrast table (2)
	26	PCB Angle	ANG7253
	27	Shield R3	ANG7277
	28	Heat Sink Angle F	ANG7251
	29	Heat Sink Angle R	ANG7252
NSP	30	Heat Sink 0.8	ANH7110
	31	Insulator	See Contrast table (2)
	32	Foot Assy	REC1263
	33	Push Rivet	See Contrast table (2)
	34	PCB Mold	AMR2533
NSP	35	Fuse Card	See Contrast table (2)
	36	Screw	BBZ30P080FMC
	37	Screw	BBZ30P200FMC
	38	Screw	ABA7043
	39	Screw	FBT40P080FZK
	40	Screw	See Contrast table (2)
⚠	41	Fuse (FU2, FU3)	See Contrast table (2)
NSP	42	Fuse Card	See Contrast table (2)

(2) CONTRAST TABLE

VSX-D209/BXJI, VSX-D209-G/BXJI and VSX-D209-G/HLXJI are constructed the same except for the following :

Mark	No.	Symbol and Description	Part No.			Remarks
			VSX-D209 /BXJI	VSX-D209-G /BXJI	VSX-D209-G /HLXJI	
	4	AMP&PRIMARY Assy	AWX7473	AWX7473	AWX7388	
NSP	8	TRANS 1 Assy	Not used	Not used	AWX7390	
⚠	10	Power Transformer (AC110V/120-127V/220V/240V)	ATS7261	ATS7261	Not used	
⚠	10	Power Transformer (AC220-230V)	Not used	Not used	ATS7259	
⚠	11	Fuse (FU1 : T5A/250V)	REK1029	REK1029	Not used	
⚠	11	Fuse (FU1 : T2.5A/250V)	Not used	Not used	REK1026	
⚠	19	AC Power Cord	VDG1080	VDG1080	VDG1061	
⚠	20	Voltage Selector	AKX-507	AKX-507	Not used	
NSP	21	VOLTAGE SELECT SW Assy	AWX7442	AWX7442	Not used	
	22	Top Cover	AME7375	AME7376	AME7376	
	24	R Panel	ANC7878	ANC7883	ANC7875	
	25	Bonnet Case	AZN7779	AZN7819	AZN7819	
	31	Insulator	AMR7198	PNW2766	PNW2766	
	33	Push Rivet	AEC7025	AEC7205	AEC7205	
NSP	35	Fuse Card	AAX7098	AAX7098	AAX7277	
	40	Screw	FBT40P080FZK	FBT40P080FNI	FBT40P080FNI	
⚠	41	Fuse (FU2, FU3 : T2.5A/250V)	REK1026	REK1026	Not used	
NSP	42	Fuse Card	AAX7277	AAX7277	Not used	

2.3 FRONT PANEL SECTION



(1) FRONT PANEL SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	FRONT Assy	AWX7472
	2	POWER SW Assy	AWX7385
NSP	3	R. ENCODER Assy	AWX7386
NSP	4	H.P. Assy	AWX7387
	5	MECHA SW Assy	AWX7443
	6	Volume Knob	See Contrast table (2)
	7	Power Button	See Contrast table (2)
	8	Power Button M	See Contrast table (2)
	9	Window	See Contrast table (2)
	10	F Button	See Contrast table (2)
	11	Sub Panel 409RDS	AAD7552
	12	F Panel	See Contrast table (2)
	13	Name Plate	See Contrast table (2)
	14	LED Lens	PNW2019
NSP	15	Getter D209HL	AAX7744
	16	Screw	PPZ30P080FMC
	17	Screw	ABA7009

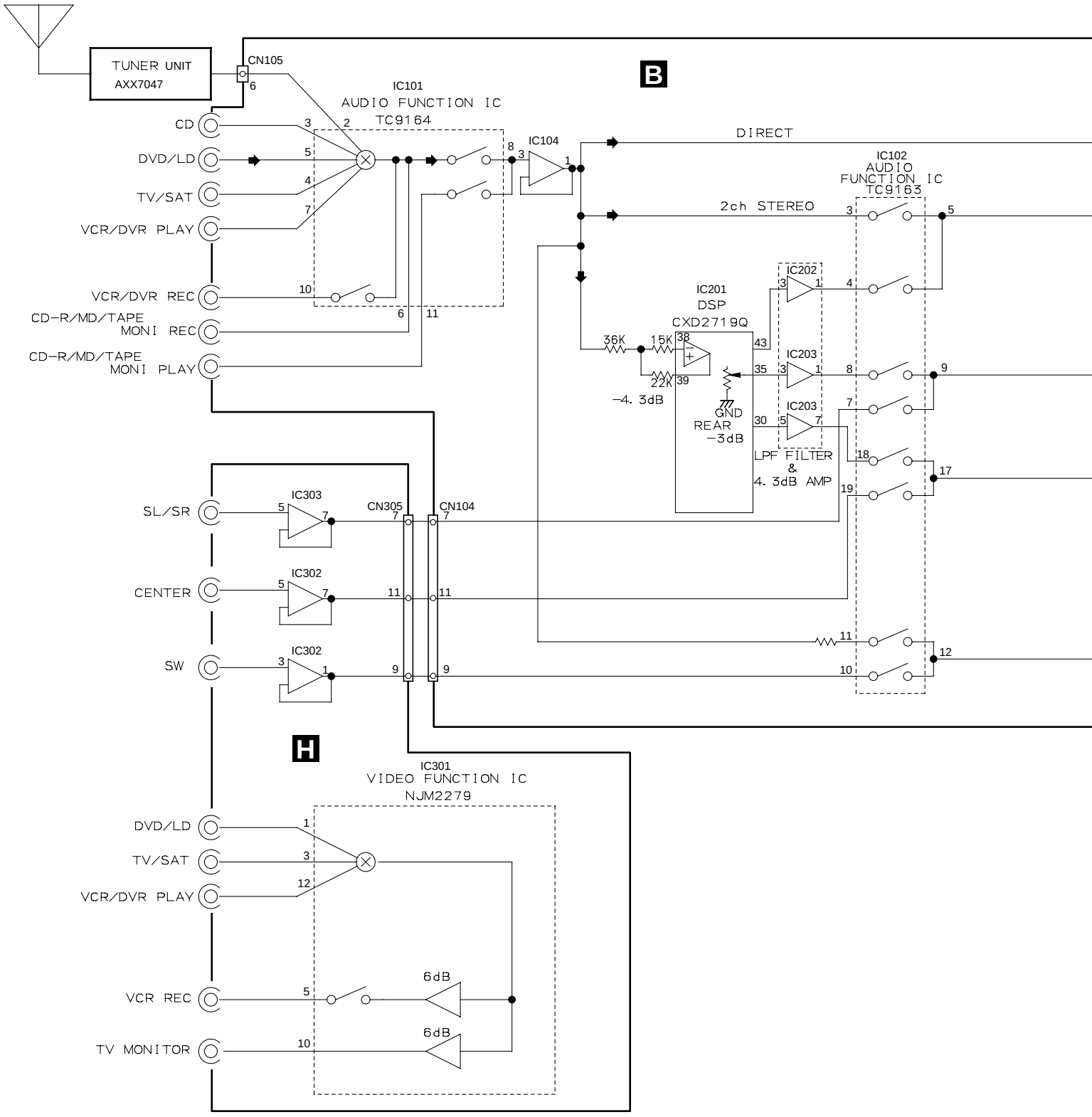
(2) CONTRAST TABLE

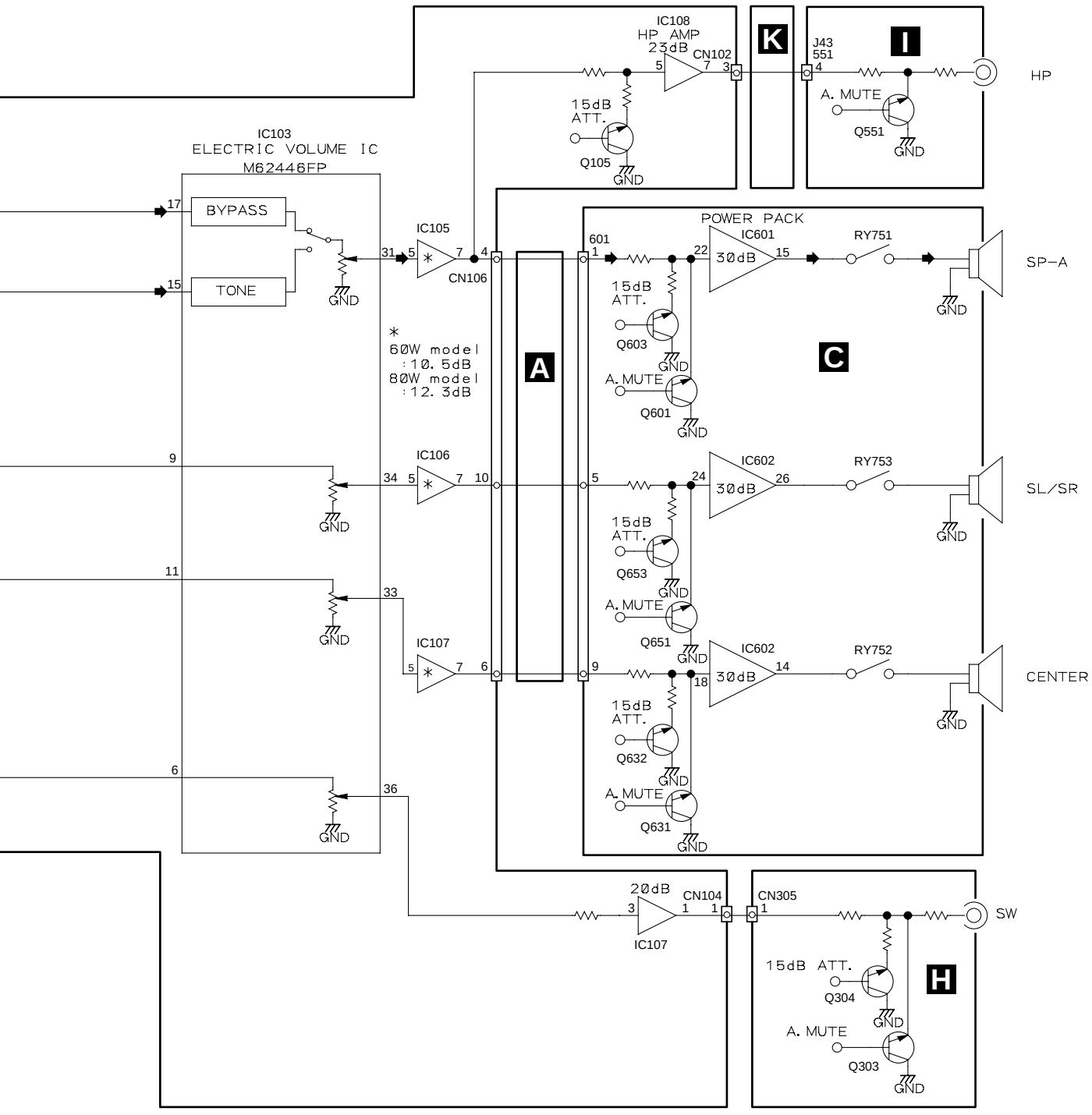
VSX-D209/BXJI, VSX-D209-G/BXJI and VSX-D209-G/HLXJI are constructed the same except for the following :

Mark	No.	Symbol and Description	Part No.			Remarks
			VSX-D209 /BXJI	VSX-D209-G /BXJI	VSX-D209-G /HLXJI	
	6	Volume Knob	AAB7179	AAB7180	AAB7180	
	7	Power Button	AAD7440	AAD7485	AAD7485	
	8	Power Button M	AAD7442	AAD7491	AAD7491	
	9	Window	AAK7709	AAK7714	AAK7714	
	10	F Button	AAD7537	AAD7556	AAD7556	
	12	F Panel	AMB7653	AMB7659	AMB7659	
	13	Name Plate	PAM1776	PAM1779	PAM1779	

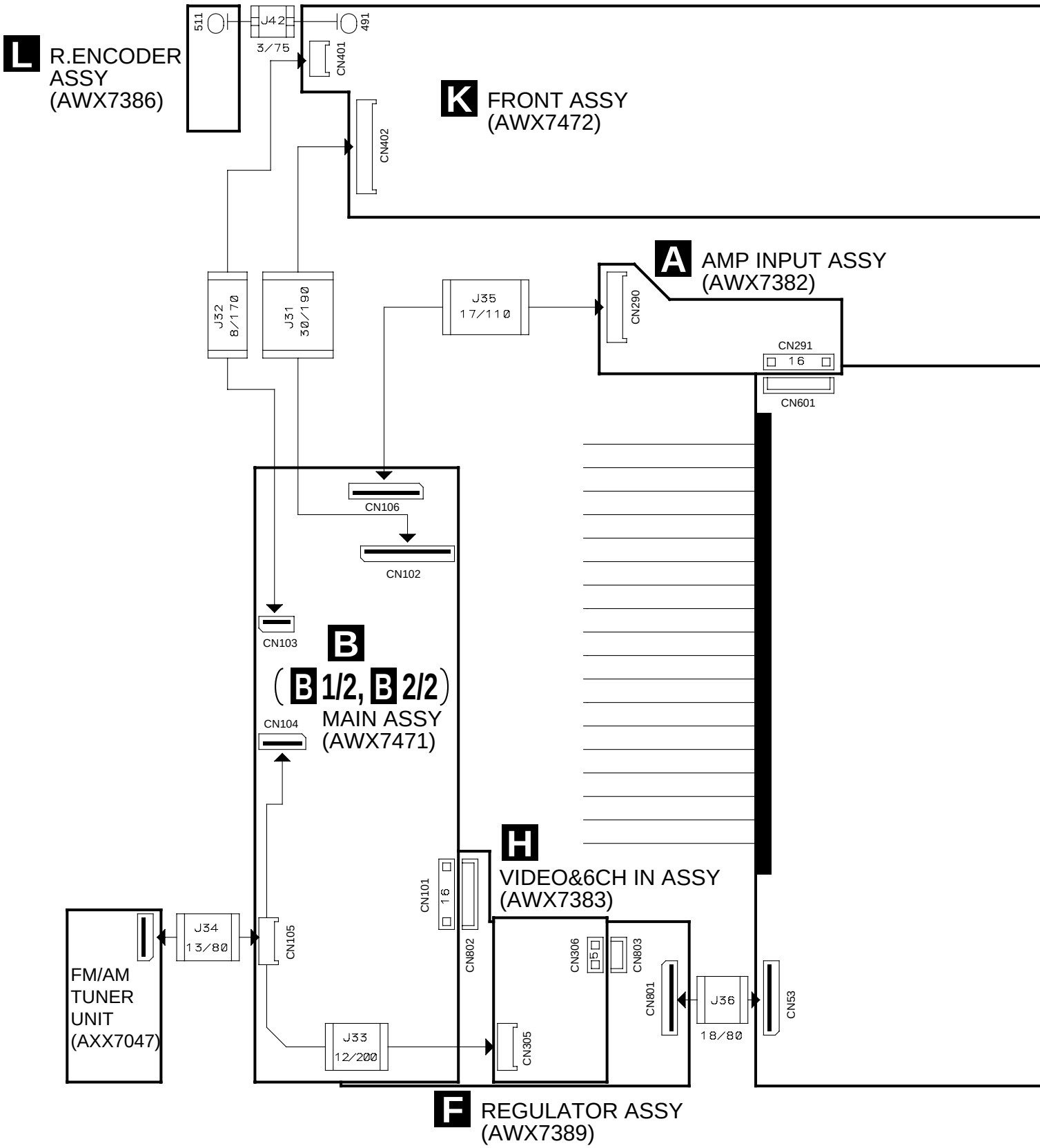
3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

3.1 BLOCK DIAGRAM

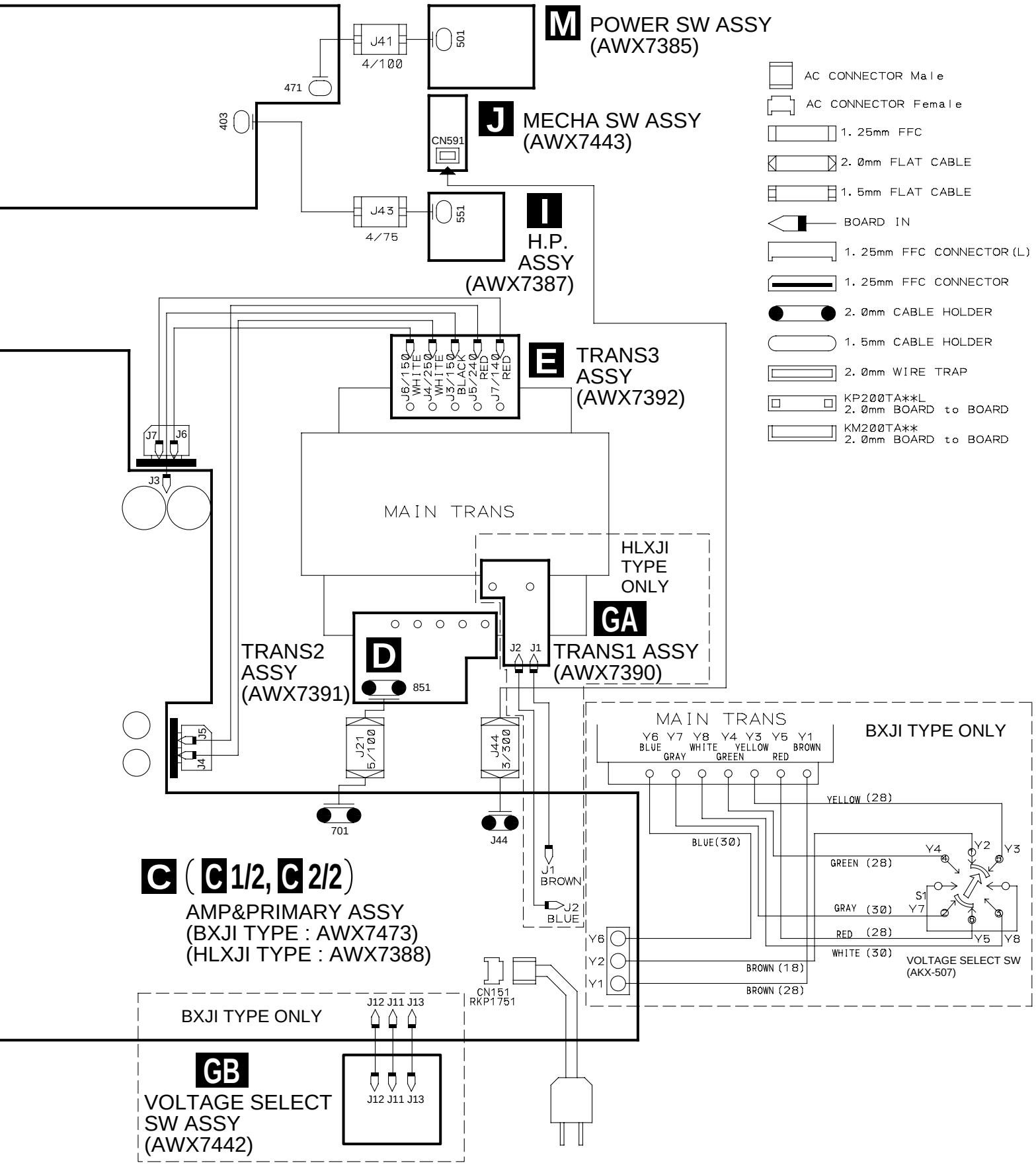



IC108
HP AMP
23dB
CN102
K
J43
551
I
HP
15dB
ATT.
Q105
A. MUTE
Q551
GND
IC103
ELECTRIC VOLUME IC
M62446FP
BYPASS
TONE
IC105
CN106
POWER PACK
IC601
30dB
RY751
SP-A
Q603
Q601
IC106
IC602
RY753
SL/SR
Q653
Q651
IC107
RY752
CENTER
Q632
Q631
* 60W model :10.5dB
80W model :12.3dB
A
C
20dB
CN104
CN305
SW
H
Q304
Q303
E
POWER AMP
IC601, IC602
Q701
Q702
D701
D702
FL AC
CN402
IC801
IC802
D801–D804
F
B CN101
U+5V
IC51
D51-D54
J S591
T51
RY51
AC IN
T1
POWER
TRANSFORMER

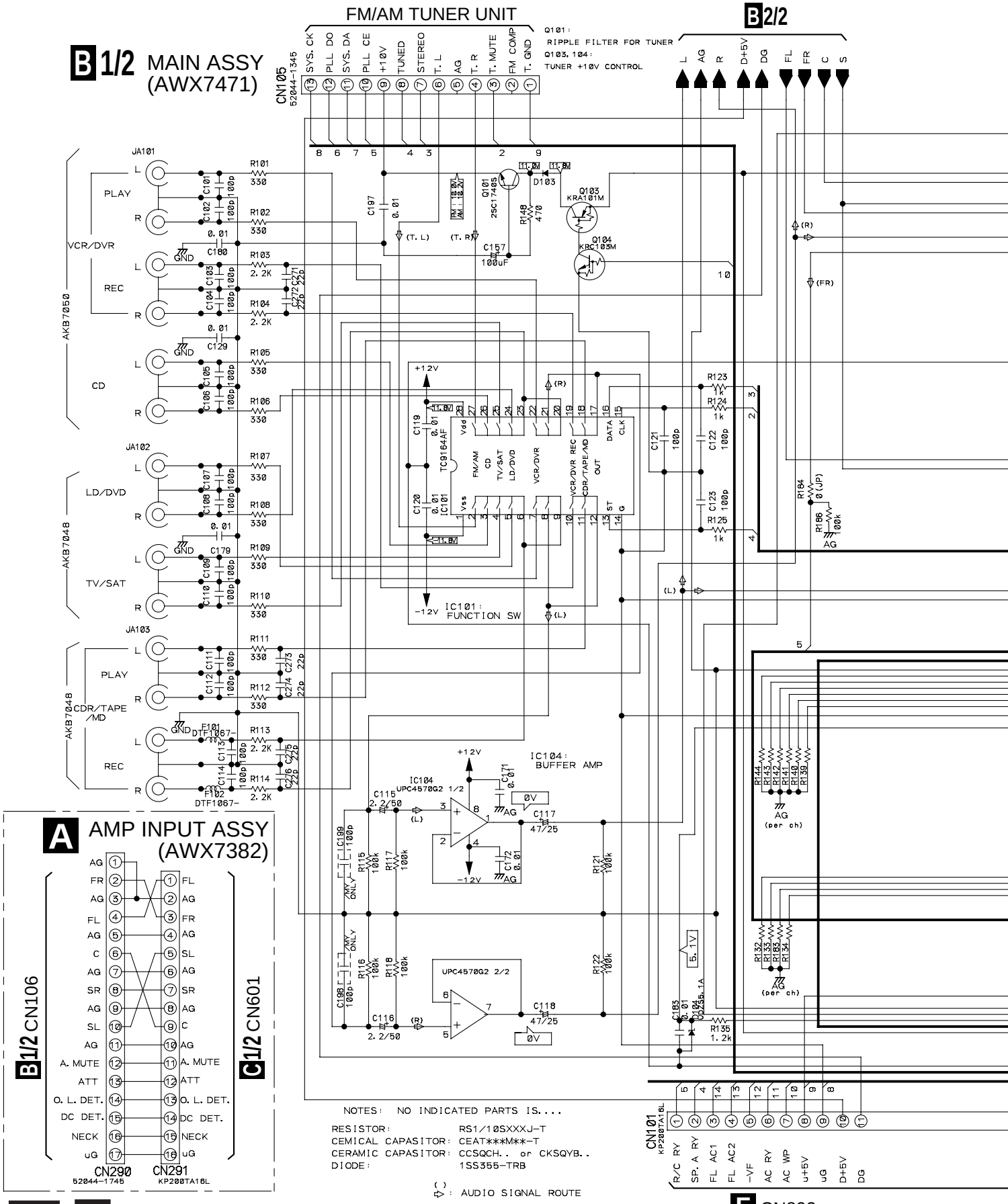
3.2 OVERALL WIRING CONNECTION DIAGRAM

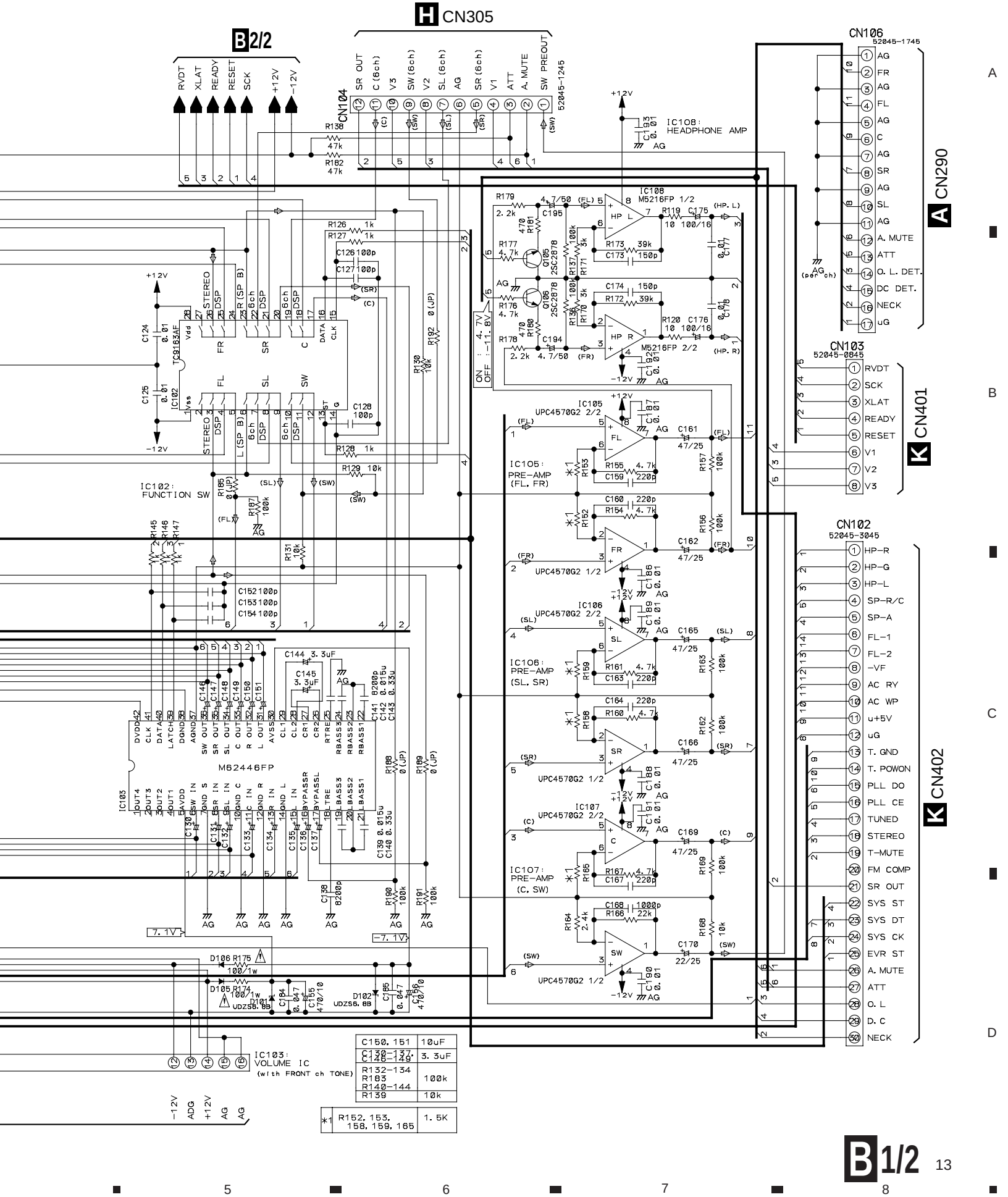


Note : When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".

