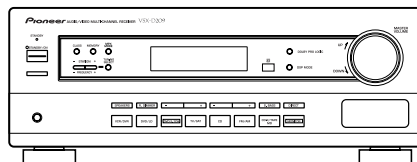


Service Manual

Pioneer



ORDER NO.
RRV2245

AUDIO/VIDEO MULTI-CHANNEL RECEIVER

VSX-D209

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

Type	Model	Power Requirement	Remarks
	VSX-D209		
KUXJI	○	AC120V	
KCXJI	○	AC120V	

CONTENTS

1. SAFETY INFORMATION	2	7. GENERAL INFORMATION	42
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PIONEER CORPORATION 4-1, Meguro 1-chome, Meguro-ku, Tokyo 153-8654, Japan
PIONEER ELECTRONICS SERVICE, INC. P.O. Box 1760, Long Beach, CA 90801-1760, U.S.A.
PIONEER ELECTRONIC (EUROPE) N.V. Haven 1087, Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS ASIACENTRE PTE. LTD. 253 Alexandra Road, #04-01, Singapore 159936
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T – ZZK DEC. 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

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

REMARQUE

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.

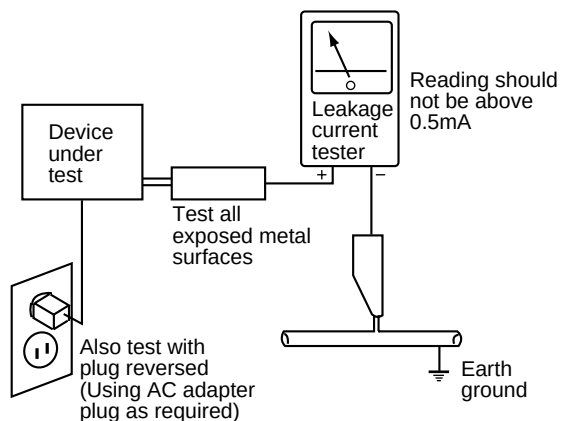
(FOR USA MODEL ONLY)

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 Δ on the schematics and on the parts list in this Service Manual.

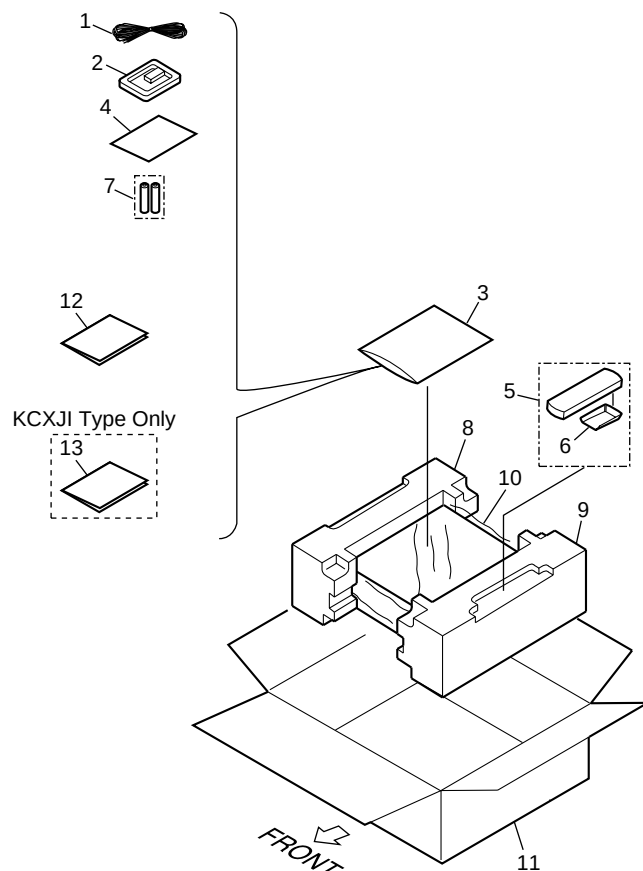
The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

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

2.1 PACKING



(1) PACKING PARTS LIST

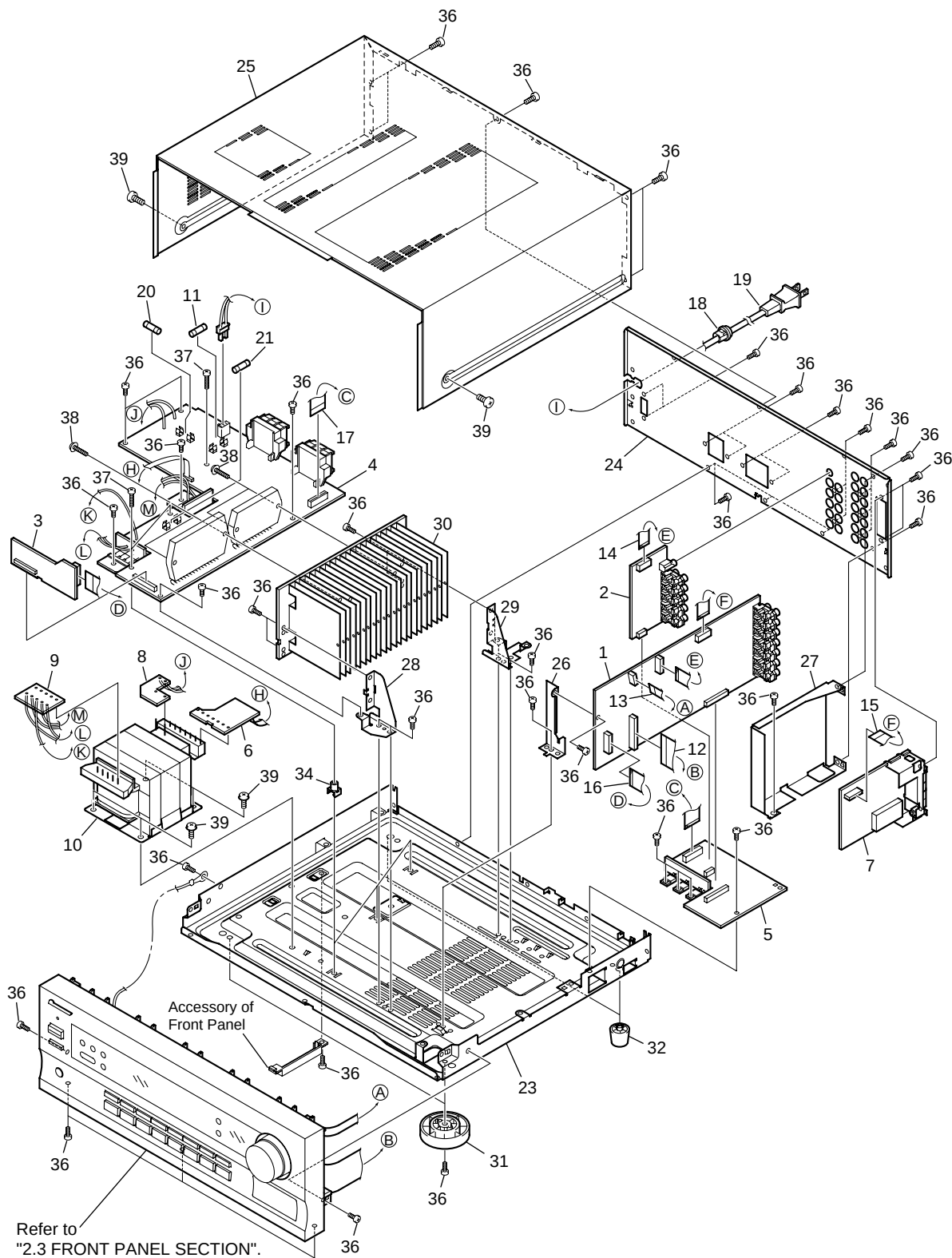
Mark	No.	Description	Part No.
	1	FM Wire Antenna	ADH7004
	2	AM Loop Antenna	ATB7009
	3	Polyethylene Bag (0.03 × 230 × 340)	Z21-038
NSP	4	Warranty Card	See Contrast table (2)
	5	Remote Control Unit (CU-VSX166)	AXD7245
NSP	6	Battery Cover	RZN1156
	7	Dry Cell Battery (R6P, AA)	VEM-013
	8	Left Pad	AHA7275
	9	Right Pad	AHA7276
	10	Packing Sheet	AHG7069
	11	Packing Case	AHD7803
	12	Operating Instructions (English)	ARB7202
	13	Operating Instructions (French)	See Contrast table (2)