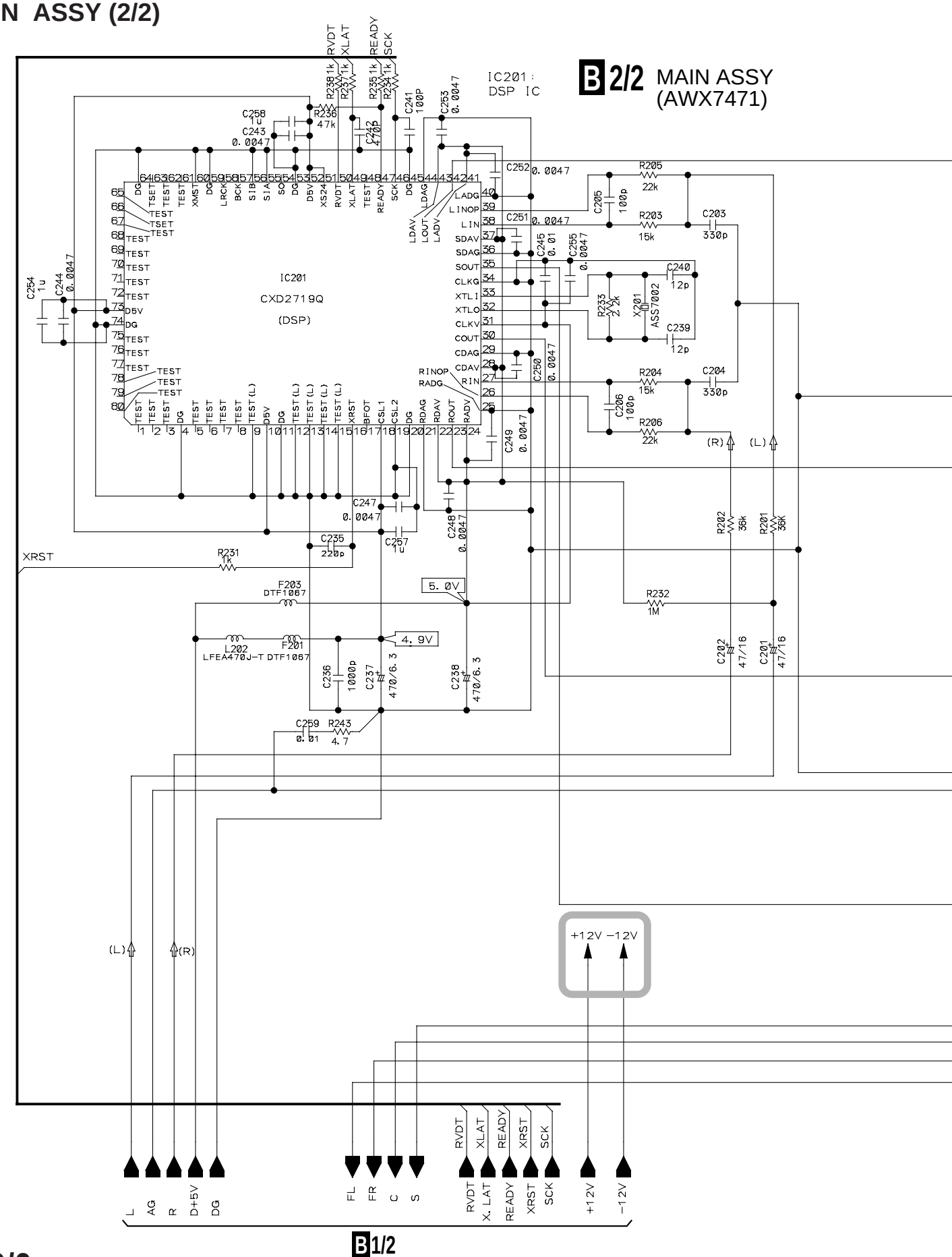


3.3 AMP INPUT and MAIN (1/2) ASSYS

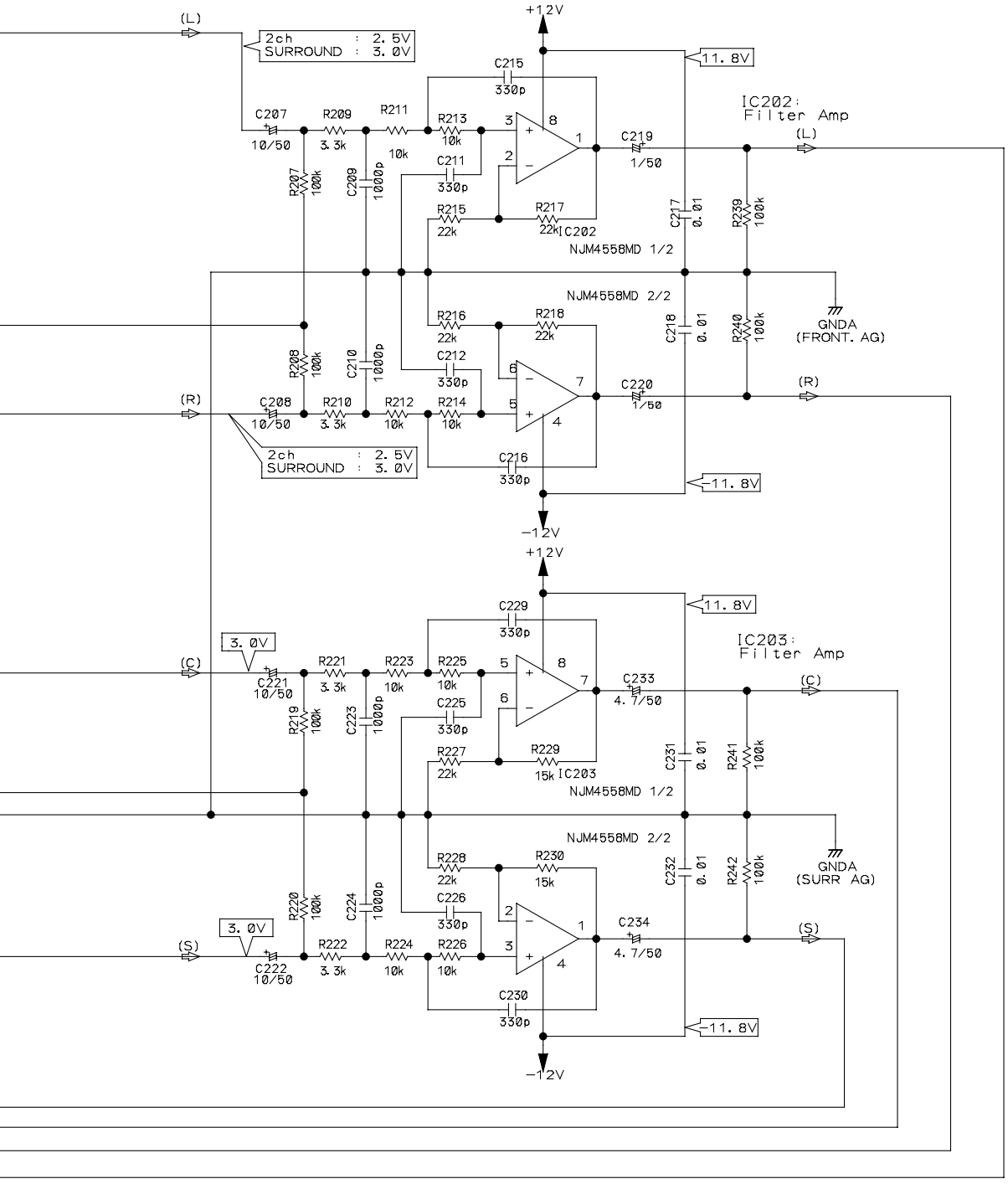



H CN305
B 2/2
CN104
CN106
CN290
CN103
CN401
CN102
CN402
IC102: FUNCTION SW
IC103: VOLUME IC (with FRONT ch TONE)
IC105 IC106 IC107 IC108
M62446FP
TC9163AF
PRE-AMP (FL, FR)
PRE-AMP (SL, SR)
PRE-AMP (C, SW)
HEADPHONE AMP
M5216FP 1/2
M5216FP 2/2
UPC4570G2 1/2
UPC4570G2 2/2
RVDT XLAT READY RESET SCK +12V -12V
SR OUT C (6ch) V3 SW (6ch) V2 SL (6ch) AG SR (6ch) V1 ATT A. MUTE SW PREOUT
HP-R HP-G HP-L SP-R/C SP-A FL-1 FL-2 -VF AC RY AC WP u+5V uG T. GND T. POWON PLL DO PLL CE TUNED STEREO T-MUTE FM COMP SR OUT SYS ST SYS DT SYS CK EVR ST A. MUTE ATT O. L D. C NECK
RVDT SCK XLAT READY RESET V1 V2 V3
AG FR AG FL AG C AG SR AG SL AG A. MUTE ATT O. L. DET. DC DET. NECK uG
C150, 151 10uF
C130-137, C146-149 3.3uF
R132-134, R183, R140-144 100k
R139 10k
*1 R152, 153, 158, 159, 165 1.5K

3.4 MAIN ASSY (2/2)



: The power supply is shown with the marked box.



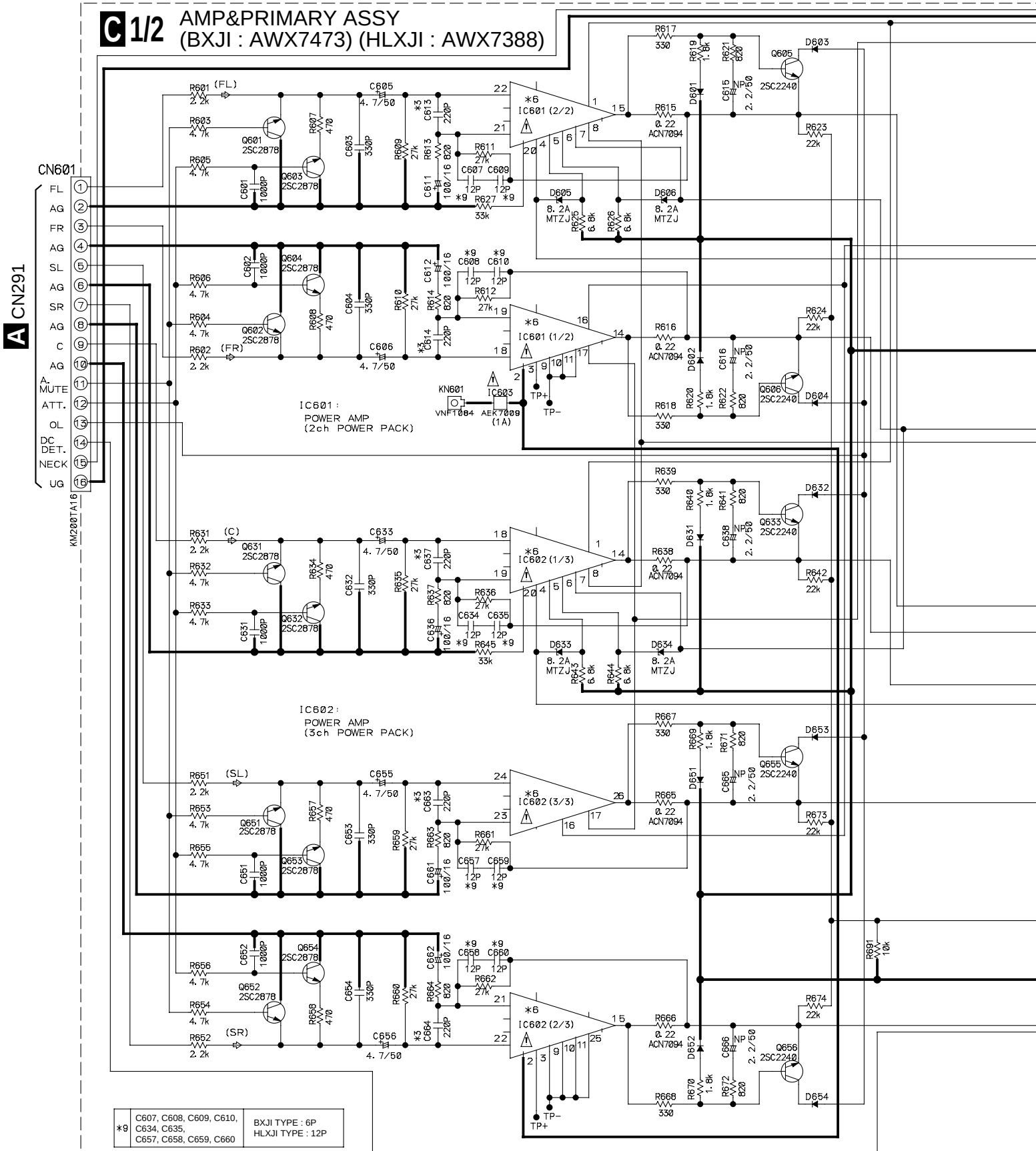
NOTES: NO INDICATED PARTS IS....

RESISTOR:	RS1/10S***J-T
CEMICAL CAPASITOR:	CEAT***M**-T
CERAMIC CAPASITOR:	CCSQCH... or CKSQYB...
DIODE:	1SS355-TRB

( )
⇨ : AUDIO SIGNAL ROUTE

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

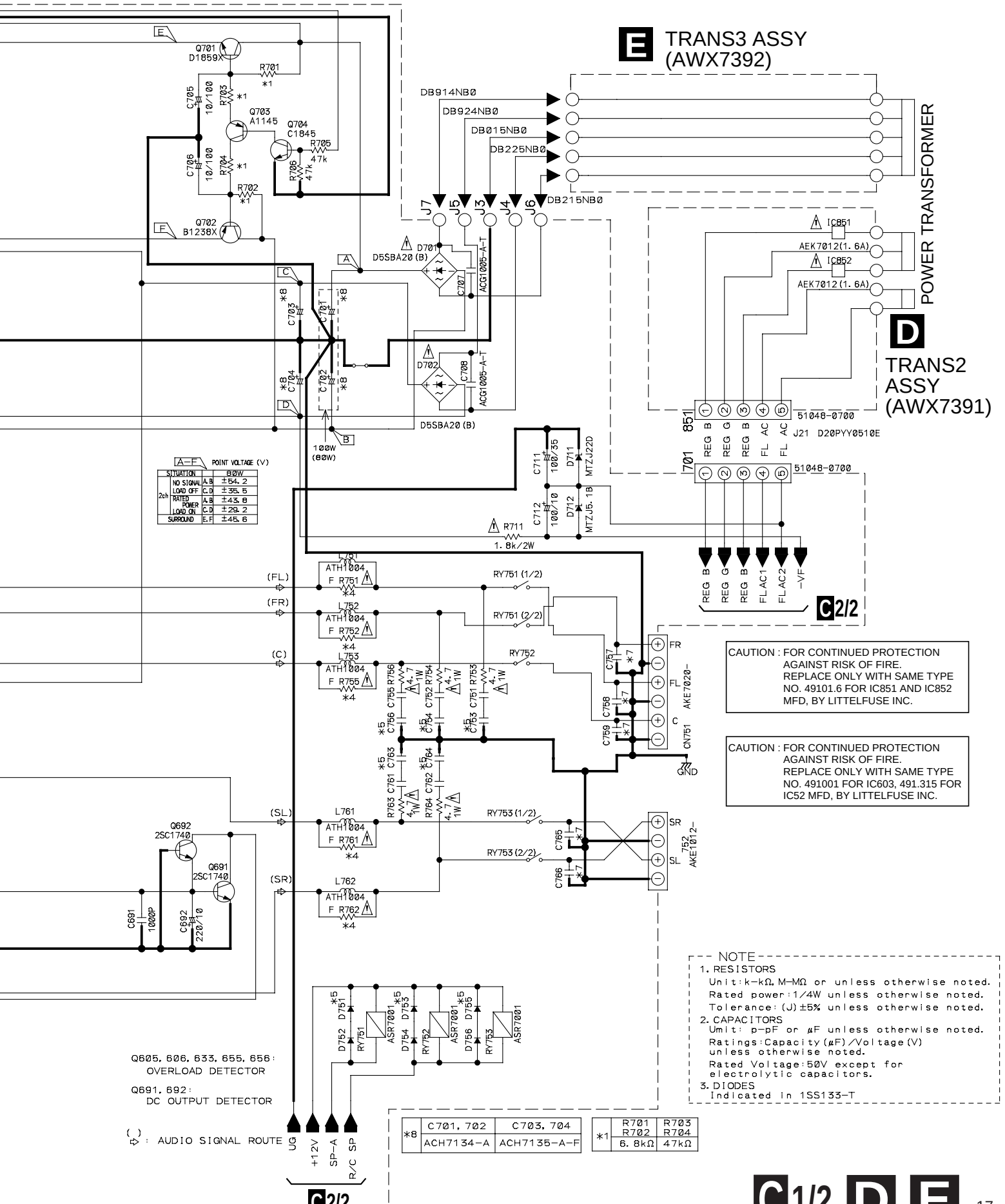
C 1/2 AMP&PRIMARY ASSY
(BXJI : AWX7473) (HLXJI : AWX7388)



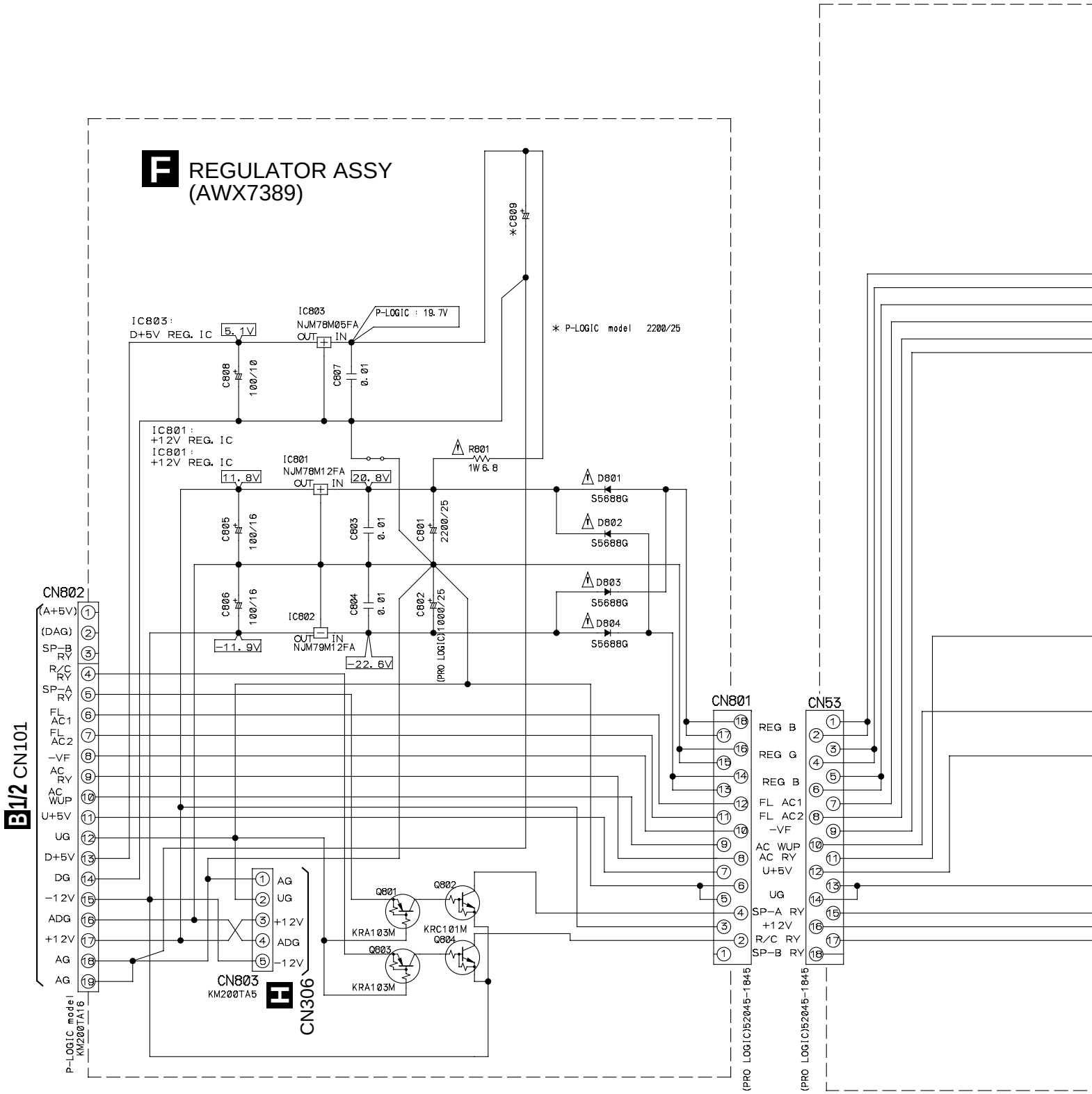
*9	C607, C608, C609, C610, C634, C635, C657, C658, C659, C660	BXJI TYPE : 6P HLXJI TYPE : 12P