(2) CONTRAST TABLE

VSX-D209/KUXJI and KCXJI are constructed the same except for the following :

Mark	No.	Symbol and Description	Part No.		Remarks
			VSX-D209 /KUXJI	VSX-D209 /KCXJI	
NSP	4	Warranty Card	ARY7023	ARY7024	
	13	Operating Instructions (French)	Not used	ARC7260	

2.2 EXTERIOR SECTION



(1) EXTERIOR SECTION PARTS LIST

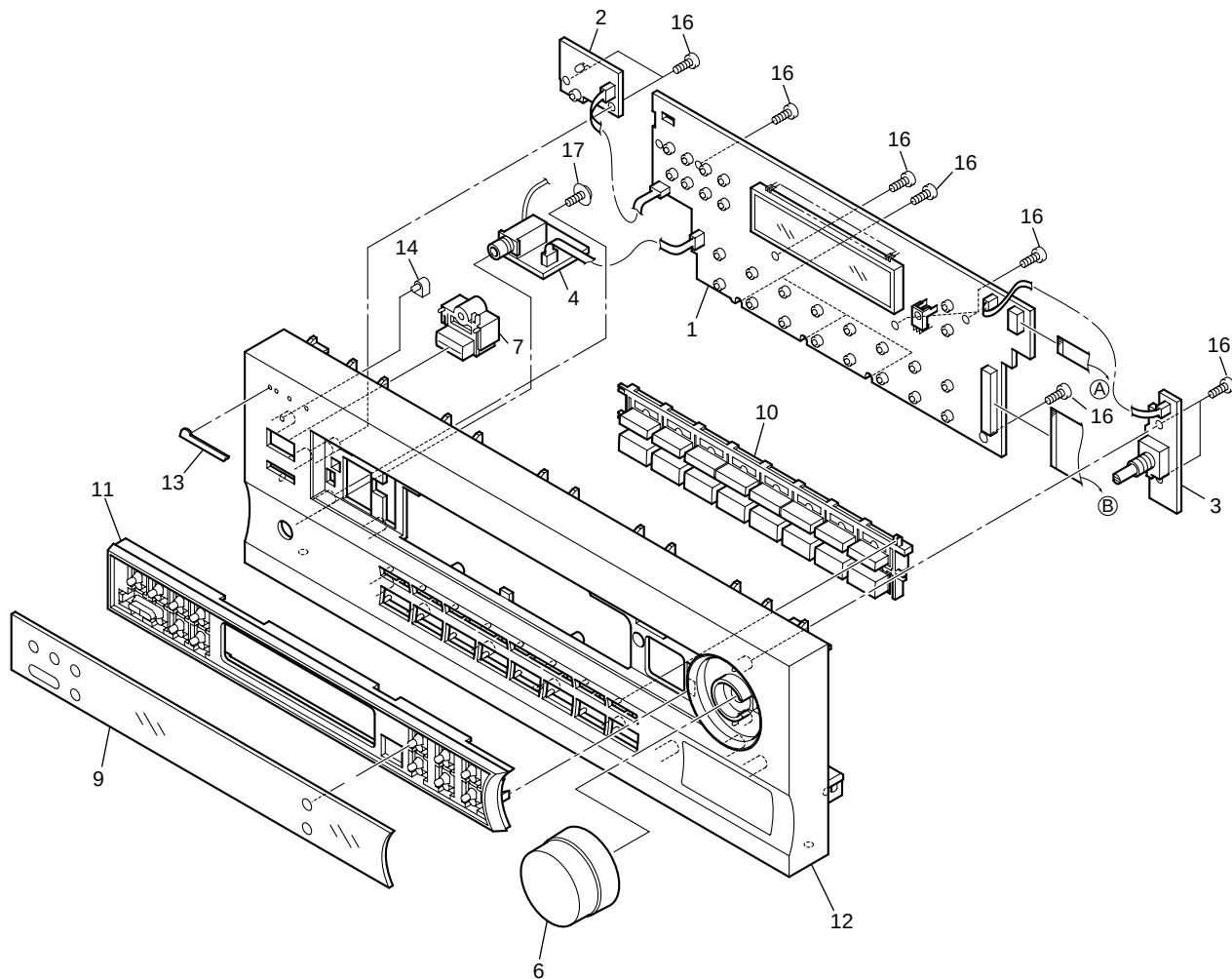
Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
NSP	1	MAIN Assy	AWX7455	△	21	Fuse (FU701 : 10A)	REK1087
	2	VIDEO&6CH IN Assy	AWX7383	•••••	22		
	3	AMP INPUT Assy	AWX7382	NSP	23	Under Base 409	ANA7094
	4	AMP&PRIMARY Assy	AWX7457		24	Rear Panel	See Contrast table (2)
	5	REGULATOR Assy	AWX7389		25	Bonnet Case	AZN7818
NSP	6	TRANS 2 Assy	AWX7391		26	PCB Angle	ANG7253
	7	FM/AM TUNER Unit	AXX7046		27	Shield R3	ANG7277
NSP	8	TRANS 1 Assy	AWX7390		28	Heat Sink Angle F	ANG7251
NSP	9	TRANS 3 Assy	AWX7392		29	Heat Sink Angle R	ANG7252
△	10	Power Transformer (AC120V)	ATS7263	NSP	30	Heat Sink 0.4	ANH7123