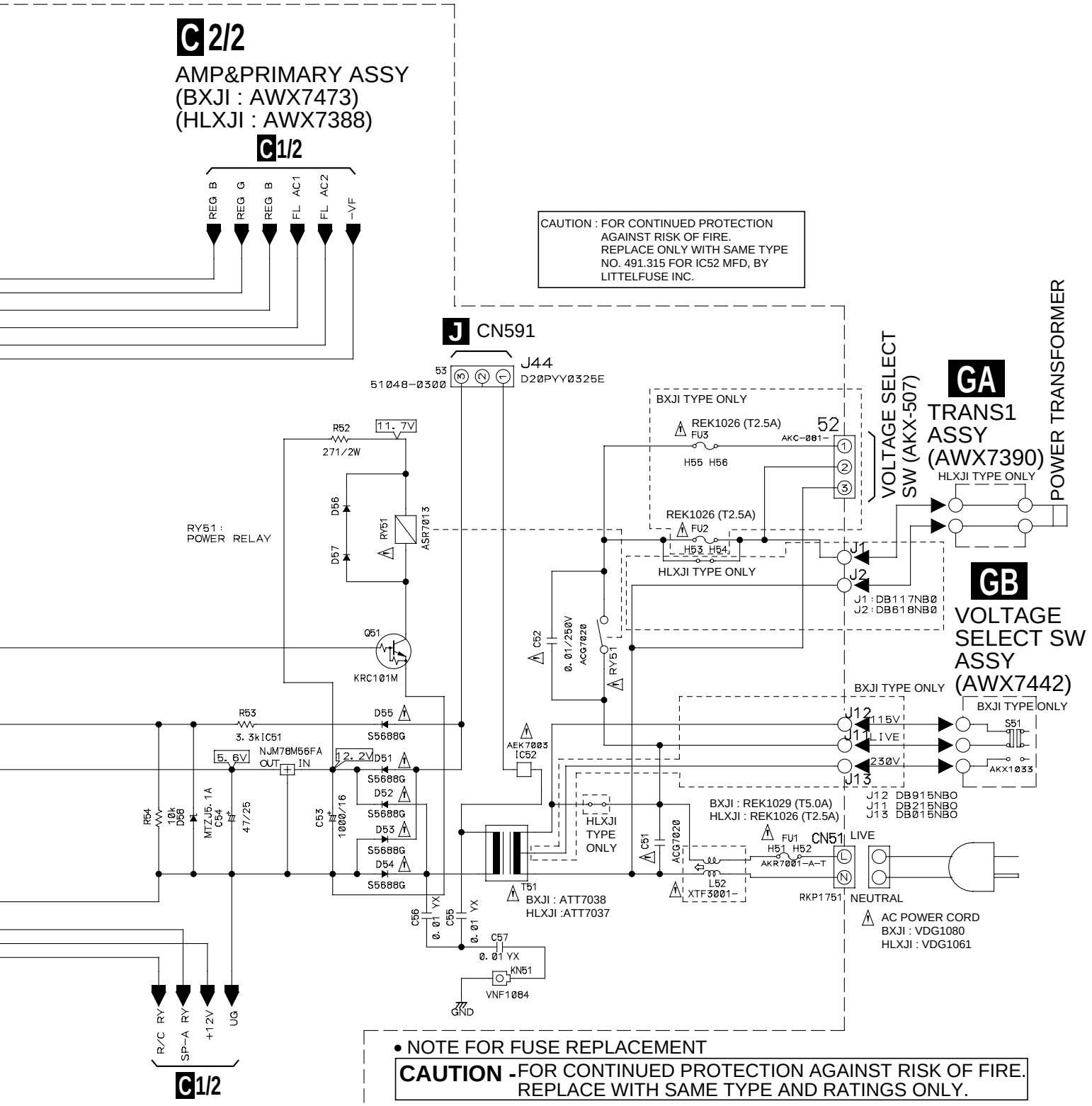
*3	C613, 614, 637, C663, 664	HLXJI TYPE ONLY
*4	R751, 752, 755, 761, 762	100 1/4W
*5	C751, 752, 755, 761, 762	0.22 YA
	C753, 754, 756, 763, 764	0.22 YA
	D751, 753, 755, 757	1SS133-T

*6		80&100W
	IC601	PAC010A
	IC602	PAC011A
*7	C757, 758, 759 C765, 766	HLXJI TYPE ONLY CQMBA 472J50-T


E TRANS3 ASSY (AWX7392)
POWER TRANSFORMER
D TRANS2 ASSY (AWX7391)
DB914NB0
DB924NB0
DB015NB0
DB225NB0
DB215NB0
J7 J5 J3 J4 J6
IC851
AEK7012(1.6A)
IC852
AEK7012(1.6A)
51048-0700
J21 D20PYY0510E
REG B REG G REG B FL AC FL AC
D701 D5SBA20(B)
D702 D5SBA20(B)
ACG1005-A-T
C707 C708
C703 C704 C701 C702
100W (80W)
C711 100/35 D711 MTZJ22D
C712 100/10 D712 MTZJ5.1B
R711 1.8k/2W
REG B REG G REG B FL AC1 FL AC2 -VF
C2/2
Q701 D1859X
Q702 B1238X
Q703 A1145
Q704 C1845
R701 R702 R703 R704 R705 R706
C705 10/100
C706 10/100
A-E POINT VOLTAGE (V)
SITUATION 80W
2ch NO SIGNAL A,B ±54.2
LOAD OFF C,D ±35.5
RATED POWER A,B ±43.8
LOAD ON C,D ±29.2
SURROUND E,F ±45.6
(FL) (FR) (C) (SL) (SR)
L751 L752 L753 L761 L762
ATH1004
F R751 F R752 F R755 F R761 F R762
RY751 (1/2) RY751 (2/2)
RY752
RY753 (1/2) RY753 (2/2)
C756 C752 C754 C751 C753 C763 C761 C762 C764
R756 R752 R754 R751 R753 R763 R764
4.7 1W
4.7 1/4W
C757 C758 C759 C765 C766
FR FL C SR SL
CN751 AKE7020- CN752 AKE1012-
GND
Q692 2SC1740
Q691 2SC1740
C691 1000P
C692 220/10
D751 D752 D753 D754 D755 D756
RY751 RY752 RY753
ASR7001
Q605, 606, 633, 655, 656: OVERLOAD DETECTOR
Q691, 692: DC OUTPUT DETECTOR
( ) : AUDIO SIGNAL ROUTE
UG +12V SP-A R/C SP
C2/2
CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 49101.6 FOR IC851 AND IC852 MFD, BY LITTELFUSE INC.
CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 491001 FOR IC603, 491.315 FOR IC52 MFD, BY LITTELFUSE INC.
NOTE
1. RESISTORS
Unit:k-kΩ, M-MΩ or unless otherwise noted.
Rated power:1/4W unless otherwise noted.
Tolerance:(J)±5% unless otherwise noted.
2. CAPACITORS
Umit: p-pF or μF unless otherwise noted.
Ratings:Capacity(μF)/Voltage(V) unless otherwise noted.
Rated Voltage:50V except for electrolytic capacitors.
3. DIODES
Indicated in 1SS133-T
*8 C701, 702: ACH7134-A
C703, 704: ACH7135-A-F
*1 R701, R702: 6.8kΩ
R703, R704: 47kΩ

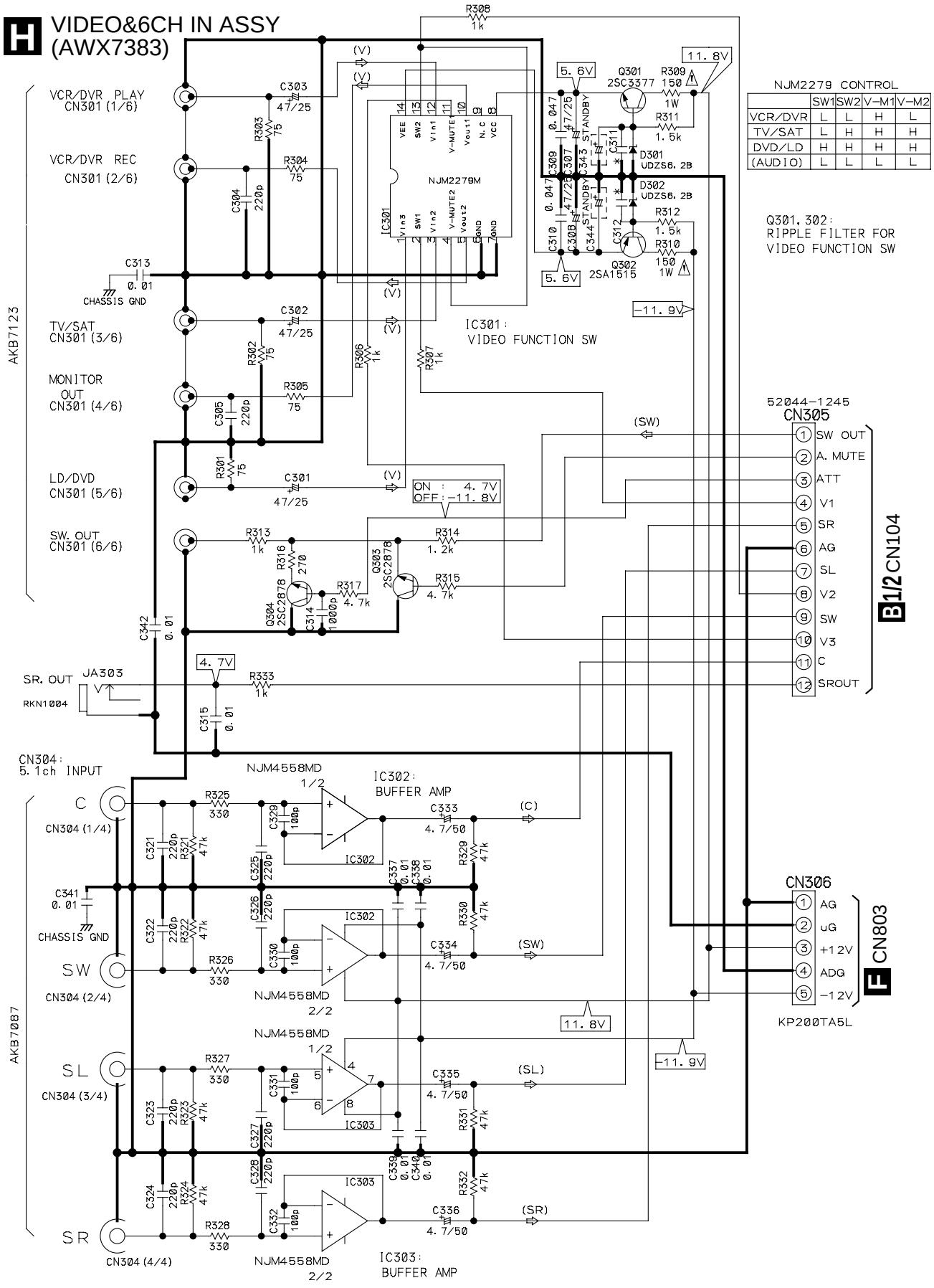
3.6 AMP&PRIMARY (2/2), REGULATOR, TRANS1 and VOLTAGE SELECT SW ASSYS



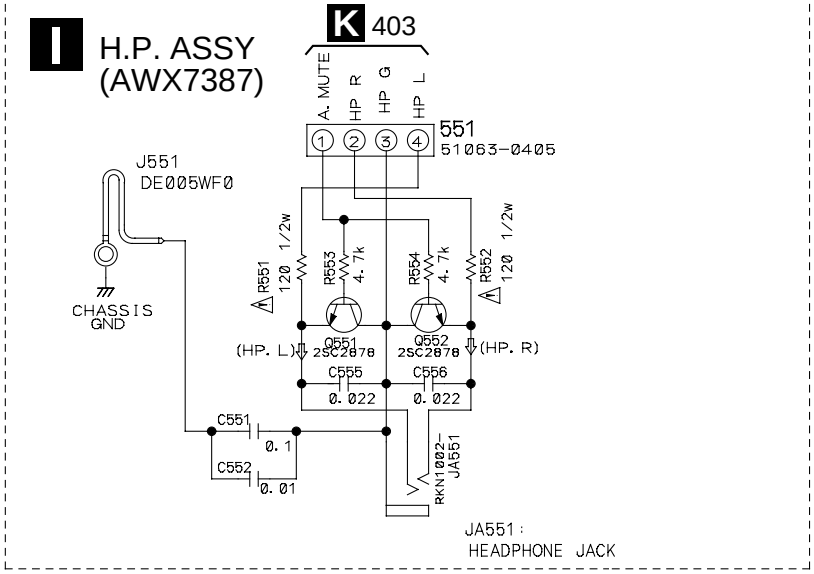

C 2/2
AMP&PRIMARY ASSY
(BXJI : AWX7473)
(HLXJI : AWX7388)
C 1/2
REG B
REG G
REG B
FL AC1
FL AC2
-VF
CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 491.315 FOR IC52 MFD, BY LITTELFUSE INC.
J CN591
J44
D20PYY0325E
51048-0300
BXJI TYPE ONLY
REK1026 (T2.5A)
FU3
H55 H56
52
AKC-081-
VOLTAGE SELECT SW (AKX-507)
POWER TRANSFORMER
GA
TRANS1 ASSY (AWX7390)
HLXJI TYPE ONLY
REK1026 (T2.5A)
FU2
H53 H54
HLXJI TYPE ONLY
J1
J2
J1 : DB117NB0
J2 : DB618NB0
GB
VOLTAGE SELECT SW ASSY (AWX7442)
R52
271/2W
11.7V
RY51 : POWER RELAY
D56
D57
RY51
ASR7013
Q51
KRC101M
C52
0.01/250V
ACG7020
RY51
BXJI TYPE ONLY
BXJI TYPE ONLY
J12
J11
J13
115V
LIVE
230V
S51
AKX1033
J12 DB915NB0
J11 DB215NB0
J13 DB015NB0
R53
3.3kIC51
D55
S5688G
5.6V
NJM78M56FA
OUT
IN
12.2V
D51
S5688G
AEK7005
IC52
D52
S5688G
D53
S5688G
D54
S5688G
R54
10k
D58
MTZJ5.1A
C54
47/25
C53
1000/16
HLXJI TYPE ONLY
BXJI : REK1029 (T5.0A)
HLXJI : REK1026 (T2.5A)
C51
ACG7020
FU1
H51 H52
AKR7001-A-T
CN51
LIVE
L52
XTF3001-
T51
BXJI : ATT7038
HLXJI :ATT7037
C56
0.01
YX
C55
0.01
YX
C57
0.01 YX
KN51
VNF1084
GND
RKP1751
NEUTRAL
AC POWER CORD
BXJI : VDG1080
HLXJI : VDG1061
R/C RY
SP-A RY
+12V
UG
C 1/2
• NOTE FOR FUSE REPLACEMENT
CAUTION -FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE WITH SAME TYPE AND RATINGS ONLY.

3.7 VIDEO&6CH IN, H. P. and MECHA SW ASSYS

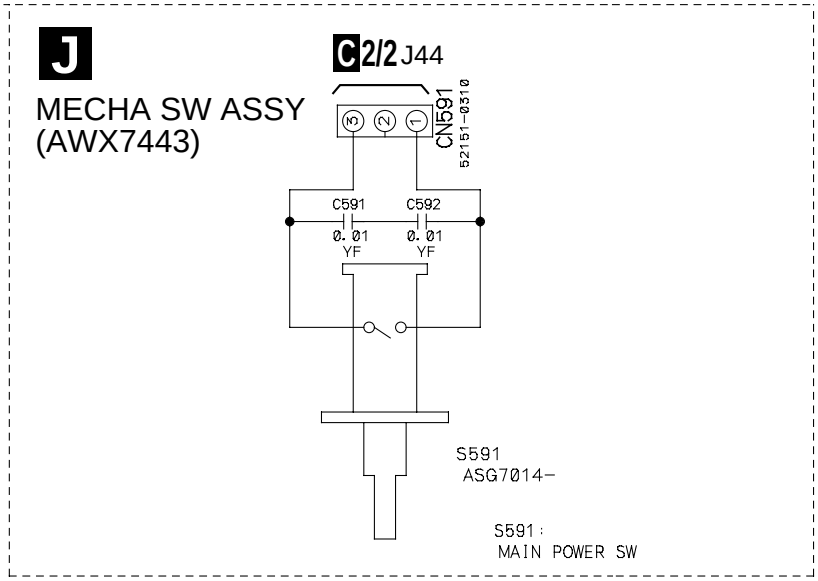
H VIDEO&6CH IN ASSY (AWX7383)



I H.P. ASSY (AWX7387)



J MECHA SW ASSY (AWX7443)



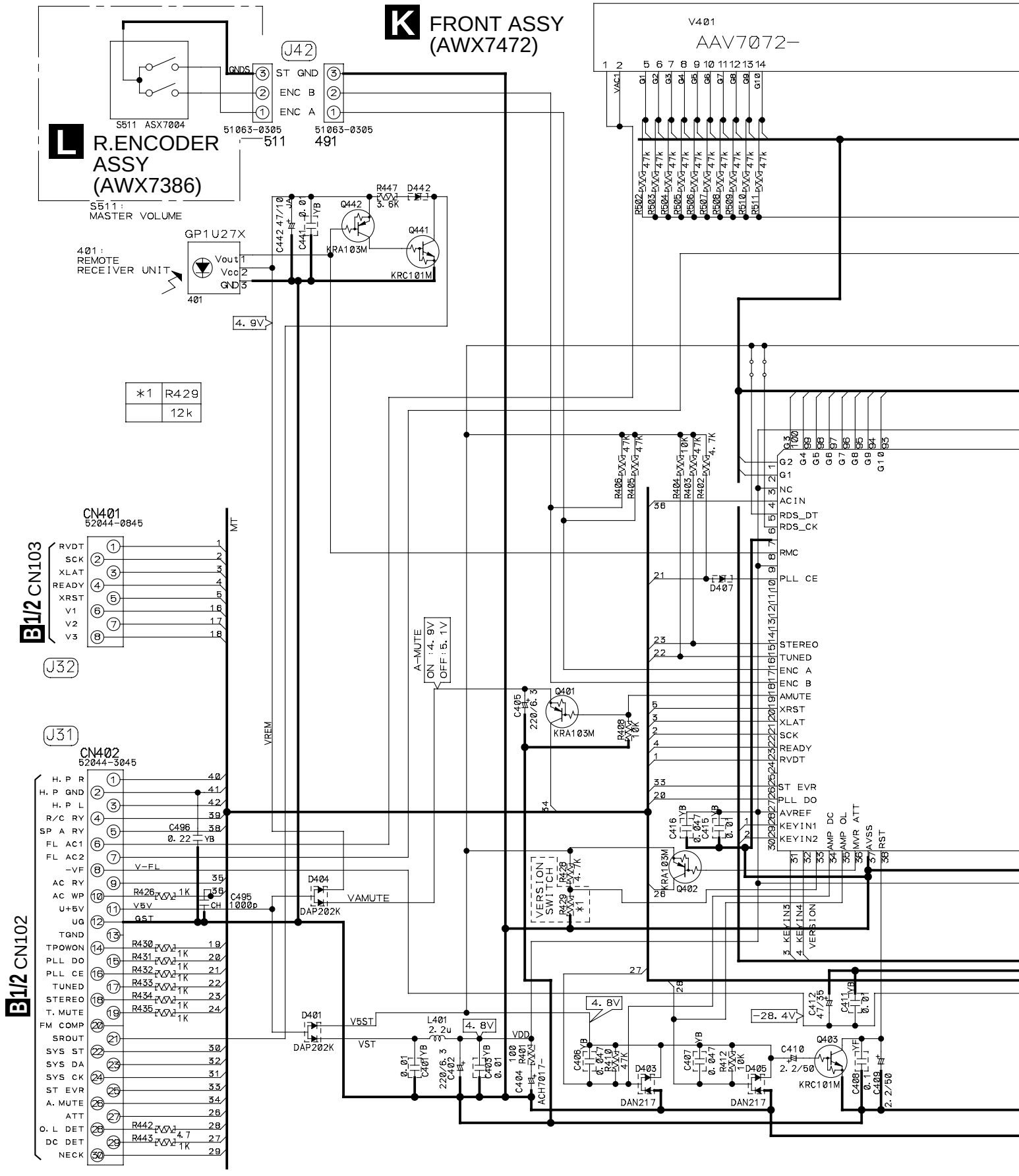
NOTE

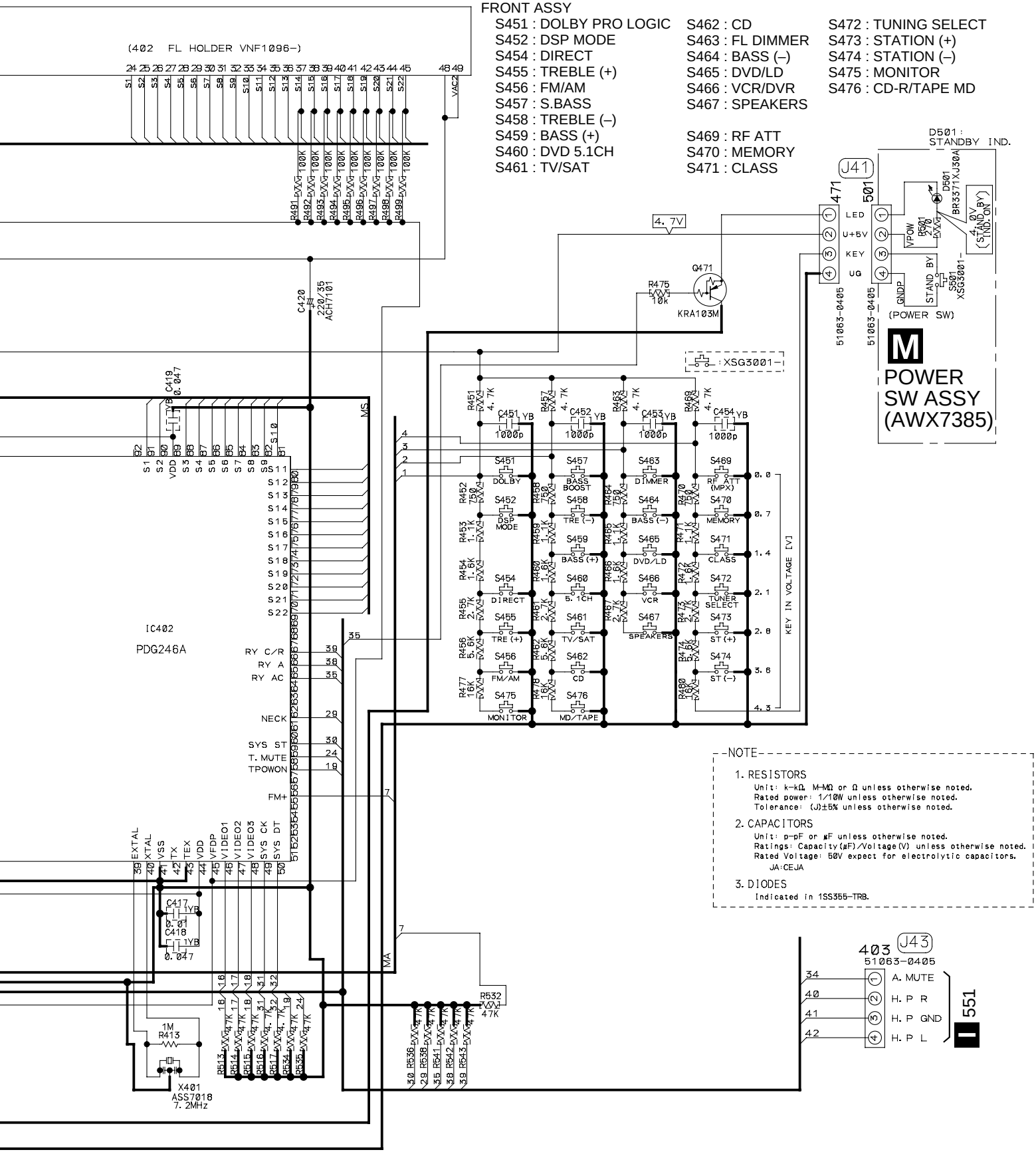
1. RESISTORS RS1/10S...J-T
2. CAPACITORS
   - CEMICAL CAPASITOR CEAT...M.-T
   - CERAMIC CAPASITOR CCSQCH.. or CKSQYB..
3. DIODES 1SS355-TRB