△	11	Fuse (FU1 : 6.3A)	REK1069		31	Insulator	AMR7198
	12	FFC (J31 : 30P/190 BD 60V) (MAIN CN102 ↔ FRONT CN402)	ADD7186		32	Foot Assy	REC1263
	13	FFC (J32 : 8P/170 BD 60V) (MAIN CN103 ↔ FRONT CN401)	ADD7187		33	•••••	
	14	FFC (J33 : 12P/200 BD 60V) (MAIN CN104 ↔ VIDEO&6CH IN CN305)	ADD7188		34	PCB Mold	AMR2533
	15	FFC (J34 : 13P/80 BD 60V) (MAIN CN105 ↔ FM/AM TUNER CN1)	ADD7189		35	•••••	
	16	FFC (J35 : 17P/110 BD 60V) (MAIN CN106 ↔ AMP INPUT CN290)	ADD7190		36	Screw	BBZ30P080FMC
	17	FFC (J36 : 18P/80 BD 60V) (REGULATOR CN801 ↔ AMP&PRIMARY CN53)	ADD7191		37	Screw	BBZ30P200FMC
	18	Strain Relief	CM-22C		38	Screw	ABA7043
△	19	AC Power Cord	VDG1075		39	Screw	FBT40P080FZK
△	20	Fuse (FU2 : 5A)	REK1067				

(2) CONTRAST TABLE

VSX-D209/KUXJI and KCXJI are constructed the same except for the following :

Mark	No.	Symbol and Description	Part No.		Remarks
			VSX-D209 /KUXJI	VSX-D209 /KCXJI	
	24	Rear Panel	ANC7876	ANC7881	