( ) ⇨ : AUDIO SIGNAL ROUTE

(V) ⇨ : VIDEO SIGNAL ROUTE

3.8 FRONT, R. ENCODER and POWER SW ASSYS




FRONT ASSY
S451 : DOLBY PRO LOGIC
S452 : DSP MODE
S454 : DIRECT
S455 : TREBLE (+)
S456 : FM/AM
S457 : S.BASS
S458 : TREBLE (–)
S459 : BASS (+)
S460 : DVD 5.1CH
S461 : TV/SAT
S462 : CD
S463 : FL DIMMER
S464 : BASS (–)
S465 : DVD/LD
S466 : VCR/DVR
S467 : SPEAKERS
S469 : RF ATT
S470 : MEMORY
S471 : CLASS
S472 : TUNING SELECT
S473 : STATION (+)
S474 : STATION (–)
S475 : MONITOR
S476 : CD-R/TAPE MD
(402 FL HOLDER VNF1096-)
D501: STANDBY IND.
J41
LED
U+5V
KEY
UG
VPOW
STAND BY
GNDP
(POWER SW)
M
POWER SW ASSY (AWX7385)
Q471
KRA103M
4.7V
IC402
PDG246A
RY C/R
RY A
RY AC
NECK
SYS ST
T. MUTE
TPOWON
FM+
EXTAL
XTAL
VSS
TX
TEX
VDD
VFDP
VIDEO1
VIDEO2
VIDEO3
SYS CK
SYS DT
X401
ASS7018
7.2MHz
KEY IN VOLTAGE [V]
NOTE
1. RESISTORS
Unit: k-kΩ, M-MΩ or Ω unless otherwise noted.
Rated power: 1/10W unless otherwise noted.
Tolerance: (J)±5% unless otherwise noted.
2. CAPACITORS
Unit: p-pF or μF unless otherwise noted.
Ratings: Capacity(μF)/Voltage(V) unless otherwise noted.
Rated Voltage: 50V expect for electrolytic capacitors.
JA:CEJA
3. DIODES
Indicated in 1SS355-TRB.
403
J43
51063-0405
A. MUTE
H. P R
H. P GND
H. P L
551

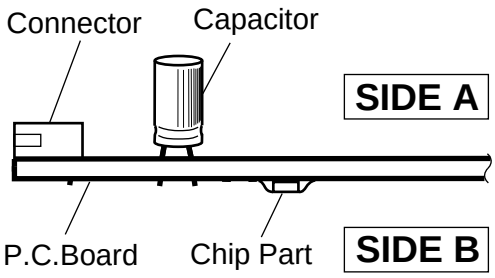
4. PCB CONNECTION DIAGRAM

NOTE FOR PCB DIAGRAMS :

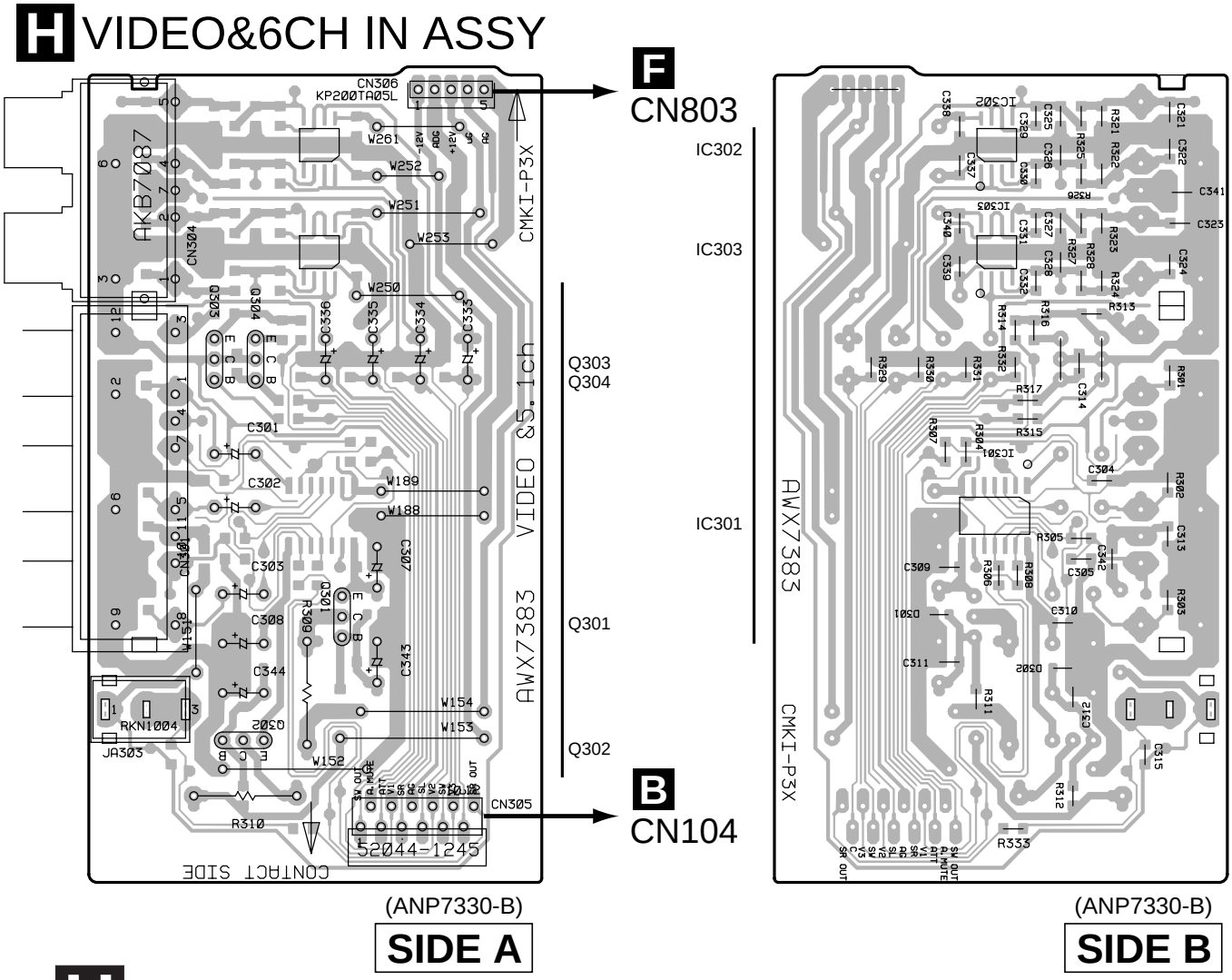
1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

Symbol In PCB Diagrams	Symbol In Schematic Diagrams	Part Name
B C E	B C E B C E	Transistor
B C E	B C E B C E	Transistor with resistor
D G S	D G S D G S	Field effect transistor
		Resistor array
		3-terminal regulator

3. The parts mounted on this PCB include all necessary parts for several destinations.
   For further information for respective destinations, be sure to check with the schematic diagram.
4. View point of PCB diagrams.

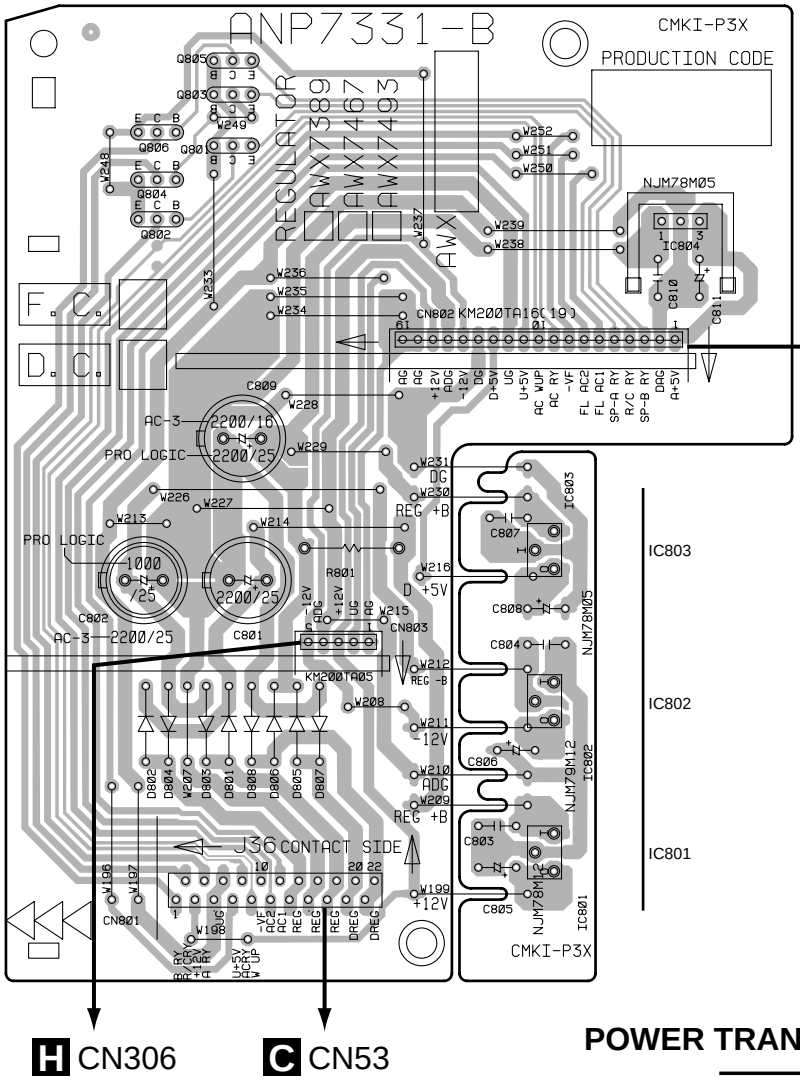


4.1 VIDEO&6CH IN ASSY

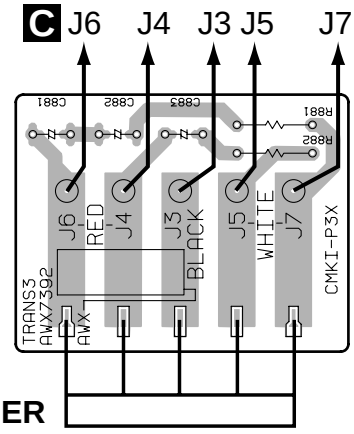


4.2 TRANS2, TRANS3, REGULATOR and TRANS1 ASSYS

F REGULATOR ASSY



E TRANS3 ASSY



POWER TRANSFORMER

● Line Voltage Selection

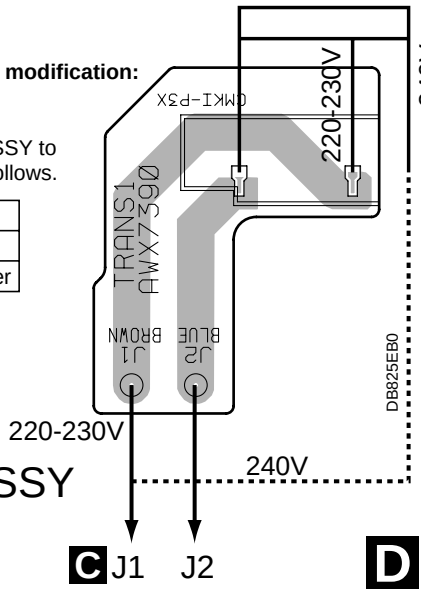
Line Voltage can be changed by the following modification:

1. Disconnect the AC power cord.
2. Remove the cover.
3. Change the connection wire from TRANS 1 ASSY to AMP&PRIMARY ASSY (Terminal No. J1) as follows.

Voltage	Terminal No.
220-230V	J1 of TRANS 1 ASSY
240V	240V terminal of power transformer

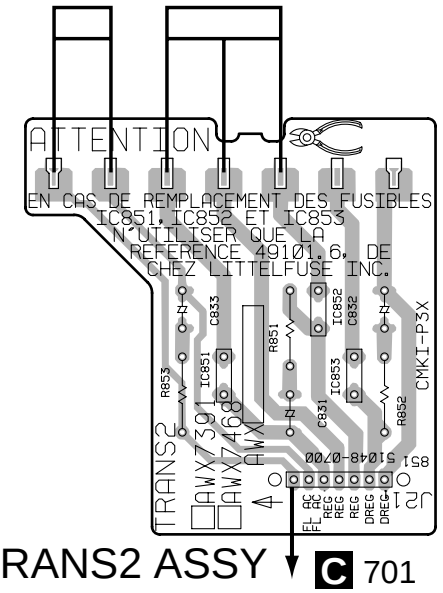
4. Stick a line voltage label on the rear panel.

Description	Part No.
220V label	AAX-193
240V label	AAX-192

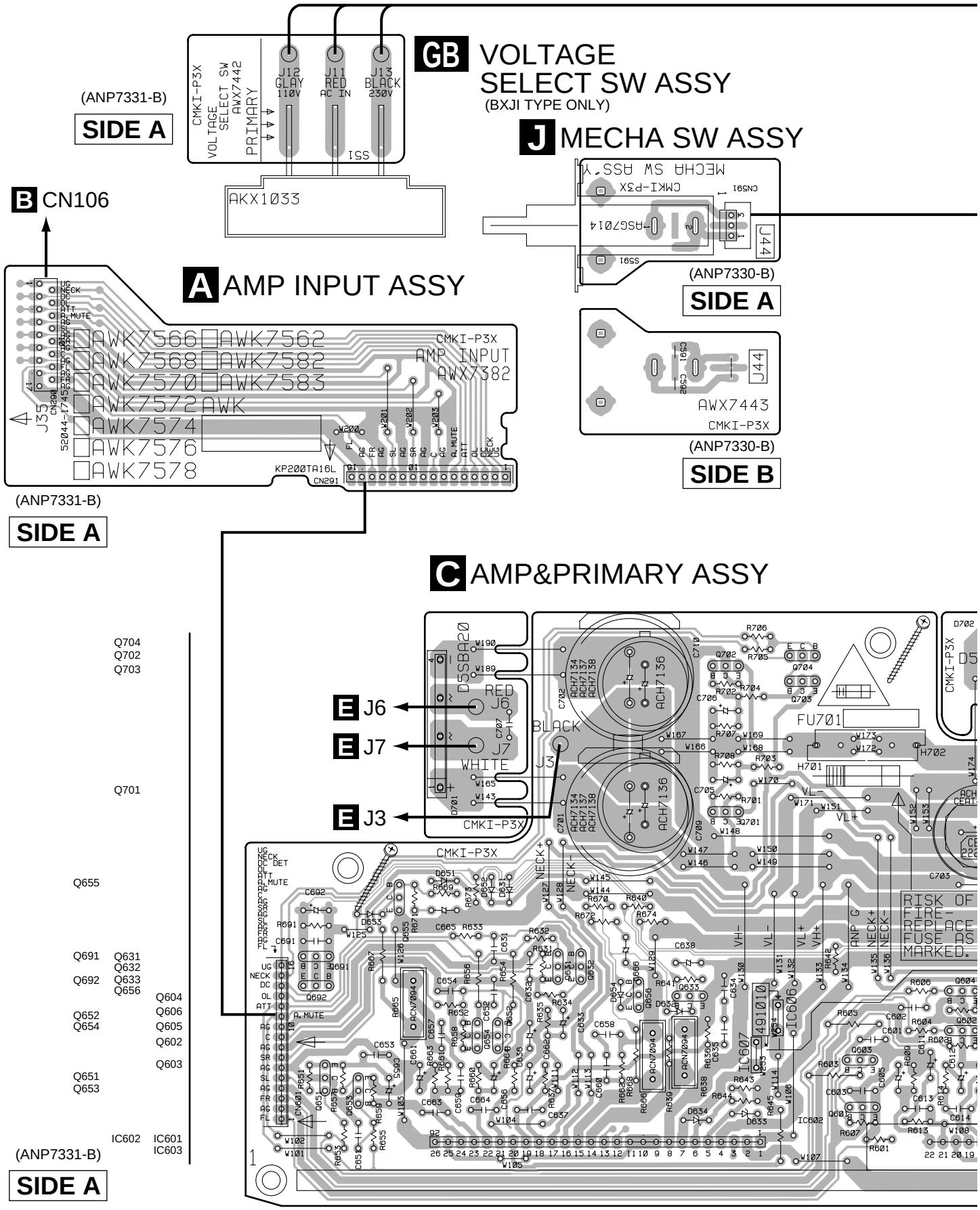


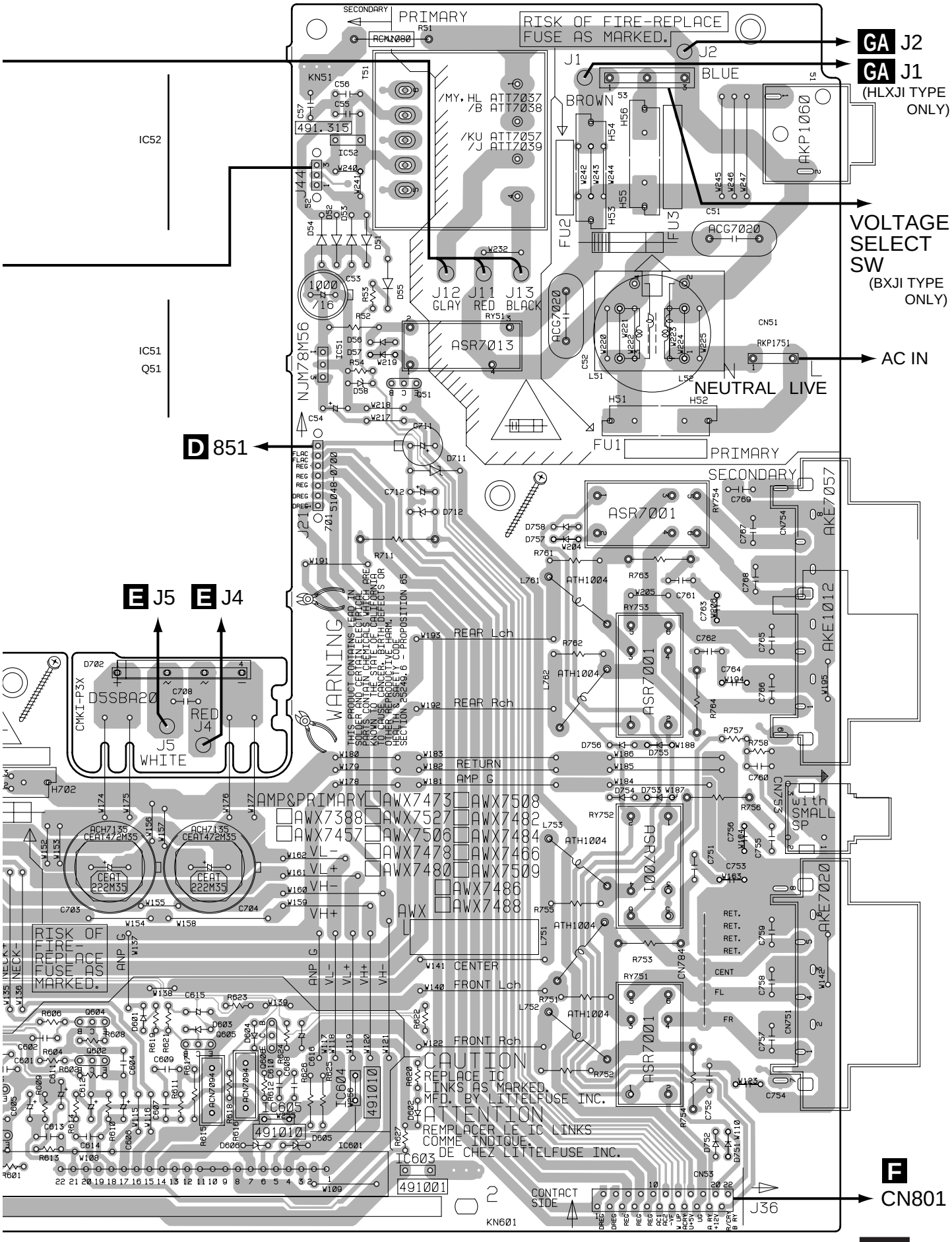
GA TRANS1 ASSY

(HLXJI TYPE ONLY)

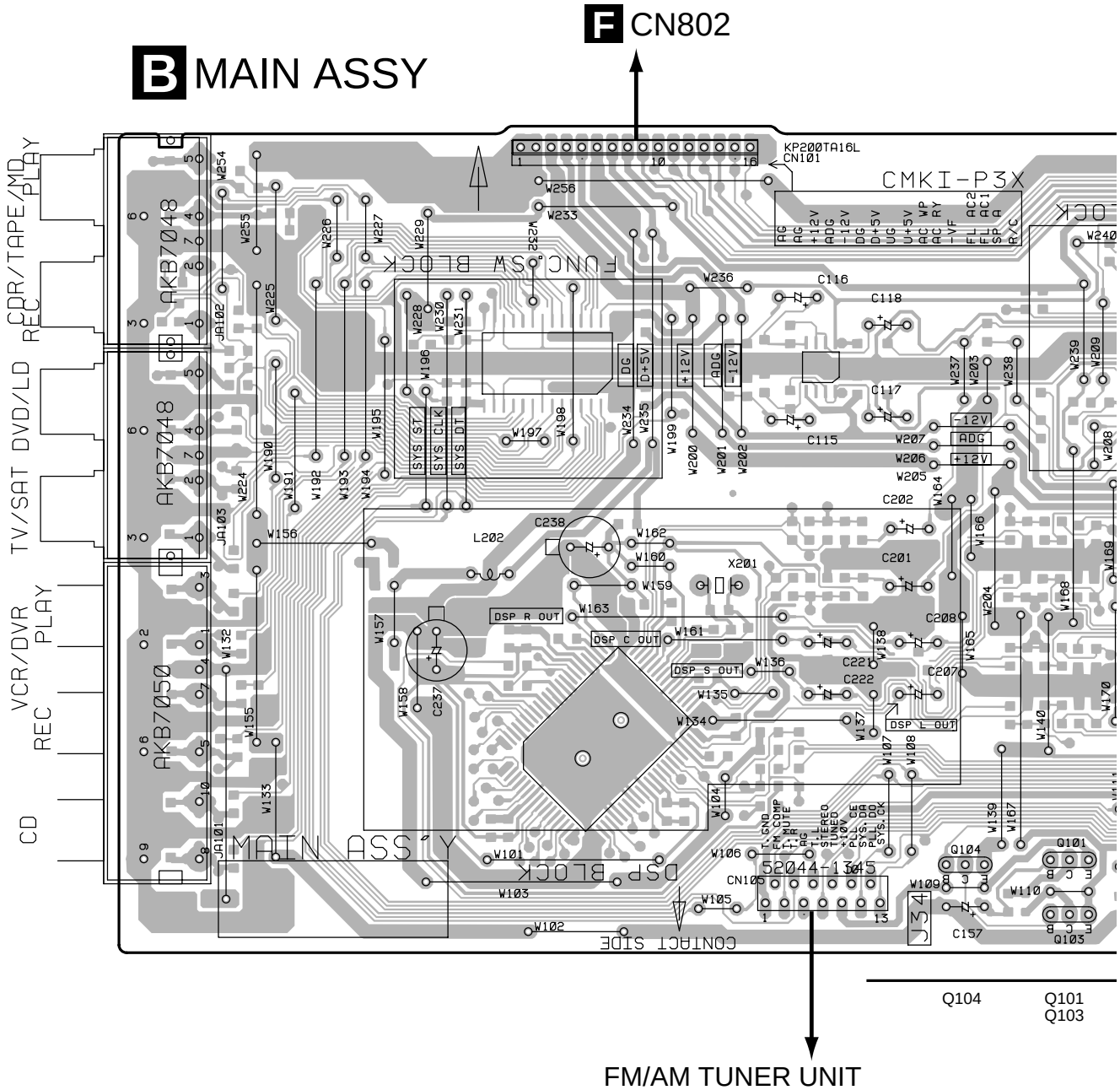


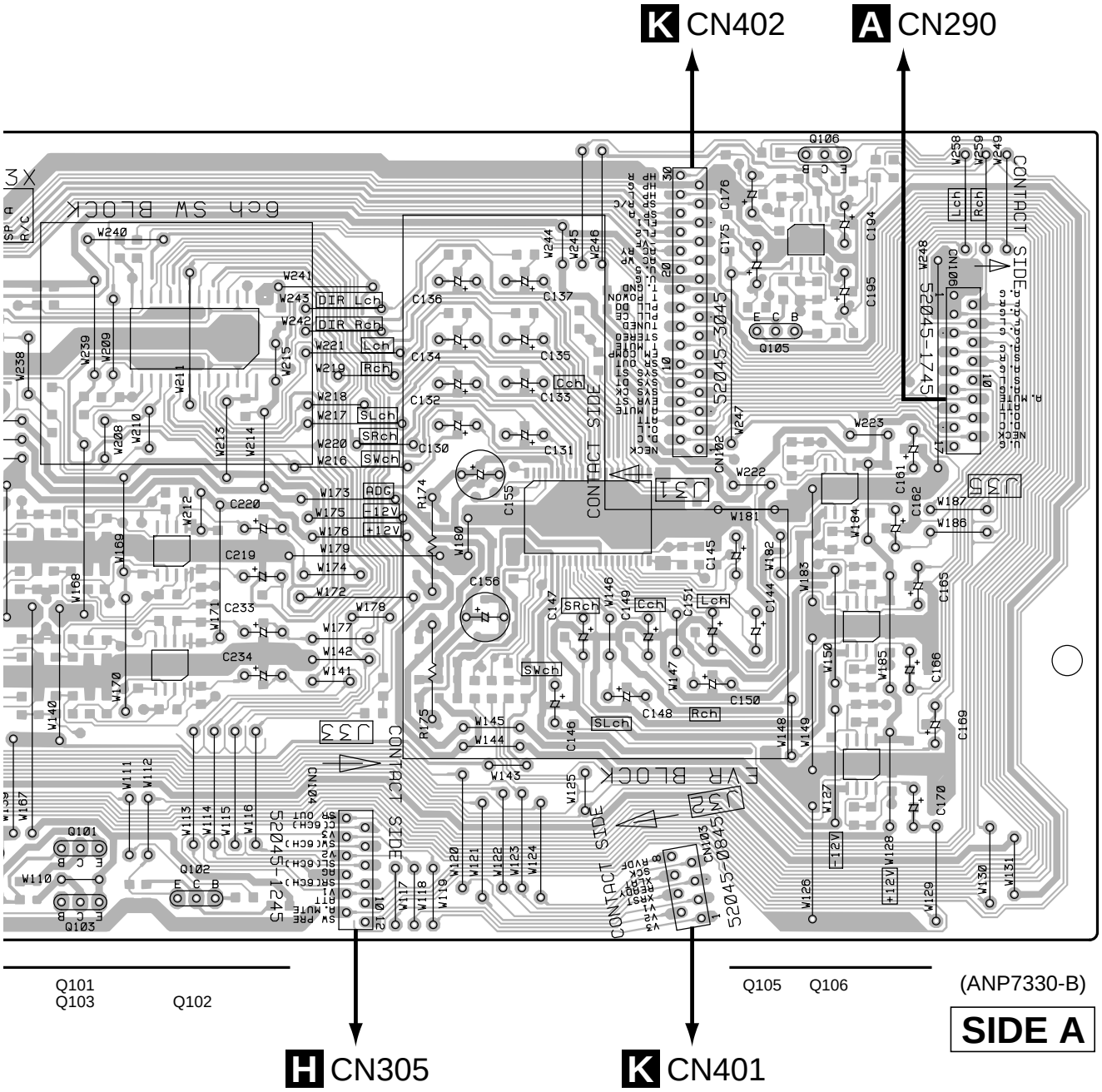
4.3 AMP INPUT, AMP&PRIMARY, MECHA SW and VOLTAGE SELECT SW ASSYS



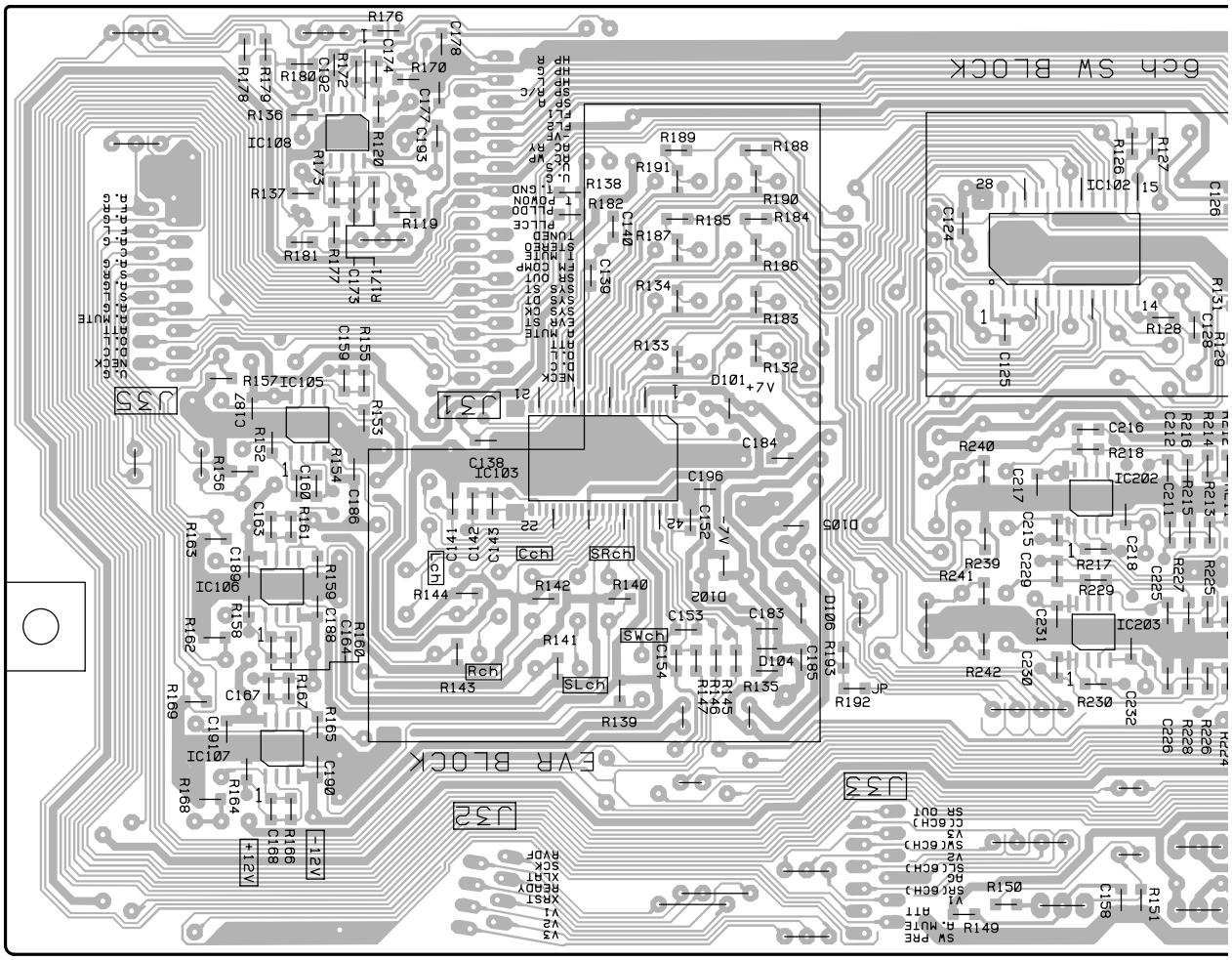

GA J2
GA J1
(HLXJI TYPE ONLY)
VOLTAGE SELECT SW
(BXJI TYPE ONLY)
AC IN
NEUTRAL LIVE
D 851
E J5
E J4
F CN801
IC52
IC51
Q51
PRIMARY
SECONDARY
RISK OF FIRE-REPLACE FUSE AS MARKED.
WARNING
CAUTION
REPLACE IC LINKS AS MARKED. MFD. BY LITTELFUSE INC.
ATTENTION
REMPLACER LE IC LINKS COMME INDIQUE. DE CHEZ LITTELFUSE INC.
REAR Lch
REAR Rch
RETURN
AMP G
CENTER
FRONT Lch
FRONT Rch
VL-
VL+
VH-
VH+
CONTACT SIDE
KN601

4.4 MAIN ASSY


F CN802
B MAIN ASSY
KP200TA16L
CN101
CMKI-P3X
AKB7048
AKB7050
FUNCTION BLOCK
DSP BLOCK
MAIN ASSY
CONTACT SIDE
CD REC
VCR/DVR PLAY
TV/SAT DVD/LD REC
CDR/TAPE/MD PLAY
DSP R OUT
DSP C OUT
DSP S OUT
DSP L OUT
SYS ST
SYS CLK
SYS DT
52044-1345
CN105
Q104
Q101
Q103
FM/AM TUNER UNIT


K CN402
A CN290
H CN305
K CN401
Q101
Q103
Q102
Q105
Q106
(ANP7330-B)
SIDE A

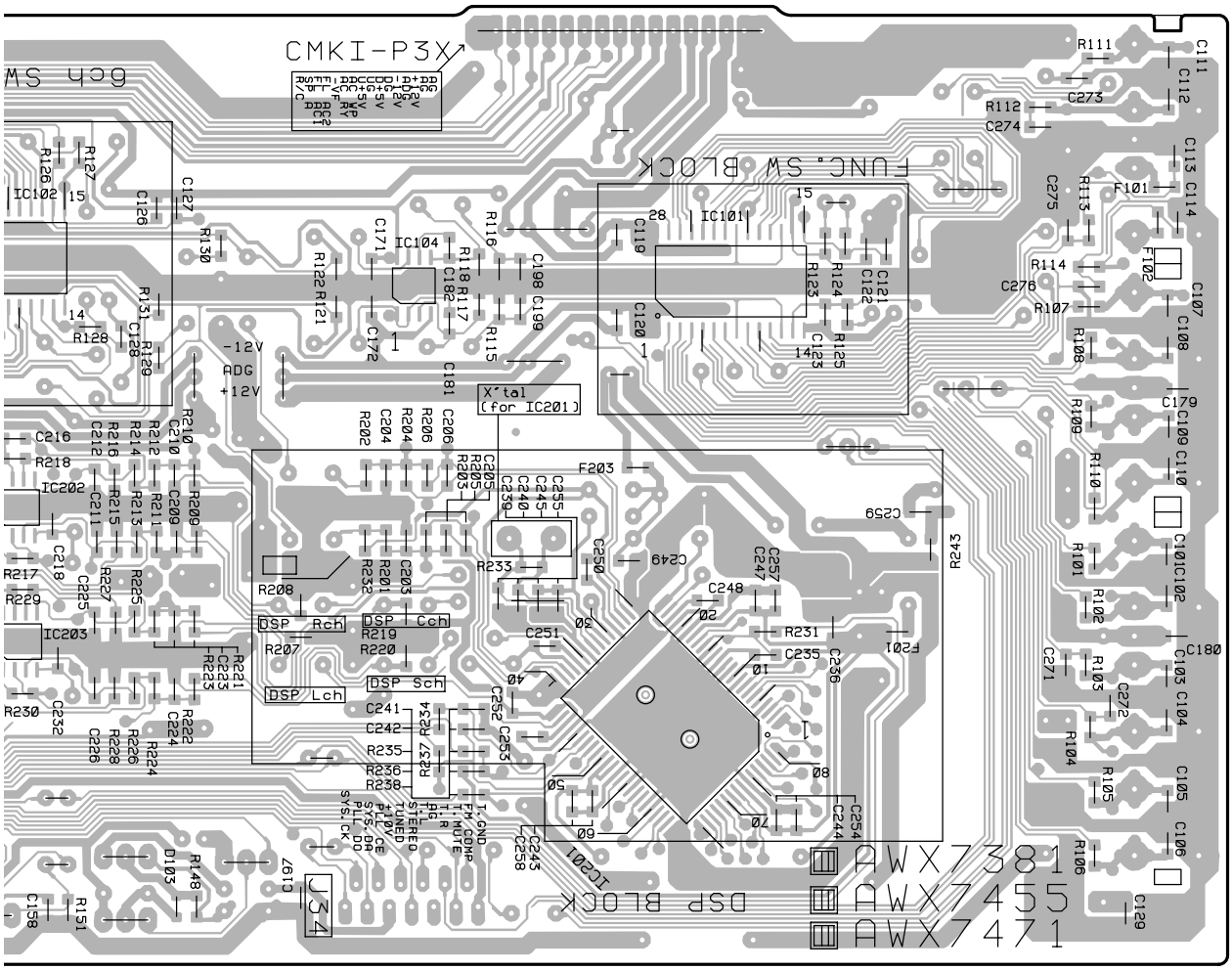
B MAIN ASSY



IC105 IC108
IC106
IC107

IC103

IC102
IC202 IC203

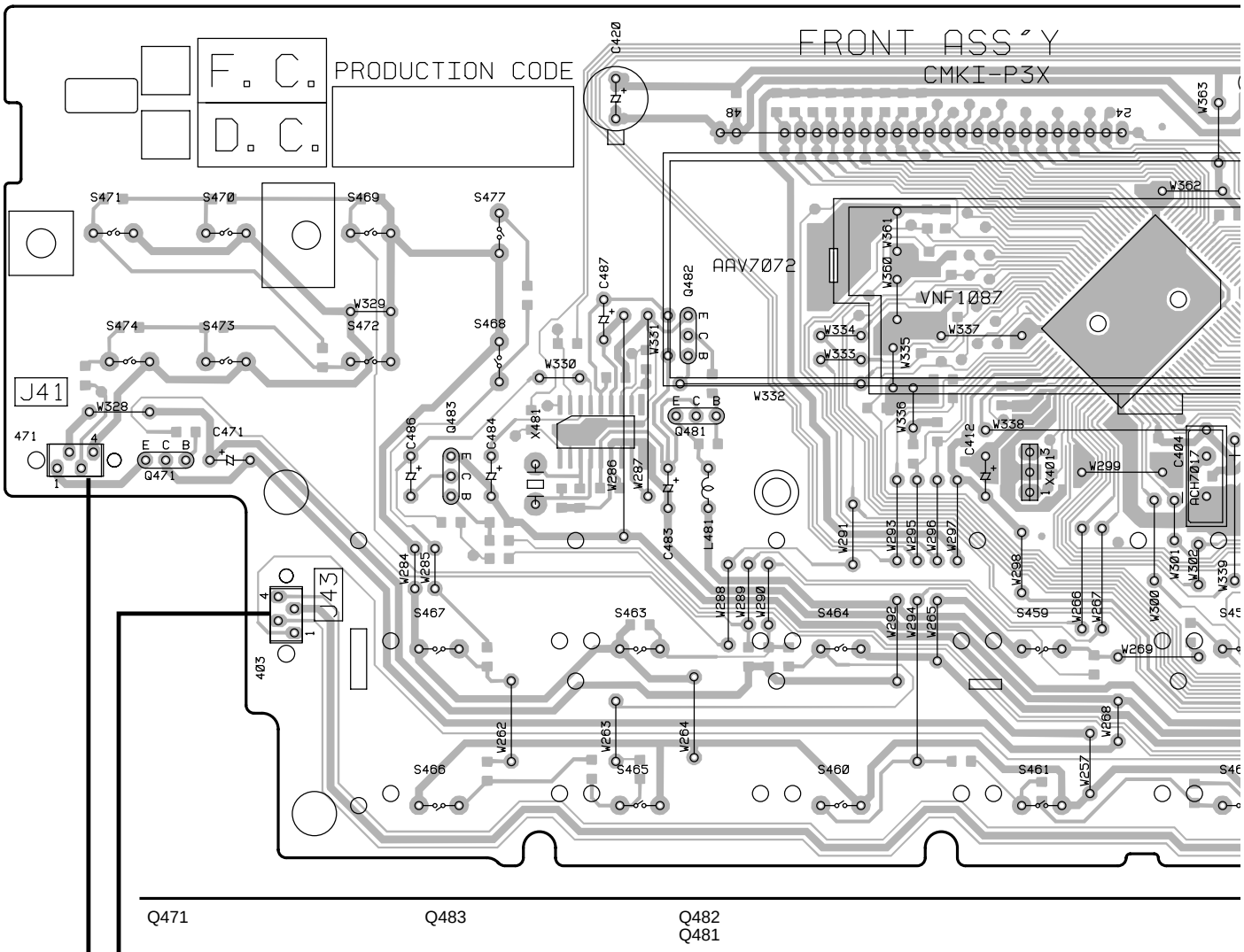


(ANP7330-B)

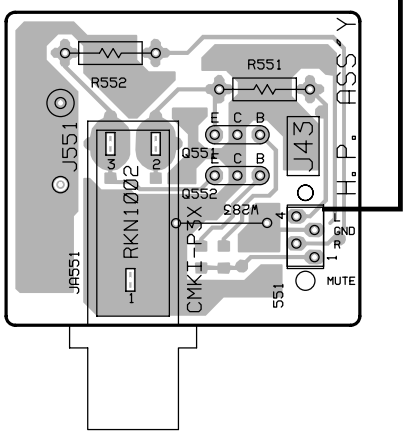
SIDE B

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

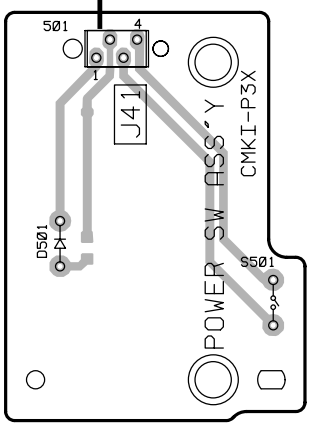
K FRONT ASSY

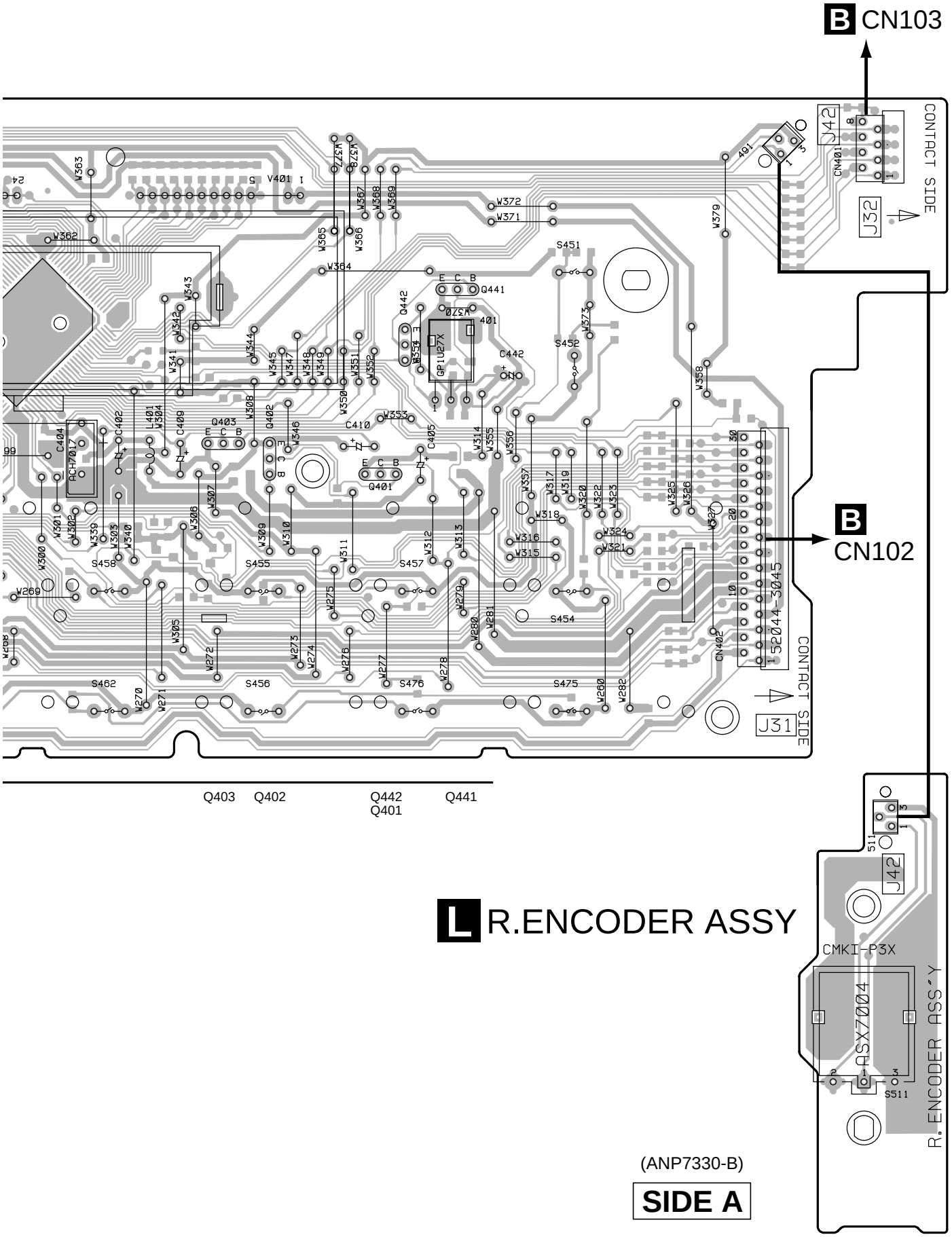


I H.P. ASSY

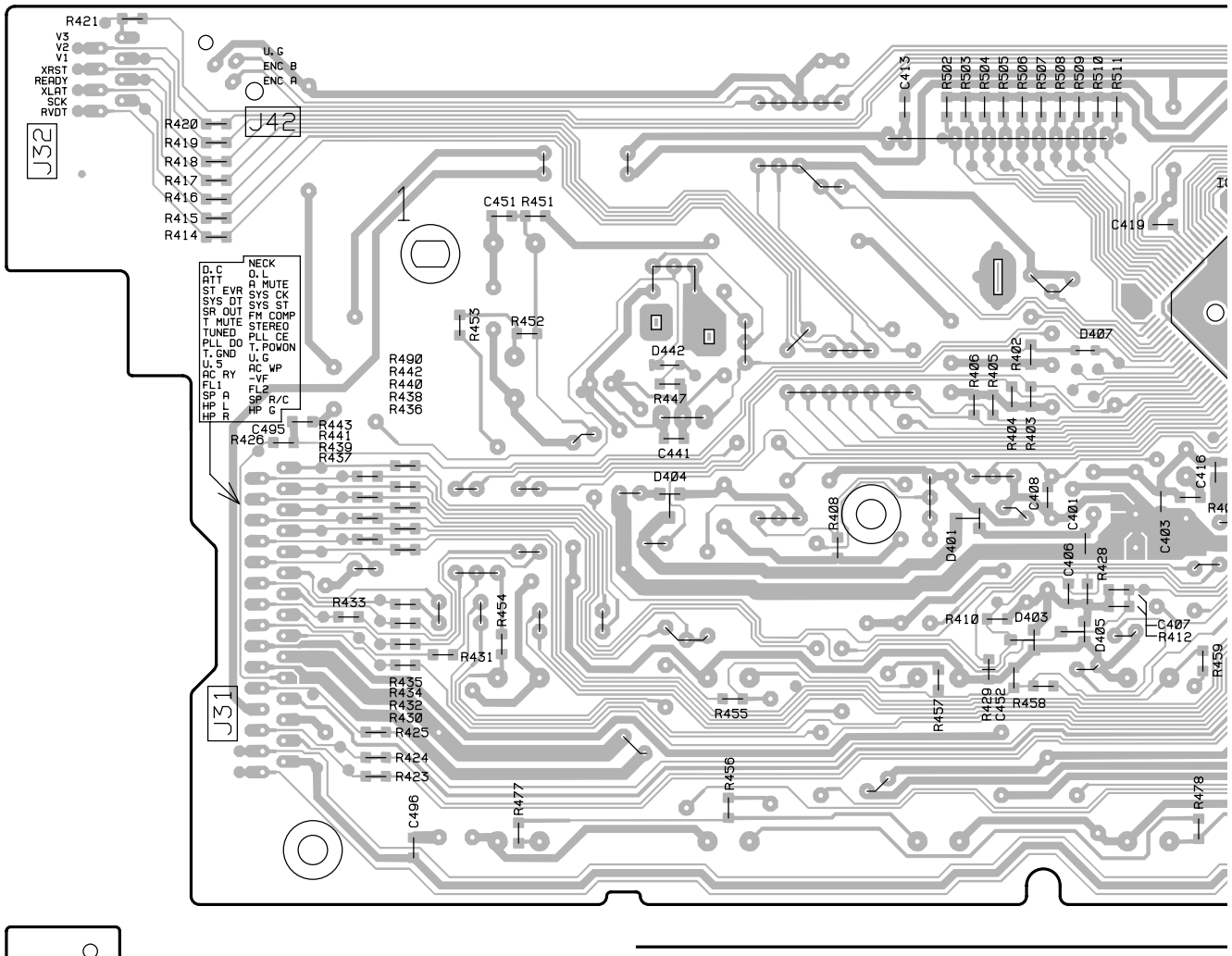


M POWER SW ASSY

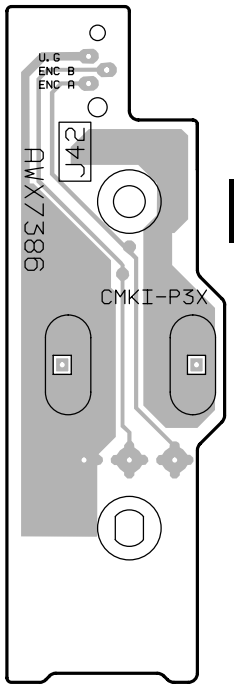



B CN103
CONTACT SIDE
J42
J32
CN401
B CN102
CONTACT SIDE
J31
CN402
S451
S452
S454
S455
S456
S457
S458
S462
S475
S476
Q403
Q402
Q442
Q401
Q441
L R.ENCODER ASSY
CMKI-P3X
ASX7004
R.ENCODER ASS'Y
S511
(ANP7330-B)
SIDE A