2.3 FRONT PANEL SECTION



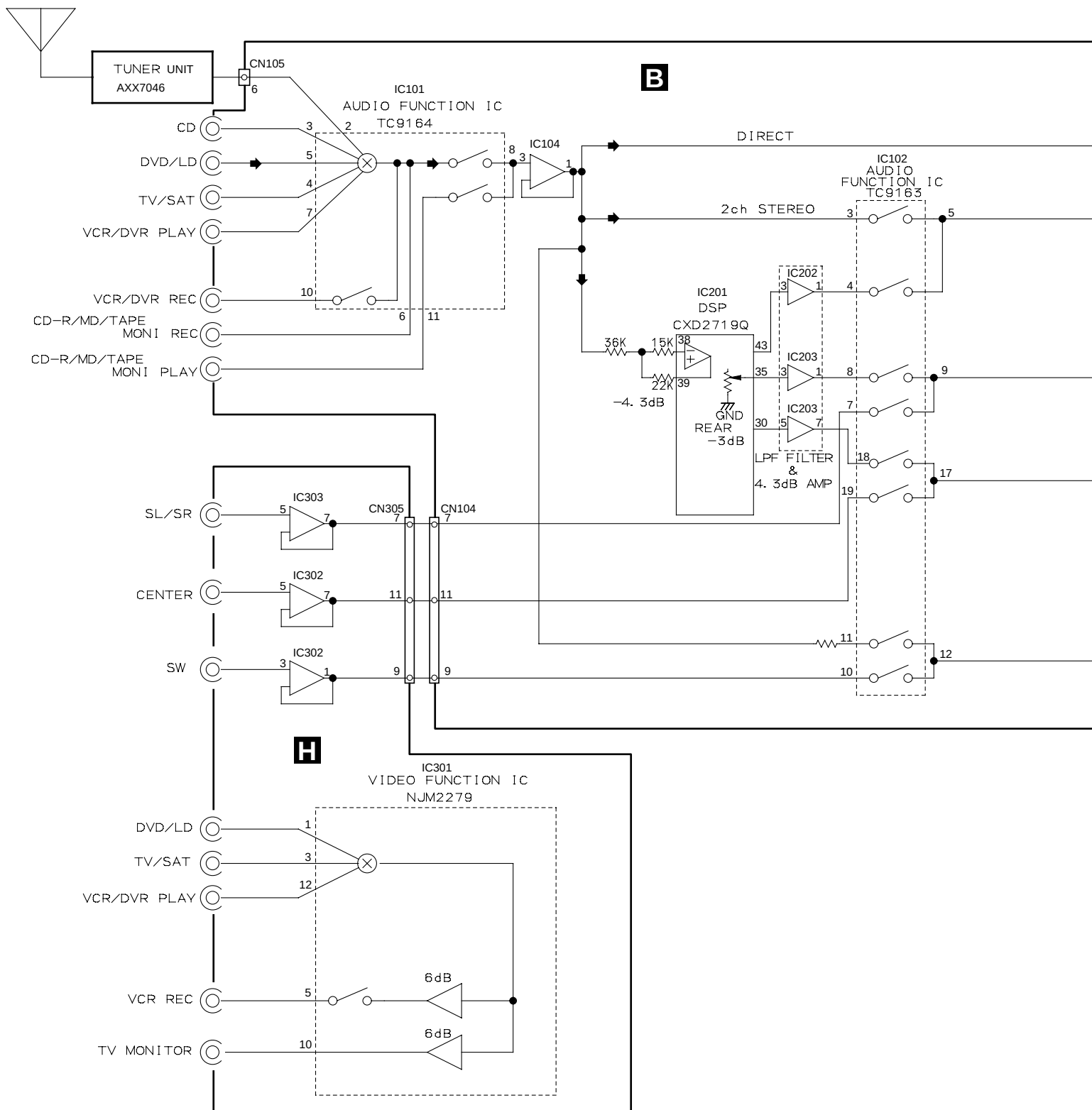
● FRONT PANEL SECTION PARTS LIST

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
NSP NSP	1	FRONT Assy	AWX7456	11	Sub Panel		AAD7552
	2	POWER SW Assy	AWX7385	12	F Panel		AMB7654
	3	R. ENCODER Assy	AWX7386	13	Name Plate		PAM1776
	4	H.P. Assy	AWX7387	14	LED Lens		PNW2019
	5	• • • • •		15	• • • • •		
	6	Volume Knob	AAB7179	16	Screw		PPZ30P080FMC
	7	Power Button	AAD7440	17	Screw		ABA7009
	8	• • • • •					
	9	Window	AAK7709				
	10	F Button	AAD7537				

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3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

3.1 BLOCK DIAGRAM





3.2 OVERALL WIRING CONNECTION DIAGRAM

A

B

C

D

L

R.ENCODER
ASSY
(AWX7386)

K

FRONT ASSY
(AWX7456)

A

AMP INPUT ASSY
(AWX7382)

B

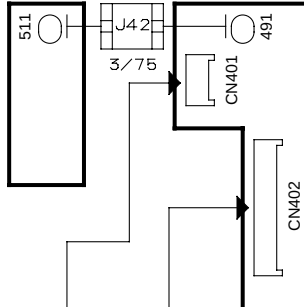
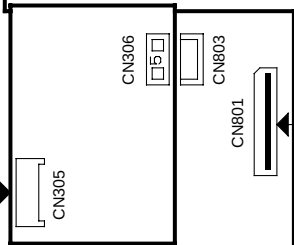
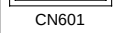
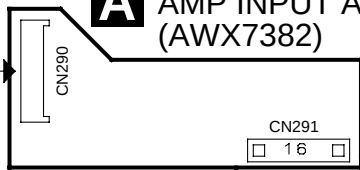
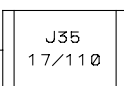
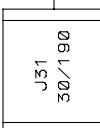
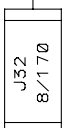
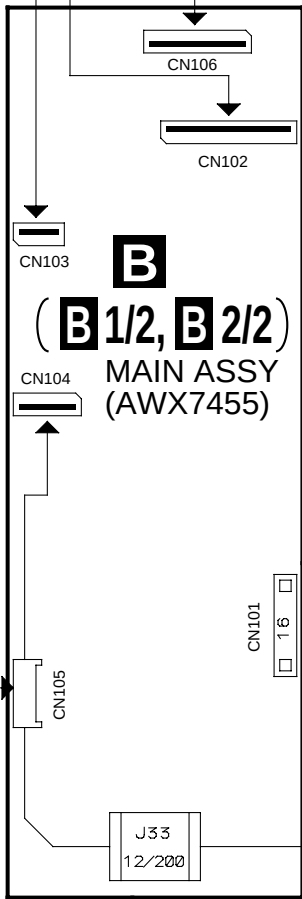
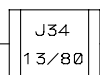
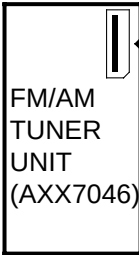
(**B** 1/2, **B** 2/2)
MAIN ASSY
(AWX7455)