K FRONT ASSY

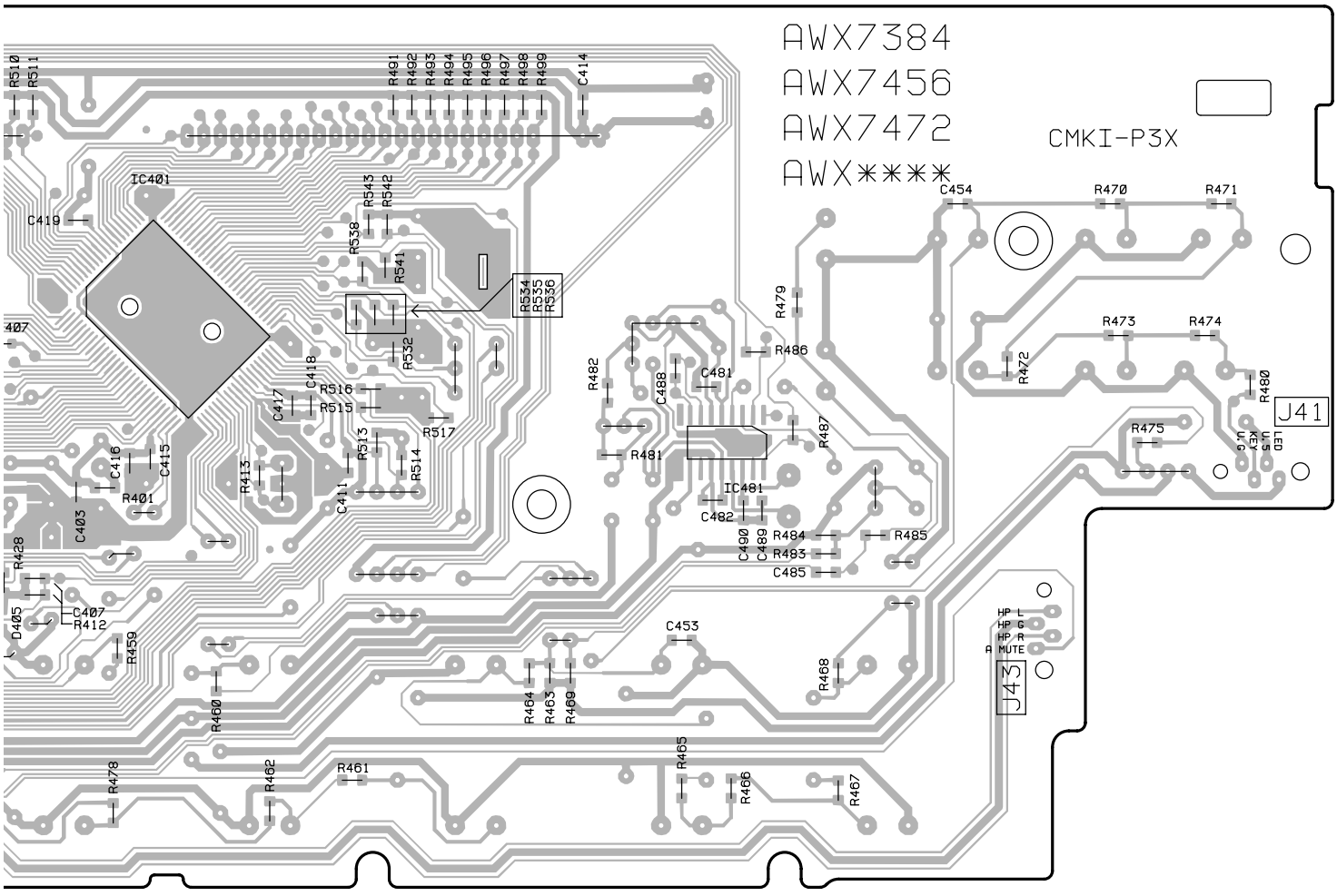


L R.ENCODER ASSY



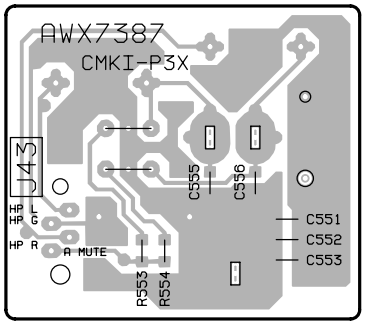
(ANP7330-B)

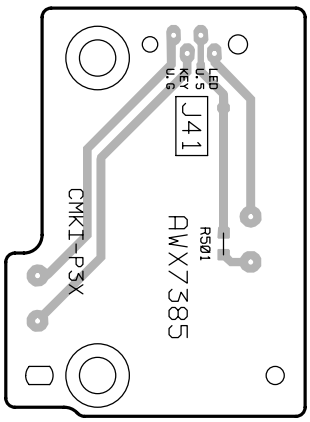
SIDE B



IC401 IC481

I H.P. ASSY





M POWER SW ASSY

5. PCB PARTS LIST

NOTES: ●*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.*

●*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 → 56 × 10¹ → 561 ..... RD1/4PU [5][6][1] J
47k Ω → 47 × 10³ → 473 ..... RD1/4PU [4][7][3] J
0.5 Ω → R50 ..... RN2H [R][5][0] K
1 Ω → 1R0 ..... RS1P [1][R][0] K

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

5.62k Ω → 562 × 10¹ → 5621 ..... RN1/4PC [5][6][2][1] F

■ CONTRAST OF PCB ASSEMBLIES

Mark	Symbol and Description	Part No.			Remarks
		VSX-D209 /BXJI	VSX-D209-G /BXJI	VSX-D209-G /HLXJI	
NSP	COMPLEX ASSY	AWK7563	AWK7563	AWK7563	
	├ MAIN ASSY	AWX7471	AWX7471	AWX7471	
	├ VIDEO&6CH IN ASSY	AWX7383	AWX7383	AWX7383	
	├ FRONT ASSY	AWX7472	AWX7472	AWX7472	
	├ POWER SW ASSY	AWX7385	AWX7385	AWX7385	
NSP	├ R.ENCODER ASSY	AWX7386	AWX7386	AWX7386	
NSP	├ H.P. ASSY	AWX7387	AWX7387	AWX7387	
	└ MECHA SW ASSY	AWX7443	AWX7443	AWX7443	
NSP	AMP&PS ASSY	AWK7564	AWK7564	AWK7520	
NSP	├ AMP INPUT ASSY	AWX7382	AWX7382	AWX7382	
	├ AMP&PRIMARY ASSY	AWX7473	AWX7473	AWX7388	
	├ REGULATOR ASSY	AWX7389	AWX7389	AWX7389	
	├ TRANS2 ASSY	AWX7391	AWX7391	AWX7391	
NSP	├ TRANS1 ASSY	Not used	Not used	AWX7390	
	├ VOLTAGE SELECT SW ASSY	AWX7442	AWX7442	Not used	
NSP	└ TRANS3 ASSY	AWX7392	AWX7392	AWX7392	

■ CONTRAST OF PCB ASSEMBLIES

C AMP&PRIMARY ASSY

AWX7388 and AWX7473 are constructed the same except for the following :

Mark	Symbol and Description	Part No.		Remarks
		AWX7473	AWX7388	
⚠	L52 FILTER	Not used	XTF3001	
	C607–C610, C634, C635, C657–C660	CCCSL6R0D50	CCCSL120J50	
	C613, C614, C637, C663, C664	Not used	CCCSL221J50	
	C757–C759, C765, C766	Not used	CQMBA472J50	
	H53–H56 FUSE CLIP	AKR7001	Not used	
⚠	T51 STANDBY TRANSFORMER	ATT7038	ATT7037	

■ PCB PARTS LIST FOR BXJI TYPE UNLESS OTHERWISE NOTED

Mark	No.	Description	Part No.

A AMP INPUT ASSY

OTHERS

CN290	17P CONNECTOR	52044-1745
CN291	16P SOCKET	KP200TA16L

Mark	No.	Description	Part No.

B MAIN ASSY

SEMICONDUCTORS

IC201	CXD2719Q
IC108	M5216FP
IC103	M62446FP
IC202, IC203	NJM4558MD
IC102	TC9163AF

Mark	No.	Description	Part No.
	IC101		TC9164AF
	IC104–IC107		UPC4570G2
	Q101		2SC1740S
	Q105, Q106		2SC2878
	Q103		KRA101M
	Q104		KRC103M
	D103, D105, D106		1SS355
	D104		UDZS5.1B
	D101, D102		UDZS6.8B

COILS AND FILTERS

	F101, F102, F201, F203		DTF1067
	L202		LFEA470J

CAPACITORS

	C101–C114, C121–C123		CCSQCH101J50
	C126–C128, C152–C154		CCSQCH101J50
	C205, C206, C241		CCSQCH101J50
	C239, C240		CCSQCH120J50
	C173, C174		CCSQCH151J50
	C271–C276		CCSQCH220J50
	C159, C160, C163, C164, C167		CCSQCH221J50
	C235		CCSQCH221J50
	C211, C212, C225, C226		CCSQCH331J50
	C229, C230		CCSQCH331J50
	C242		CCSQCH471J50
	C150, C151, C207, C208		CEAT100M50
	C221, C222		CEAT100M50
	C157, C175, C176		CEAT101M16
	C219, C220		CEAT1R0M50
	C170		CEAT220M25
	C115, C116		CEAT2R2M50
	C130–C137, C144–C149		CEAT3R3M50
	C201, C202		CEAT470M16
	C117, C118, C161, C162		CEAT470M25
	C165, C166, C169		CEAT470M25
	C155, C156		CEAT471M10
	C237, C238		CEAT471M6R3
	C194, C195, C233, C234		CEAT4R7M50
	C168, C209, C210, C223, C224		CKSQYB102K50
	C236		CKSQYB102K50
	C119, C120, C124, C125, C129		CKSQYB103K50
	C171, C172, C177–C180, C183		CKSQYB103K50
	C186–C193, C197, C217, C218		CKSQYB103K50
	C231, C232, C245, C259		CKSQYB103K50
	C254, C257, C258		CKSQYB105K10
	C139, C142		CKSQYB153K50
	C203, C204, C215, C216		CKSQYB331K50
	C140, C143		CKSQYB334K16
	C243, C244, C247–C253, C255		CKSQYB472K50
	C184, C185		CKSQYB473K25
	C138, C141		CKSQYB822K50

RESISTORS

⚠	R174, R175		RS1LMF101J
	Other Resistors		RS1/10S□□□J

OTHERS

	CN105	13P CONNECTOR	52044-1345
	CN103	8P CONNECTOR	52045-0845
	CN104	12P CONNECTOR	52045-1245
	CN106	17P CONNECTOR	52045-1745
	CN102	30P CONNECTOR	52045-3045
	JA102, JA103	PIN JACK(4P)	AKB7048
	JA101	PIN JACK(6P)	AKB7050
	CN101	16P SOCKET	KP200TA16L
	X201	XTAL RES (OSC) (33.8688MHz)	ASS7002

C AMP&PRIMARY ASSY

SEMICONDUCTORS

⚠	IC52	PROTECTOR (315mA)	AEK7003
⚠	IC603	PROTECTOR (1A)	AEK7009
	IC51		NJM78M56FA
⚠	IC601		PAC010A
⚠	IC602		PAC011A
	Q703		2SA1145
	Q702		2SB1238X
	Q691, Q692		2SC1740S
	Q704		2SC1845
	Q605, Q606, Q633, Q655, Q656		2SC2240
	Q601–Q604, Q631, Q632		2SC2878
	Q651–Q654		2SC2878
	Q701		2SD1859X
	Q51		KRC101M
	D56, D57, D601–D604		1SS133
	D631, D632, D651–D654		1SS133
	D751–D756		1SS133
⚠	D701, D702		D5SBA20(B)
	D711		MTZJ22D
	D58		MTZJ5.1A
	D712		MTZJ5.1B
	D605, D606, D633, D634		MTZJ8.2A
⚠	D51–D55		S5688G

COILS AND FILTERS

	L751–L753, L761, L762		ATH1004

SWITCHES AND RELAYS

	RY751–RY753		ASR7001
⚠	RY51		ASR7013

CAPACITORS

	C707, C708	(0.01µF/AC250V)	ACG1005
⚠	C51, C52	(10000pF/AC250V)	ACG7020
	C701, C702	(4700µF/63V)	ACH7134
	C703, C704	(3300µF/42V)	ACH7135
	C607–C610, C634, C635		CCCSL6R0D50
	C657–C660		CCCSL6R0D50
	C615, C616, C638, C665, C666		CEANP2R2M50
	C705, C706		CEAT100M2A
	C712		CEAT101M10
	C611, C612, C636, C661, C662		CEAT101M16
	C711		CEAT101M35
	C53		CEAT102M16
	C692		CEAT221M10
	C54		CEAT470M25
	C605, C606, C633, C655, C656		CEAT4R7M50
	C751–C756, C761–C764		CFTYA224J50
	C55–C57		CGCYX103M25
	C601, C602, C631, C651, C652		CKCYB102K50
	C691		CKCYB102K50
	C603, C604, C632, C653, C654		CKCYB331K50

Mark	No.	Description	Part No.
RESISTORS			
⚠	R615, R616, R638, R665, R666 (0.22Ω/5W)		ACN7094
	R52		RD1/2PM270J
⚠	R751, R752, R755, R761, R762		RD1/4PMF101J
⚠	R753, R754, R756, R763, R764		RS1LMF4R7J
⚠	R711		RS2LMF182J
	Other Resistors		RD1/4PU□□□J
OTHERS			
	53	3P CABLE HOLDER	51048-0300
	701	7P CABLE HOLDER	51048-0700
	CN53	18P CONNECTOR	52045-1845
	752	SPEAKER TERMINAL 4P	AKE1012
	CN751	SPEAKER TERMINAL 6P	AKE7020
	H51–H56	FUSE CLIP	AKR7001
⚠	T51	STANDBY TRANSFORMER	ATT7038
	J44	JUMPER WIRE 3P	D20PYY0325E
	CN601	AC CODE SOCKET	KM200TA16
	CN51	AC CODE SOCKET	RKP1751
	KN51, KN601	EARTH METAL FITTING	VNF1084

D TRANS2 ASSY

Mark	No.	Description	Part No.
SEMICONDUCTORS			
⚠	IC851, IC852	PROTECTOR (1.6A)	AEK7012
OTHERS			
	851	7P CABLE HOLDER	51048-0700

E TRANS3 ASSY

TRANS3 ASSY has no service part.

F REGULATOR ASSY

Mark	No.	Description	Part No.
SEMICONDUCTORS			
	IC803		NJM78M05FA
	IC801		NJM78M12FA
	IC802		NJM79M12FA
	Q801, Q803		KRA103M
	Q802, Q804		KRC101M
⚠	D801–D804		S5688G
CAPACITORS			
	C808		CEAT101M10
	C805, C806		CEAT101M16
	C802		CEAT102M25
	C801, C809		CEAT222M25
	C803, C804, C807		CGCYX103M25
RESISTORS			
⚠	R801		RS1LMF6R8J
OTHERS			
	CN801	18P CONNECTOR	52045-1845
	CN802	16P PLUG	KM200TA16
	CN803	5P PLUG	KM200TA5

GA TRANS1 ASSY (HLXJI TYPE ONLY)

TRANS1 ASSY has no service part.

GB VOLTAGE SELECT SW ASSY (BXJI TYPE ONLY)

Mark	No.	Description	Part No.
SWITCHES AND RELAYS			
⚠	S51		AKX1033

H VIDEO&6CH IN ASSY

Mark	No.	Description	Part No.
SEMICONDUCTORS			
	IC301		NJM2279M
	IC302, IC303		NJM4558MD
	Q302		2SA1515
	Q303, Q304		2SC2878
	Q301		2SC3377
	D301, D302		UDZS6.2B
CAPACITORS			
	C329–C332		CCSQCH101J50
	C301–C303, C307, C308		CEAT470M25
	C333–C336		CEAT4R7M50
	C314		CKSQYB102K50
	C313, C315, C337–C342		CKSQYB103K50
	C304, C305, C321–C328		CKSQYB221K50
	C309, C310		CKSQYB473K16
RESISTORS			
⚠	R309, R310		RS1LMF151J
	Other Resistors		RS1/10S□□□J
OTHERS			
	CN305	12P CONNECTOR	52044-1245
	CN304	PIN JACK (4P)	AKB7087
	CN301	6P PIN JACK	AKB7123
	CN306	5P SOCKET	KP200TA5L
	JA303	JACK	RKN1004

I H.P. ASSY

Mark	No.	Description	Part No.
SEMICONDUCTORS			
	Q551, Q552		2SC2878
CAPACITORS			
	C552		CKSQYB103K50
	C551		CKSQYB104K16
	C555, C556		CKSQYB223K50
RESISTORS			
⚠	R551, R552		RS1/2LMF121J
	Other Resistors		RS1/10S□□□J
OTHERS			
	551	CABLE HOLDER(4P)	51063-0405
	JA551	JACK	RKN1002

Mark	No.	Description	Part No.

J MECHA SW ASSY

SWITCHES AND RELAYS

	S591		ASG7014

CAPACITORS

	C591, C592		CKSQYF103Z50

OTHERS

	CN591	3PJUMPER CONNECTOR	52151-0310

K FRONT ASSY

SEMICONDUCTORS

	IC401		PDG246A
	Q401, Q402, Q442, Q471		KRA103M
	Q403, Q441		KRC101M
	D407, D442		1SS355
	D403, D405		DAN217
	D401, D404		DAP202K

COILS AND FILTERS

	L401		LFEA2R2J

SWITCHES AND RELAYS

	S451, S452, S454–S467		XSG3001
	S469–S476		XSG3001

CAPACITORS

	C404	(0.047F/5.5V)	ACH7017
	C420	(220µF/35V)	ACH7101
	C495		CCSQCH102J50
	C402, C405		CEAT221M6R3
	C409, C410		CEAT2R2M50
	C412		CEAT470M35
	C442		CEJA470M10
	C451–C454		CKSQYB102K50
	C401, C403, C411, C415, C417		CKSQYB103K50
	C441		CKSQYB103K50
	C496		CKSQYB223K50
	C406, C407, C416, C418, C419		CKSQYB473K16
	C408		CKSQYF104Z25

RESISTORS

	All Resistors		RS1/10S□□□J

OTHERS

	491	CABLE HOLDER (3P)	51063-0305
	403, 471	CABLE HOLDER (4P)	51063-0405
	CN401	8P CONNECTOR	52044-0845
	CN402	30P CONNECTOR	52044-3045
	V401	FL TUBE	AAV7072
	X401	CERAMIC RESONATOR (7.2MHz)	ASS7018
	401	REMOTE RECEIVER UNIT	GP1U27X

Mark	No.	Description	Part No.

L R.ENCODER ASSY

SWITCHES AND RELAYS

	S511		ASX7004

OTHERS

	511	CABLE HOLDER (3P)	51063-0305

M POWER SW ASSY

SEMICONDUCTORS

	D501		BR3371XJ30A

SWITCHES AND RELAYS

	S501		XSG3001

RESISTORS

	All Resistors		RS1/10S□□□J

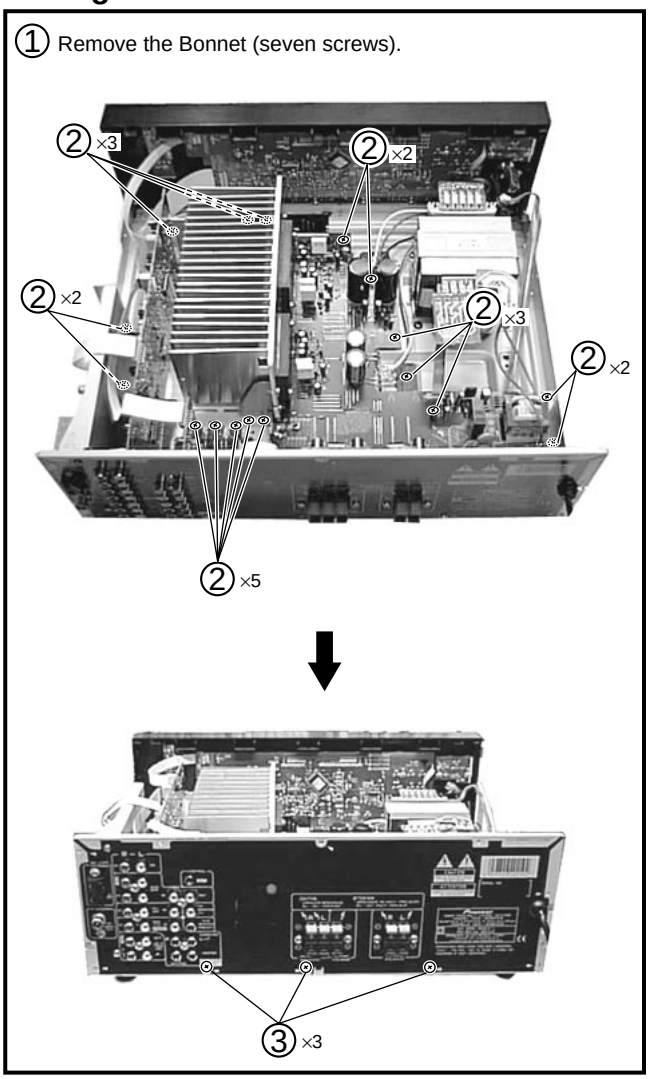
OTHERS

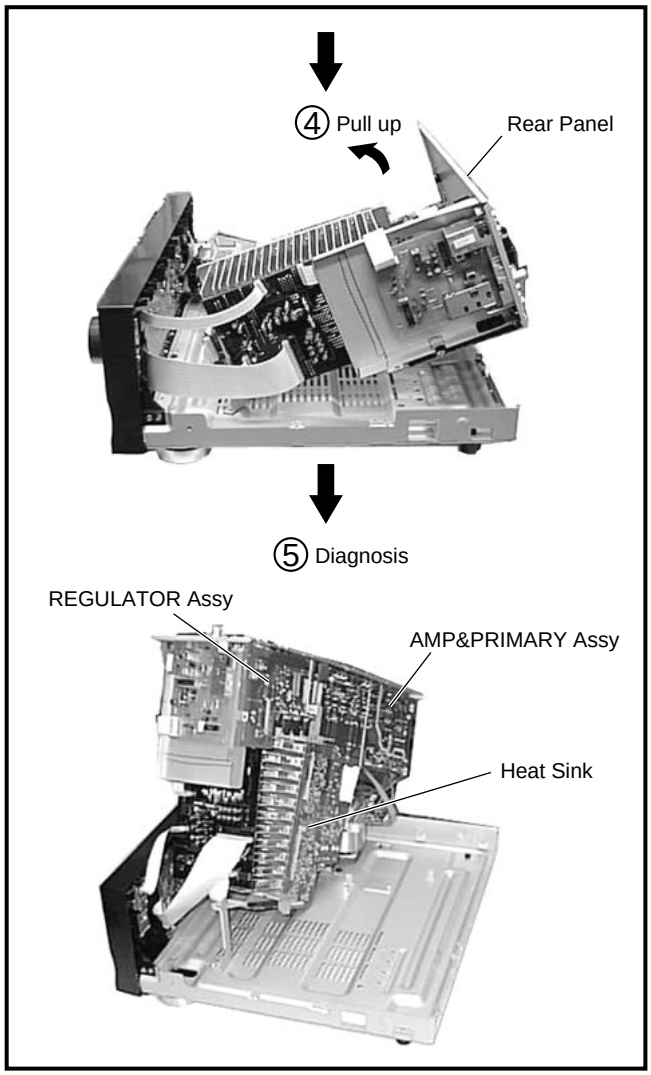
	501	CABLE HOLDER (4P)	51063-0405

6. ADJUSTMENT

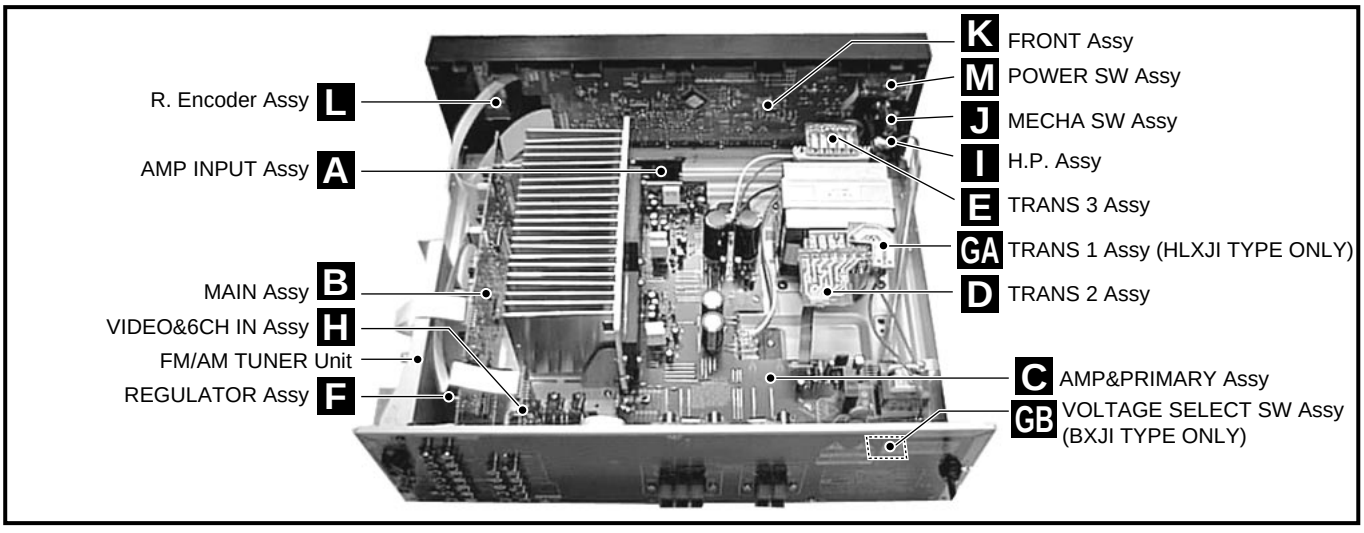
There is no information to be shown in this chapter.

7. GENERAL INFORMATION
7.1 DISASSEMBLY
■ Diagnosis





■ PCB Location



7.2 PARTS

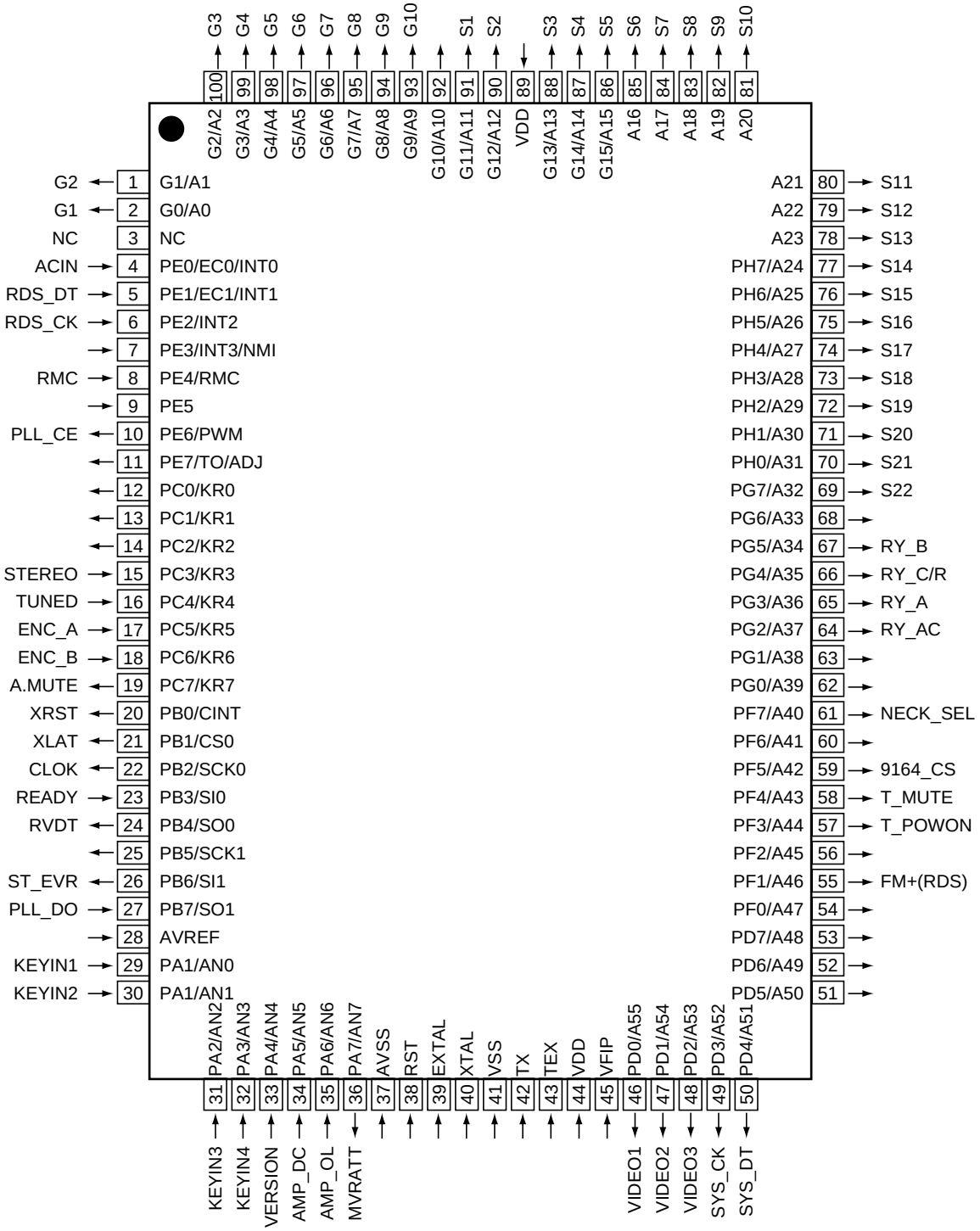
7.2.1 IC

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

■ PDG246A (FRONT ASSY : IC401)

• System Control IC

● Pin Arrangement (Top View)



● Pin Function

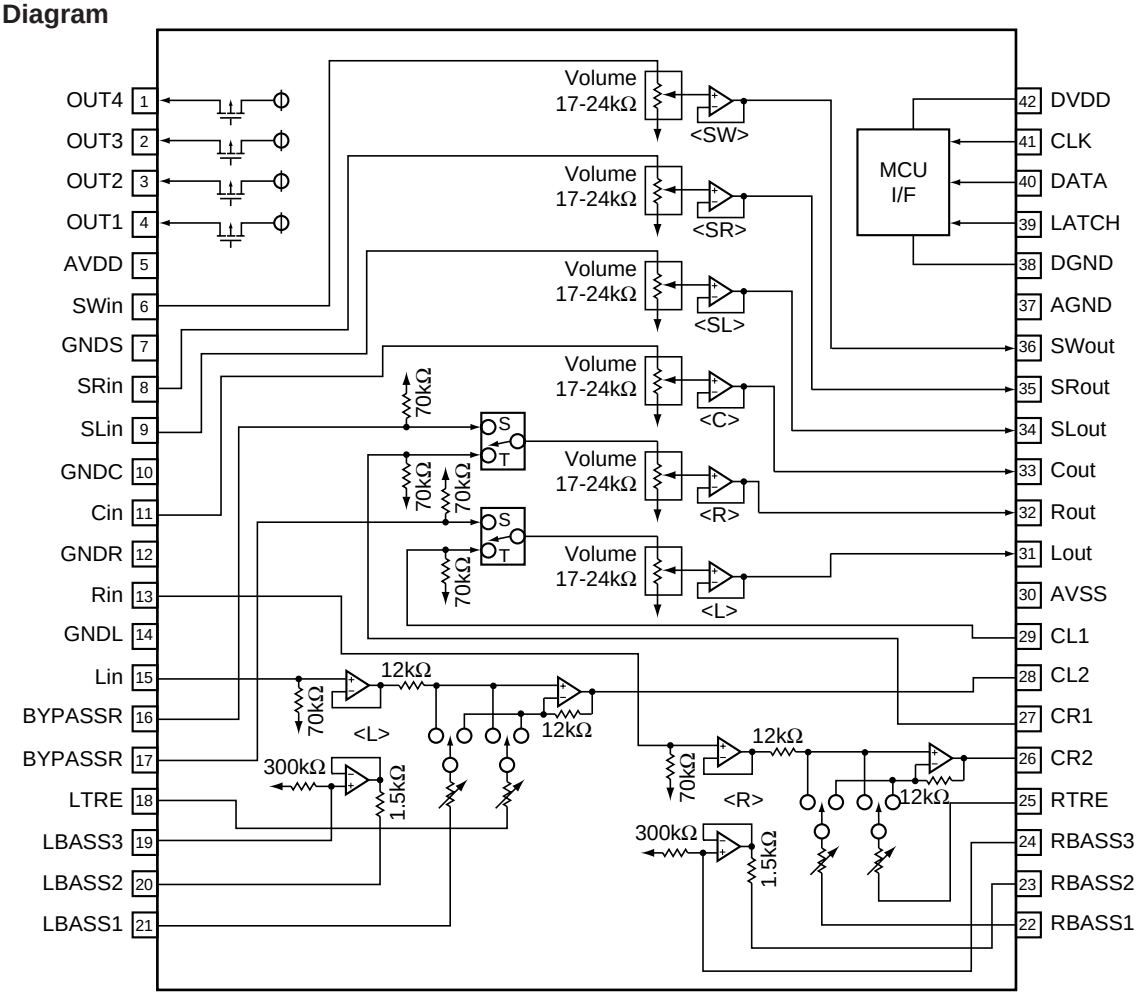
No.	Pin Name	I/O	Pin Function	Active
1	G2	O	Grid output 2	H
2	G1	O	Grid output 1	H
3	NC	–	Connect to VDD	
4	ACIN	I	AC pulse input	
5	RDS_DT	I	Serial control DATA signal of RDS communication	
6	RDS_CK	I	Serial control CLOCK signal of RDS communication	
7		I	Not used	
8	RMC	I	Remote control signal input (no-carrier signal)	
9		I	Not used	
10	PLL_CE	O	Chip select signal for communication with LC72131 (tuner)	H
11		O	Not used	
12		O	Not used	
13		O	Not used	
14		I	Not used	
15	STEREO	I	Stereo/Monoral signal judgment signal	
16	TUNED	I	TUNED information	
17	ENC_A	I	Rotary encoder signal input A	
18	ENC_B	I	Rotary encoder signal input B	
19	AMUTE	O	Audio mute	L
20	XRST	O	DSP reset	L
21	XLAT	O	Chip select for control of DSP	L
22	CLOK	O	Clock signal for communication with DSP	H
23	READY	I	READY input for communication with DSP	
24	RVDT	O	DATA output signal for communication with DSP	H
25		I	Not used	
26	ST_EVR	O	Strobe signal for communication with electric volume IC	H
27	PLL_DO	I	Data input signal for communication with LC72131 (tuner)	
28	AVref	–	Connect to VDD	
29	KEYIN1	I	Key input A/D conversion port 1	
30	KEYIN2	I	Key input A/D conversion port 2	
31	KEYIN3	I	Key input A/D conversion port 3	
32	KEYIN4	I	Key input A/D conversion port 4	
33	VER 1	I	Destination switch (A/D input)	
34	AMP_DC	I	DC abnormality detection of protection circuit (L : Abnormality detection)	
35	AMP_OL	I	Over-load detection of protection circuit (L : Abnormality detection)	
36	MVRATT	O	ATT control of master volume (L : Less than -15dB)	H
37	AVSS	–	Connect to VSS	
38	RST	–	Reset	
39	EXTAL	–	Connect to the oscillator (7.2MHz)	
40	XTAL	–		
41	VSS	–	Connect to VSS	
42	TX	–	Open	
43	TEX	–	Connect to VSS	
44	VDD	–	+5V	
45	VFDP	–	-30V	
46	VIDEO1	O	NJM2296D control	H
47	VIDEO2			
48	VIDEO3			
49	SYS_DT	O	Data signal for communication with M62446, TC9163, TC9164 and PLL	H
50	SYS_CK	O	Clock signal for communication with M62446, TC9163, TC9164 and PLL	H

No.	Pin Name	I/O	Pin Function	Active
51		O	Not used	H
52		O	Not used	H
53		O	Not used	H
54		O	Not used	H
55	FM+(RDS)	O	Tr switch ON/OFF for power supply of RDS decoder (L : AM, power OFF , H : Other)	H
56		O	Not used	
57	T_POWON	O	Tuner module ON/OFF (North America model only)	H
58	T_MUTE	O	Tuner mute	H
59	9164 CS	O	TC9163, TC9164 Chip select	H
60		O	Not used	
61	NECK_SEL	O	5.1ch and surround mode / Stereo	H/L
62		O	Not used	H
63		O	Not used	H
64	RY_AC	O	AC relay ON/OFF	H
65	RY_A	O	Speaker A relay ON/OFF	H
66	RY_C/R	O	Rear/Center Speaker relay ON/OFF	H
67		O	Not used	H
68		O	Not used	H
69	S22	O	Segment output 22	H
70	S21		Segment output 21	
71	S20		Segment output 20	
72	S19		Segment output 19	
73	S18		Segment output 18	
74	S17		Segment output 17	
75	S16		Segment output 16	
76	S15		Segment output 15	
77	S14		Segment output 14	
78	S13		Segment output 13	
79	S12		Segment output 12	
80	S11		Segment output 11	
81	S10		Segment output 10	
82	S9		Segment output 9	
83	S8		Segment output 8	
84	S7		Segment output 7	
85	S6		Segment output 6	
86	S5		Segment output 5	
87	S4		Segment output 4	
88	S3		Segment output 3	
89	VDD	–	5V	
90	S2	O	Segment output 2	H
91	S1		Segment output 1	
92			Not used (Fixed Vfdp)	
93	G10	O	Grid output 10	H
94	G9		Grid output 9	
95	G8		Grid output 8	
96	G7		Grid output 7	
97	G6		Grid output 6	
98	G5		Grid output 5	
99	G4		Grid output 4	
100	G3		Grid output 3	

■ M62446FP (MAIN ASSY : IC103)

• **Sound Controller IC**

● **Block Diagram**



● **Pin Function**

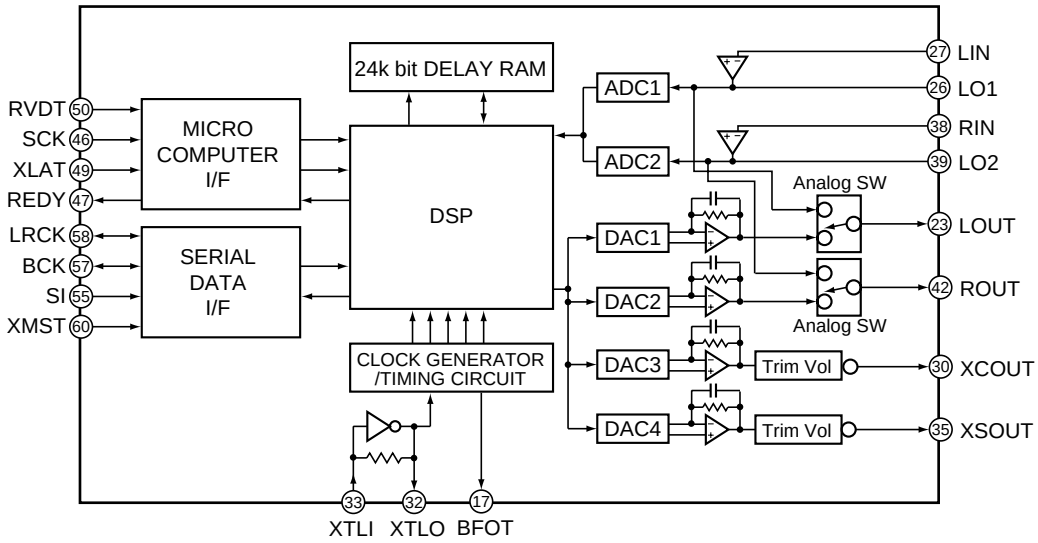
No.	Pin Name	Function
1	OUT4	Output port (open drain of PchTr)
2	OUT3	
3	OUT2	
4	OUT1	
5	AVDD	Analog positive power supply port
7	GNDS	GND (connect to analog ground)
10	GNDC	
12	GNDR	
14	GNDL	
6	SWin	Volume input
8	SRin	
9	SLin	
11	Cin	
36	SWout	Volume output
35	SRout	
34	SLout	
33	Cout	
13	Rin	TONE input
15	Lin	
16	BYPASSR	L and R Volume input at bypass
17	BYPASSL	
31	Lout	L output
32	Rout	R output

No.	Pin Name	Function
18	LTRE	TONE TREBLE frequency control port
25	RTRE	
19	LBASS3	TONE BASS frequency control port
24	RBASS3	
20	LBASS2	
23	RBASS2	
21	LBASS1	
22	RBASS1	
26	CR2	TONE output port
28	CL2	
27	CR1	L and R volume input
29	CL1	
31	Lout	L output
32	Rout	R output
30	AVSS	Analog negative power supply port
37	AGND	Analog ground port
38	DGND	Digital ground port
39	LATCH	Latch input port
40	DATA	Data input port
41	CLK	Clock input port for data transmission
42	DVDD	Digital power supply port

■ CXD2719Q (MAIN ASSY : IC201)

• Dolby Pro Logic Surround Decoder IC

● Block Diagram



● Pin Function

No.	Pin Name	I/O	Function
1-3	T.P	O	Monitor pin for test Normally, outputs "L".
4	VSS0	–	Digital ground
5-8	T.P	O	Monitor pin for test Normally, outputs "L".
9	TST0	I	Test pin Normally, fix to L.
10	VDD0	–	Digital power supply
11	VSS1	–	Digital ground
12	TST1	I	Test pin Normally, fix to "L".
13	TST2	I	Test pin Normally, fix to "L".
14	TST3	I	Test pin Normally, fix to "L".
15	TST4	I	Test pin Normally, fix to "L".
16	XRST	I	System reset input L : reset.
17	BFOT	O	Clock and divided frequency output (384/768/256/512 fs)
18	CSL1	I	Test pin Normally, fix to "H".
19	CSL2	I	Test pin Normally, fix to "L".
20	VSS2	–	Digital ground
21	AVS3	–	Ground for L-ch D/A converter
22	AVD3	–	Power supply for L-ch D/A converter
23	LOUT	O	L-ch A/D converter output
24	AVD1	–	Power supply for L-ch A/D converter
25	AVS1	–	Ground for L-ch A/D converter
26	LO1	O	OP amp. inverting output for LPF of L-ch A/D converter
27	LIN	I	Analog input of L-ch A/D converter
28	AVD5	–	Power supply for C-ch D/A converter
29	AVS5	–	Ground for C-ch D/A converter
30	XCOUT	O	C-ch D/A converter output
31	AVDX	–	Analog power supply for master clock
32	XTLO	O	Crystal oscillation circuit output

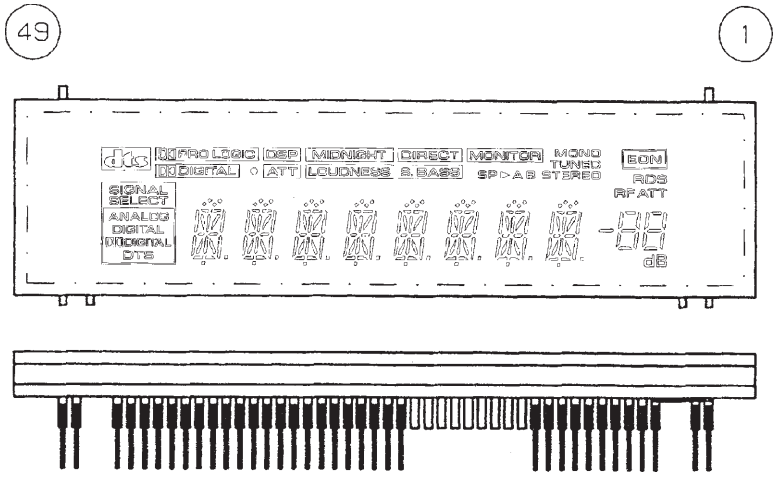
No.	Pin Name	I/O	Function
33	XTLI	I	Crystal oscillation circuit input
34	AVSX	–	Analog ground for master clock
35	XSOUT	O	S-ch D/A converter output
36	AVS6	–	Ground for S-ch D/A converter
37	AVD6	–	Power supply for S-ch D/A converter
38	RIN	I	Analog input of R-ch A/D converter
39	LO2	O	OP amp. inverting output for LPF of R-ch A/D converter
40	AVS2	–	Ground for R-ch A/D converter
41	AVD2	–	Power supply for R-ch A/D converter
42	ROUT	O	R-ch D/A converter output
43	AVD4	–	Power supply for R-ch D/A converter
44	AVS4	–	Ground for R-ch D/A converter
45	VSS3	–	Digital ground
46	SCK	I	Shift clock input of microprocessor interface
47	REDY	O	Transfer permission signal output of microprocessor interface L : Transfer prohibition
48	T.P	O	Monitor pin for test Normally, outputs "Hi-Z".
49	XLAT	I	Latch input of microprocessor interface
50	RVDT	I	Data input of microprocessor interface
51	XS24	I	24/32 bit slot selection of serial data L : 24 bit slot (It is effective at slave mode.)
52	VDD1	–	Digital power supply
53	VSS4	–	Digital ground
54	T.P	–	Monitor pin for test Normally, outputs "L".
55	SI	I	Serial data input of 1 sampling 2 channel
56	T.P	I	Input pin for test Normelly, outputs "L".
57	BCK	I/O	Serial bit transfer clock of serial input/output data SI and SO
58	LRCK	I/O	Sampling frequency clock of serial input/output data SI and SO
59	VSS5	–	Digital ground
60	XMST	I	Master/slave mode switching input of BCK and LRCK L : master mode
61-63	T.P	O	Monitor pin for test Normally, outputs "L".
64	VSS6	–	Digital ground
65-72	T.P	O	Monitor pin for test Normally, outputs "L".
73	VDD2	–	Digital power supply
74	VSS7	–	Digital ground
75-80	T.P	O	Monitor pin for test Normally, outputs "L".