H

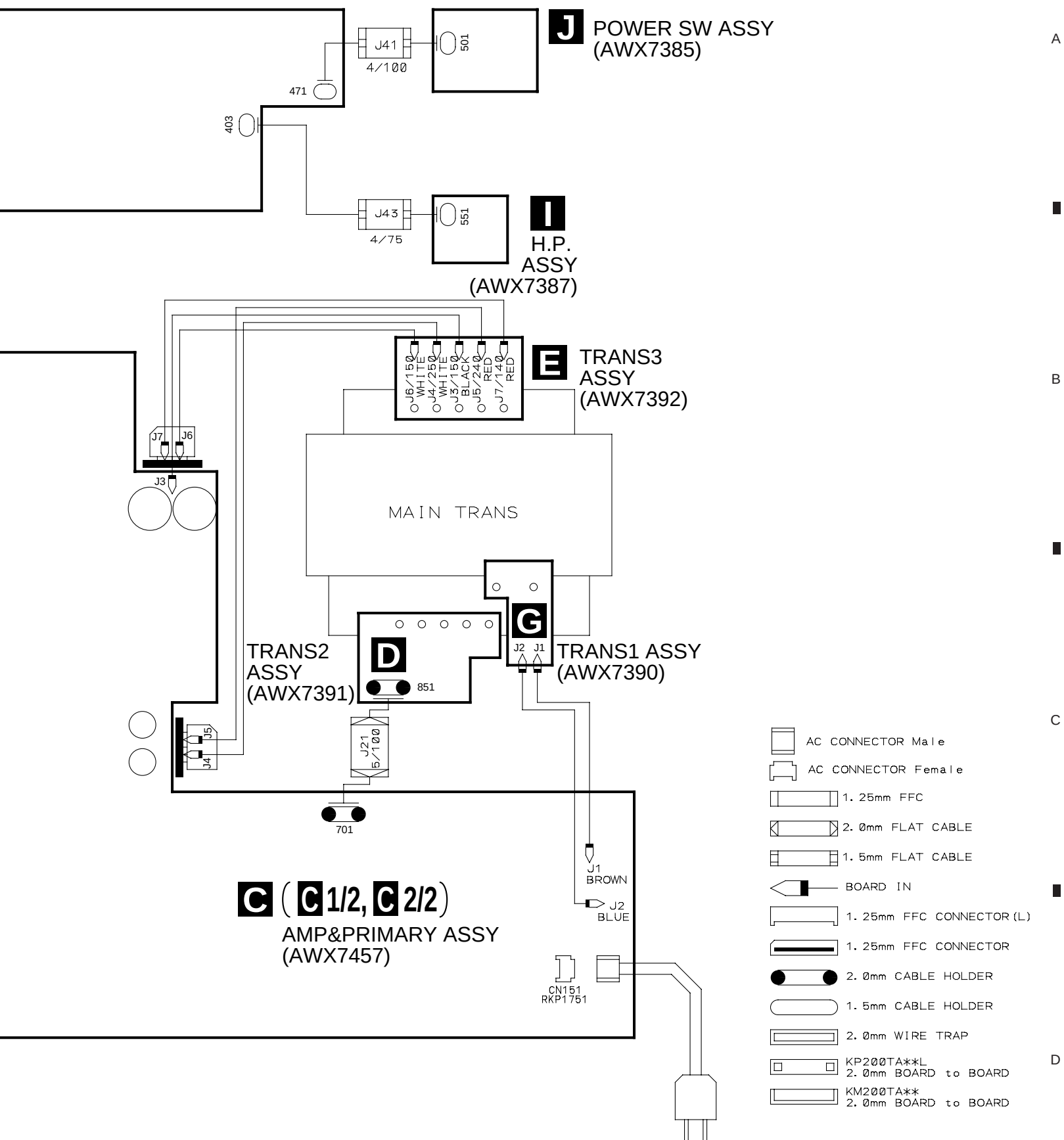
VIDEO&6CH IN ASSY
(AWX7383)

F

REGULATOR ASSY
(AWX7389)



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

A

B

C

D

B1/2 MAIN ASSY (AWX7455)

FM/AM TUNER UNIT

B2/2

A AMP INPUT ASSY (AWX7382)

B1/2 CN106

C1/2 CN601

F CN802

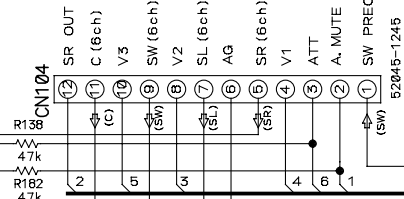
NOTES: NO INDICATED PARTS IS...
RESISTOR: RS1/10SXXXJ-T
CEMICAL CAPSITOR: CEAT***M**T
CERAMIC CAPASITOR: CCSQCH.. or CKSQYB..
DIODE: 1SS355-TRB