7.2.2 DISPLAY

■ AAV7072 (FRONT ASSY : V401)

- **FL DISPLAY**

● **Pin Assignment**

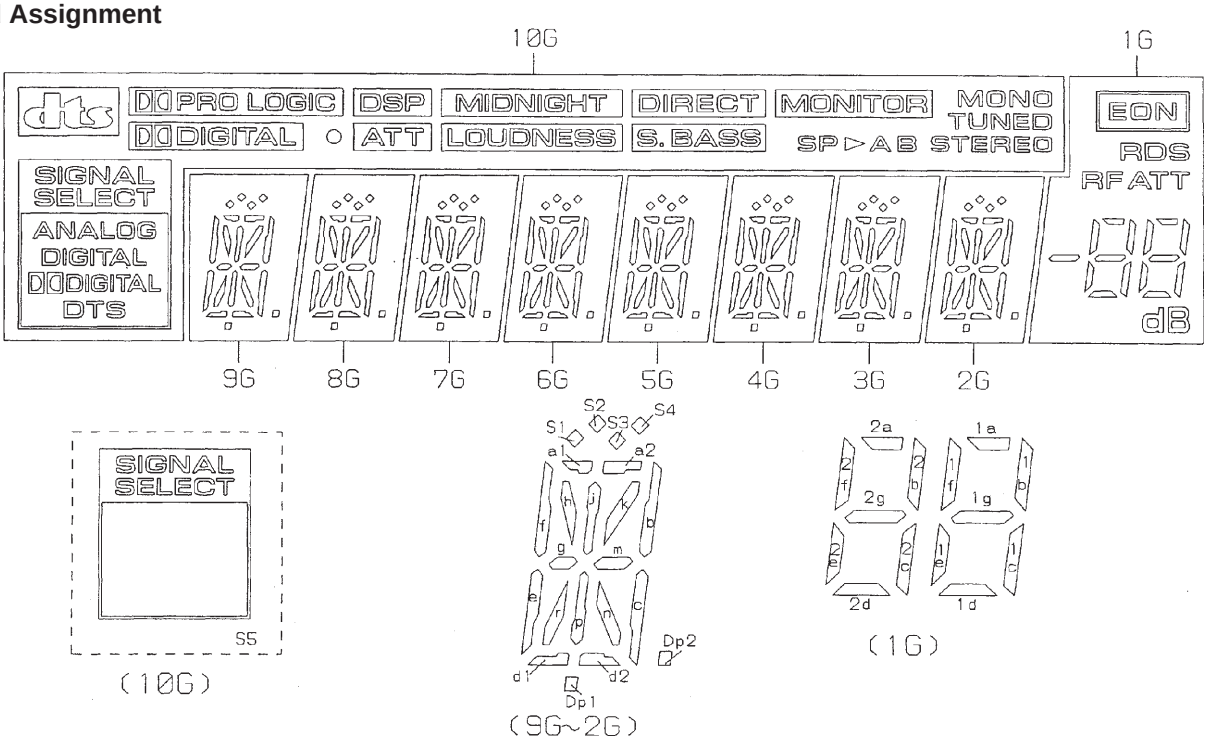


● **Pin Connection**

PIN NO.	49	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
CONNECTION	F2	F2	NP	NP	P21	P22	P09	P10	P87	P11	P65	P12	P43	P13	P21	P14	P10	P15	P98	P16	P76	P17	P54	P18	P32	P19	P1X	N20	NXX	N21	NXX	N22	NXX	N23	NXX	N24	NXX	1G	09G	8G	7G	6G	5G	4G	3G	2G	1G	NP	NP	F1	F1

NOTE 1) F1,F2 --- Filament
2) NP ------ No pin
3) NX ------ No extend pin
4) DL ------ Datum Line
5) 1G~10G --- Grid

● **Grid Assignment**



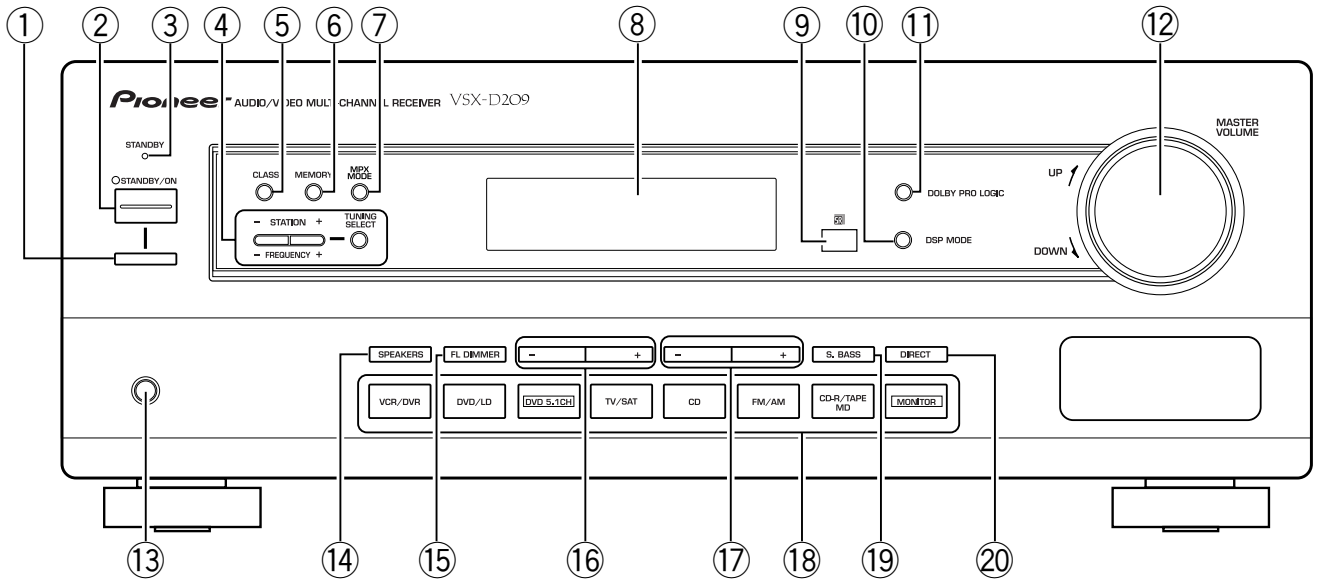
● Anode Connection

	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
P1	STEREO	a1	a1	a1	a1	a1	a1	a1	a1	dB
P2	TUNED	a2	a2	a2	a2	a2	a2	a2	a2	2a
P3	MONO	h	h	h	h	h	h	h	h	2b
P4	B	j	j	j	j	j	j	j	j	2f
P5	A	k	k	k	k	k	k	k	k	2g
P6	SP ▷	b	b	b	b	b	b	b	b	2c
P7	MONITOR	f	f	f	f	f	f	f	f	2e
P8	S. BASS	m	m	m	m	m	m	m	m	2d
P9	DIRECT	g	g	g	g	g	g	g	g	1a
P10	LOUDNESS	c	c	c	c	c	c	c	c	1b
P11	MIDNIGHT	e	e	e	e	e	e	e	e	1f
P12	ATT	r	r	r	r	r	r	r	r	1g
P13	DSP	p	p	p	p	p	p	p	p	1c
P14	○	n	n	n	n	n	n	n	n	1e
P15	DIGITAL	d1	d1	d1	d1	d1	d1	d1	d1	1d
P16	PRO LOGIC	d2	d2	d2	d2	d2	d2	d2	d2	⬭
P17	DTS	Dp2	Dp2	Dp2	Dp2	Dp2	Dp2	Dp2	Dp2	RDS
P18	DIGITAL	Dp1	Dp1	Dp1	Dp1	Dp1	Dp1	Dp1	Dp1	RF ATT
P19	DIGITAL	S1	S1	S1	S1	S1	S1	S1	S1	EON
P20	ANALOG	S4	S4	S4	S4	S4	S4	S4	S4	(EON)
P21	S5	S2	S2	S2	S2	S2	S2	S2	S2	–
P22	dts	S3	S3	S3	S3	S3	S3	S3	S3	–

8. PANEL FACILITIES AND SPECIFICATIONS

8.1 PANEL FACILITIES

Front Panel



① **MAIN POWER button**

Push to send electricity to the receiver. Note the STANDBY/ ON button below actually turns the receiver on and standby.

② ⏻ **STANDBY/ON button**

Switches the receiver between on and standby.

③ **STANDBY indicator**

Lights when the receiver is in standby mode (note that the receiver consumes a small amount of power (1W) in standby mode).

④ **STATION (+/–), FREQUENCY (+/–), TUNING SELECT buttons**

STATION (+/–)
Selects station memories when using the tuner.
FREQUENCY (+/–)
Selects the frequency when using the tuner.
TUNING SELECT
Switches between station memory and frequency select modes.

⑤ **CLASS button**

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

⑥ **MEMORY button**

Press to memorize a station for recall using the STATION (+/–) buttons.

⑦ **MPX MODE button**

If the **TUNED** or **STEREO** indicators don't light when tuning to an FM station because the signal is weak, press the MPX button to switch the receiver into mono reception mode. This should improve the sound quality and allow you to enjoy the broadcast.

⑧ **Display**

⑨ **Remote sensor**

Receives the signals from the remote control.

⑩ **DSP MODE button**

Use to switch between the various DSP modes available (**HALL, JAZZ, DANCE, THEATER1, THEATER2**) and DSP off. Use to create different surround sound effects from any stereo source.

⑪ **DOLBY PRO LOGIC button**

Use to switch between the various Pro Logic modes (PRO LOGIC, PRO LOGIC THEATER**1**, PRO LOGIC THEATER**2**) and Pro Logic off.

⑫ **MASTER VOLUME**

Use to set the overall listening volume.

⑬ **PHONES jack**

Use to connect headphones but this does not switch the speakers off.

⑭ **SPEAKER button**

Use to switch the speaker system on or off.

⑮ **FL DIMMER button**

Use this button to make the fluorescent display (FL) dimmer or brighter. There are three brightness settings as well as an off setting.

⑯ **BASS (+/–) buttons**

Use to increase/decrease bass (within a range of –6dB to 6dB in 2dB steps). It cannot be used when S.BASS is on.

⑰ **TREBLE (+/–) buttons**

Use to increase/decrease treble (within a range of –6dB to 6dB in 2dB steps).

⑱ **Function buttons**

Use to select a source for playback or recording.

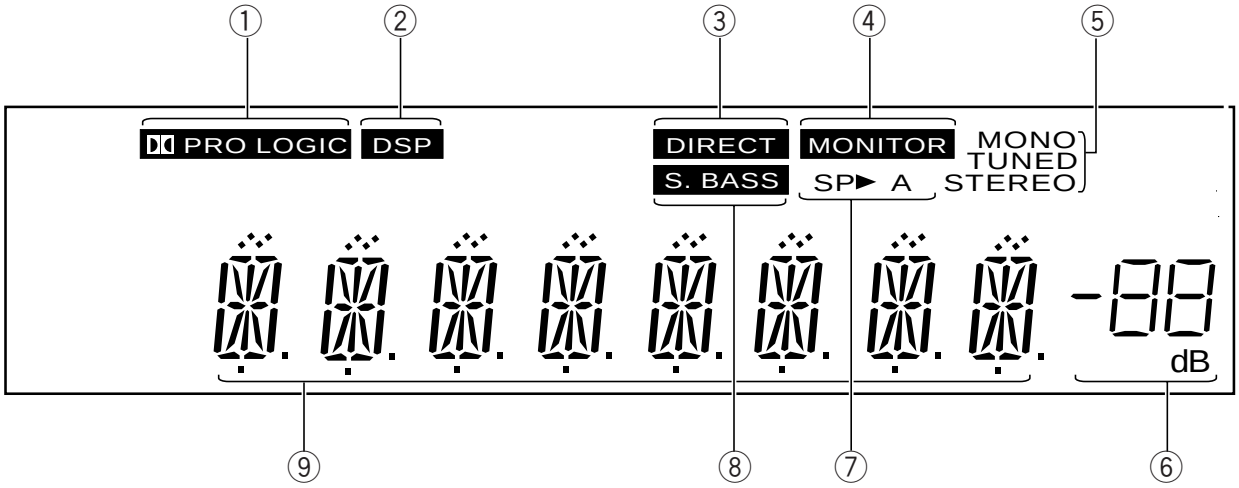
⑲ **S.BASS button**

Use to switch on and off the bass boost. Use for a more powerful bass sound. Negates use of BASS buttons.

⑳ **DIRECT button**

Use to switch DIRECT playback on or off. This mode bypasses the tone controls and channel levels for the most accurate reproduction of a program source.

Display



① PRO LOGIC indicator

Lights when any Dolby Pro Logic mode is selected.
The main character display briefly shows the current Pro Logic mode (**PRO LOGIC, THEATER1, THEATER2**) after selection.

② DSP indicator

Lights when any DSP mode is selected. The main character display briefly shows the current DSP mode (**HALL, JAZZ, DANCE, THEATER1** and **THEATER2**) after selection.

③ DIRECT indicator

Lights when source DIRECT is on. This function bypasses all tone, balance, DSP and Dolby Surround effects.

④ MONITOR indicator

Lights when **MONITOR** is selected to hear a recording as it's being made.

⑤ TUNER indicators

MONO:
Lights when the mono mode is set using the MPX MODE button.
TUNED:
Lights when a broadcast is being received.
STEREO:
Lights when a stereo FM broadcast is being received in auto stereo mode.

⑥ MASTER VOLUME LEVEL

Shows the overall volume level. Volume level is maintained even when the power is off. ---dB indicates the minimum level, and 0dB indicates the maximum level.

- Depending on the level settings for individual channels, the MAX level can range between –10dB and 0dB.

⑦ SPEAKER indicator

Shows if the speaker system is on or not. If SP►A appears speakers are switched on.
If SP► appears speakers are switched off.

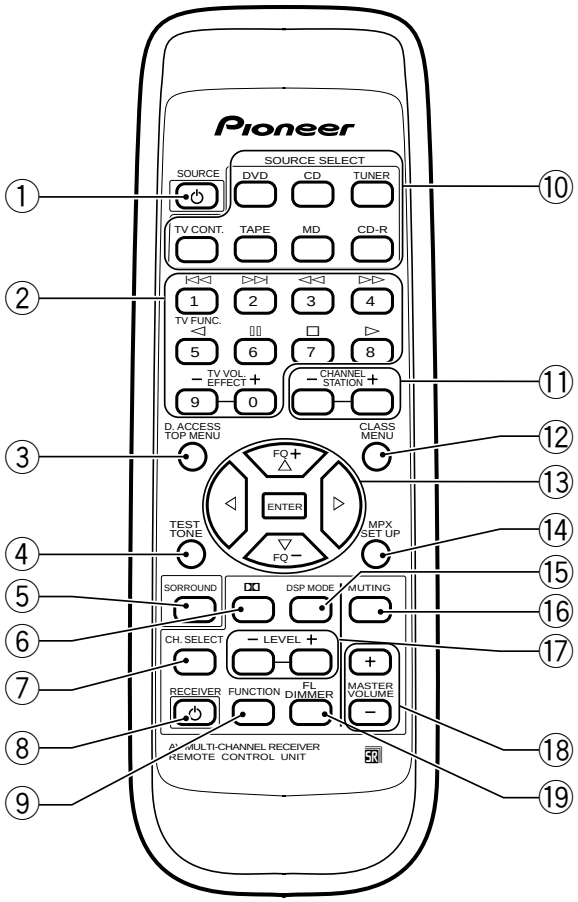
⑧ S. BASS indicator

Lights when the S. BASS is on.

⑨ CHARACTER display

Shows the radio frequency or function (DVD/LD, CD, etc.) receiver is using .

Remote Control



① **SOURCE ⏻ (Power) button**

This button turns on/off the power for PIONEER components connected to the VSX-D209/VSX-D209-G.

② **NUMBER/PLAYER COMMAND buttons**

Use to select the radio frequency in tuner mode. Also, you can use to contol PIONEER components like CD players, cassette decks, etc. according to the comands printed above the button (4, 3, 7, etc.)

③ **D.ACCESS/TOP MENU button**

This button gives you direct access to radio frequency input, allowing you to input a station directly. In DVD mode this button brings you to the top menu.

④ **TEST TONE button**

Use this button to hear a test tone from each speaker in turn to set the relative speaker volumes. Also switches the BAND in TUNER mode.

⑤ **SURROUND button**

Use this button to set up the surround sound features of the VSX-D209/VSX-D209-G. In particular, it's used to select the type of center mode, turn on/off subwoofer option and select delay time for each speaker. Also used to start the process of setting the effect levels

⑥ **DD button**

Use to select a Dolby Pro Logic mode. Also used to access Test Tone.

⑦ **CH. SELECT button**

Used to start the process of setting the speaker levels (see ⑰ below).

⑧ **RECEIVER STANDBY/ON button**

Use to switch the receiver between on and standby modes.

⑨ **FUNCTION button**

Use select the playback or recording source.

⑩ **SOURCE SELECT keys**

Use to put the remote control (NOT the receiver) in the stated mode.

⑪ **CHANNEL/STATION +/– buttons**

Use to select the station of memorized frequencies or change channels on Pioneer-made TVs.

⑫ **CLASS/MENU button**

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

⑬ **◄ ► ▲▼ (FQ +/–) & ENTER buttons**

Use these arrow buttons when setting up your surround sound system. These buttons are also used to control DVD menus/options and for deck 1 of a double cassette deck player. The FQ +/- buttons can be used to find radio frequencies.

⑭ **MPX/SETUP MODE button**

Use to switch between auto stereo and mono reception of FM broadcasts. If the signal is weak then switching to MONO will improve the sound quality. In DVD mode this button brings up the SETUP menus.

⑮ **DSP MODE button**

Use to switch between the various DSP modes available (**HALL, JAZZ, DANCE, THEATER1, THEATER2**) and DSP off. Use to create different surround sound effects from any stereo source.

⑯ **MUTING button**

Use to mute all audio without affecting any of the current sound settings.

⑰ **+/– LEVEL buttons**

Use to set the relative speaker volumes for all the speakers in your system (see ⑦ above).

⑱ **MASTER VOLUME +/– buttons**

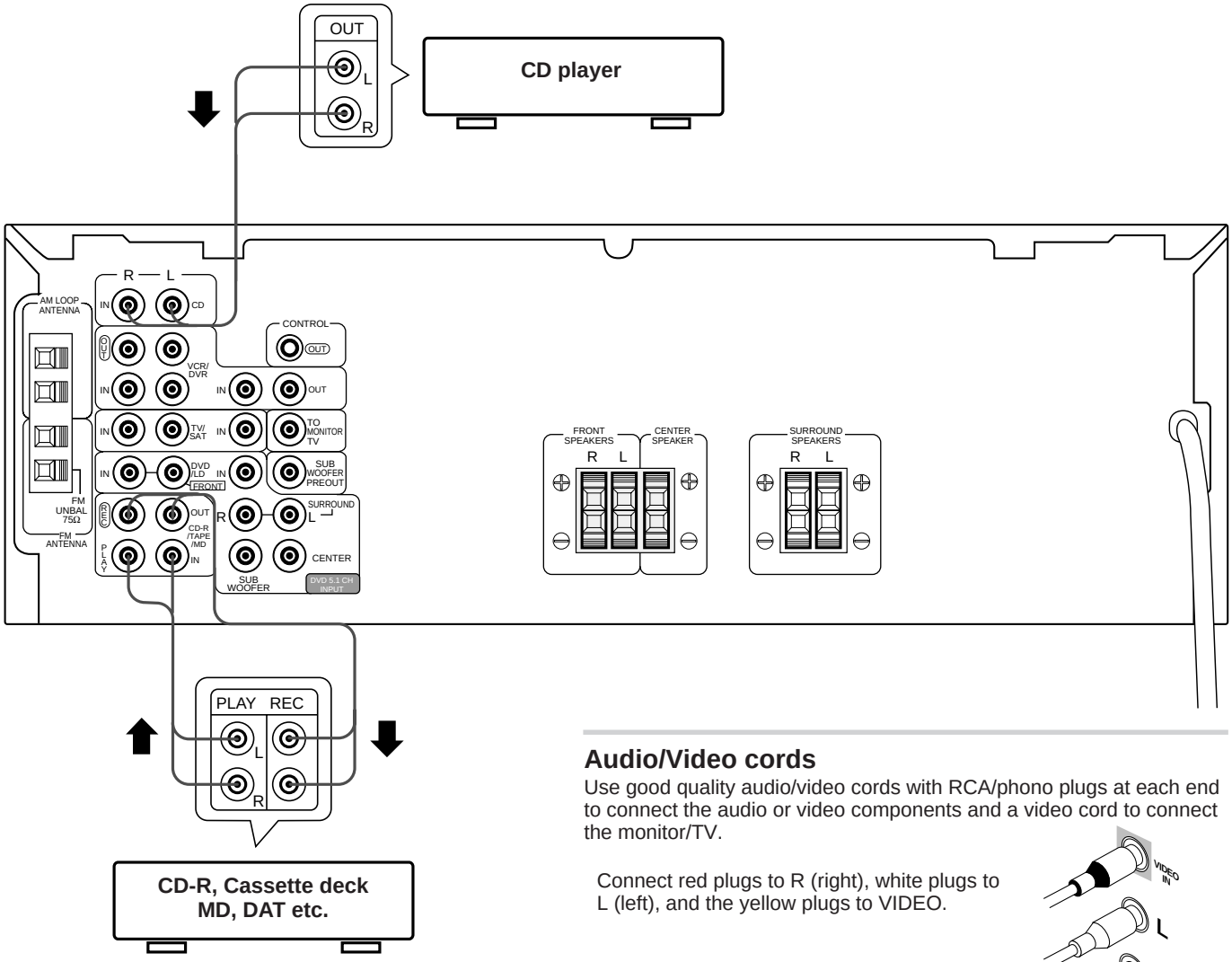
Use to set the overall listening volume.

⑲ **FL DIMMER button**

Use this button to make the fluorescent display (FL) dimmer or brighter. There are three brightness settings as well as an off setting.

Connecting Audio Components

Connect your audio components as shown below. When connecting equipment, always make sure the power switched off and the power cord is disconnected from the wall outlet.

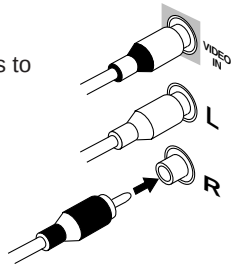


Audio/Video cords

Use good quality audio/video cords with RCA/phono plugs at each end to connect the audio or video components and a video cord to connect the monitor/TV.

Connect red plugs to R (right), white plugs to L (left), and the yellow plugs to VIDEO.

Be sure to push home the plugs into their sockets.



Cassette deck placement

Depending on where the cassette deck is placed, noise caused by leakage flux from the transformer in the receiver may occur during playback. If you experience noise, move the cassette deck farther away from the receiver.

8.2 SPECIFICATIONS

Amplifier Section

Stereo mode (DIN,1kHz, 0.9 %, 8 Ω) ..... 80 W + 80 W

Surround mode (DIN,1kHz, 0.9 %, 8 Ω)
- Front ..... 80 W / ch
- Center ..... 80 W
- Surround ..... 80 W / ch

Maximum Power (1KHz, 10%, RMS, per channel driven)
..... 100 w x 5

Input (Sensitivity/Impedance)
- CD, VCR/DVR, CD-R/TAPE/MD, DVD/LD, TV/SAT
..... 200 mV/47 kΩ

Frequency Response
- CD, VCR/DVR, CD-R/TAPE/MD, DVD/LD, TV/SAT
..... 5 Hz to 100,000 Hz $^{+0}_{-3}$ dB

Output (Level/Impedance)
- VCR/DVR REC, CD-R/TAPE/MD REC ..... 200 mV/2.2 kΩ

Tone Control
- BASS ..... ± 6 dB (100 Hz)
- TREBLE ..... ± 6 dB (10 kHz)
- S.BASS ..... + 8 dB (100 Hz)

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

Signal-to Noise Ratio [EIA, at 1 W (1 kHz)]
- CD, VCR/DVR, CD-R/TAPE/MD, DVD/LD, TV/SAT ..... 79 dB

Video Section

Input (Sensitivity/Impedance)
- VCR/DVR, DVD/LD, TV/SAT ..... 1 Vp-p/75 Ω

Output (Level/Impedance)
- VCR/DVR ..... 1 Vp-p/75 Ω

Frequency Response
- VCR/DVR, DVD/LD, TV/SAT → MONITOR
..... 5 Hz to 7 MHz $^{+0}_{-3}$ dB

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

Cross Talk ..... 55 dB

FM Tuner Section

Frequency Range ..... 87.5 MHz to 108 MHz

Usable Sensitivity ..... Mono:13.2 dBf, IHF (1.3 µV/75 Ω)

50 dB Quieting Sensitivity ..... Mono: 20.2 dB
Stereo: 38.6 dBf

Signal-to-Noise Ratio ..... Mono: 73 dB (at 85 dBf)
Stereo: 70 dB (at 85 dBf)

Distortion ..... Stereo: 0.5 % (1 kHz)

Alternate Channel Selectivity ..... 60 dB (400 kHz)

Stereo Separation ..... 40 dB (1 kHz)

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

Antenna Input ..... 75 Ω unbalanced

AM Tuner Section

Frequency Range
- Multi voltage mode ..... 530 kHz to 1,700 kHz(10 kHz step)
..... 531 kHz to 1,602 kHz(9 kHz step)
- Singapore model ..... 531 kHz to 1,602 kHz

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

Selectivity ..... 25 dB

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

Antenna ..... Loop antenna

Miscellaneous

Power Requirements
- Multi voltage model
..... AC 110/120-127/220/240V (Switchable), 50/60Hz
- Singapore model ..... AC 220-230 V, 50/60 Hz

Power Consumption
- Multi voltage model ..... 660 W
- Singapore model ..... 220 W
- In Standby ..... 1 W

Dimensions ..... 420 (W) x 158 (H) x 391 (D) mm

Weight (without package) ..... 8.4 kg

Furnished Parts

FM Antenna 1

AM Loop Antenna 1

Dry Cell Batteries
size AA (IEC R6P) 2

Remote Control Unit 1

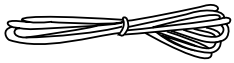
Operating Instructions 1

NOTE:

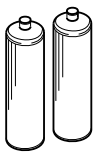
Specifications and the design are subject to possible modifications without notice, due to improvements.

Accessories

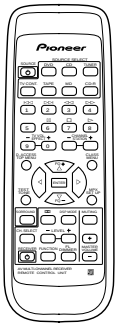
AM loop antenna
(ATB7009)



FM wire antenna
(ADH7004)



AA size IEC R6P
batteries (x2)



Remote control unit
(CU-VSX166 : AXD7245)