() : AUDIO SIGNAL ROUTE

A **B1/2**

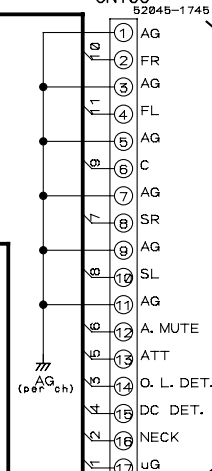
H CN305

B2/2



CN106

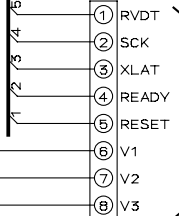
52045-1745



A CN290

CN103

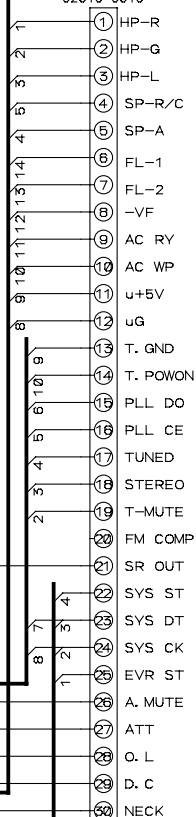
52045-0645



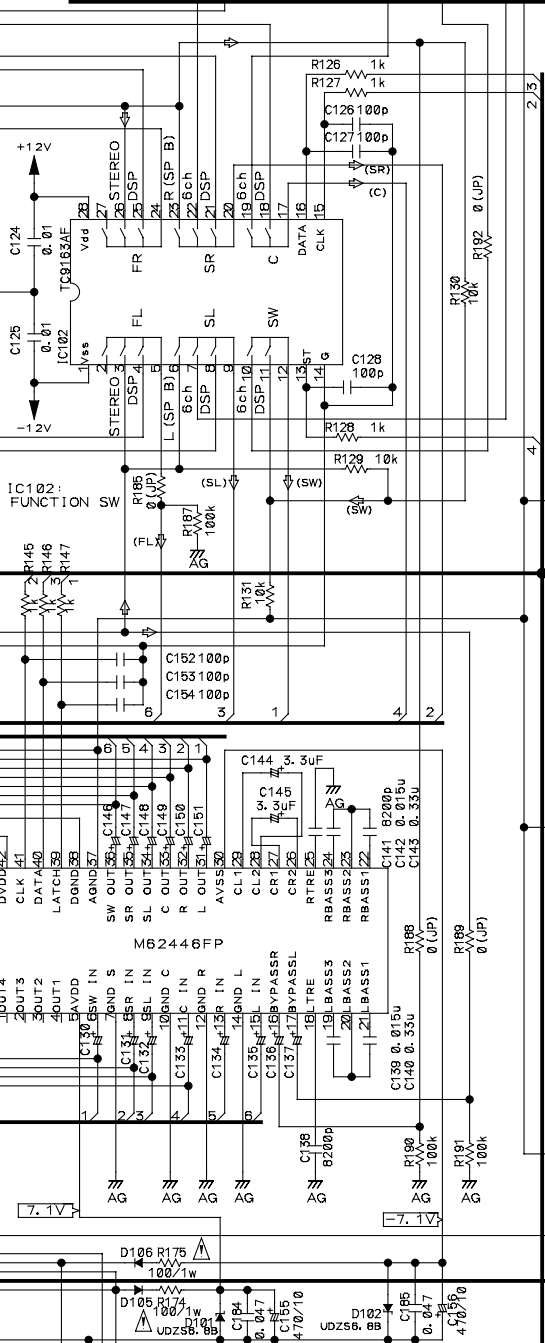
K CN401

CN102

52045-3045



K CN402

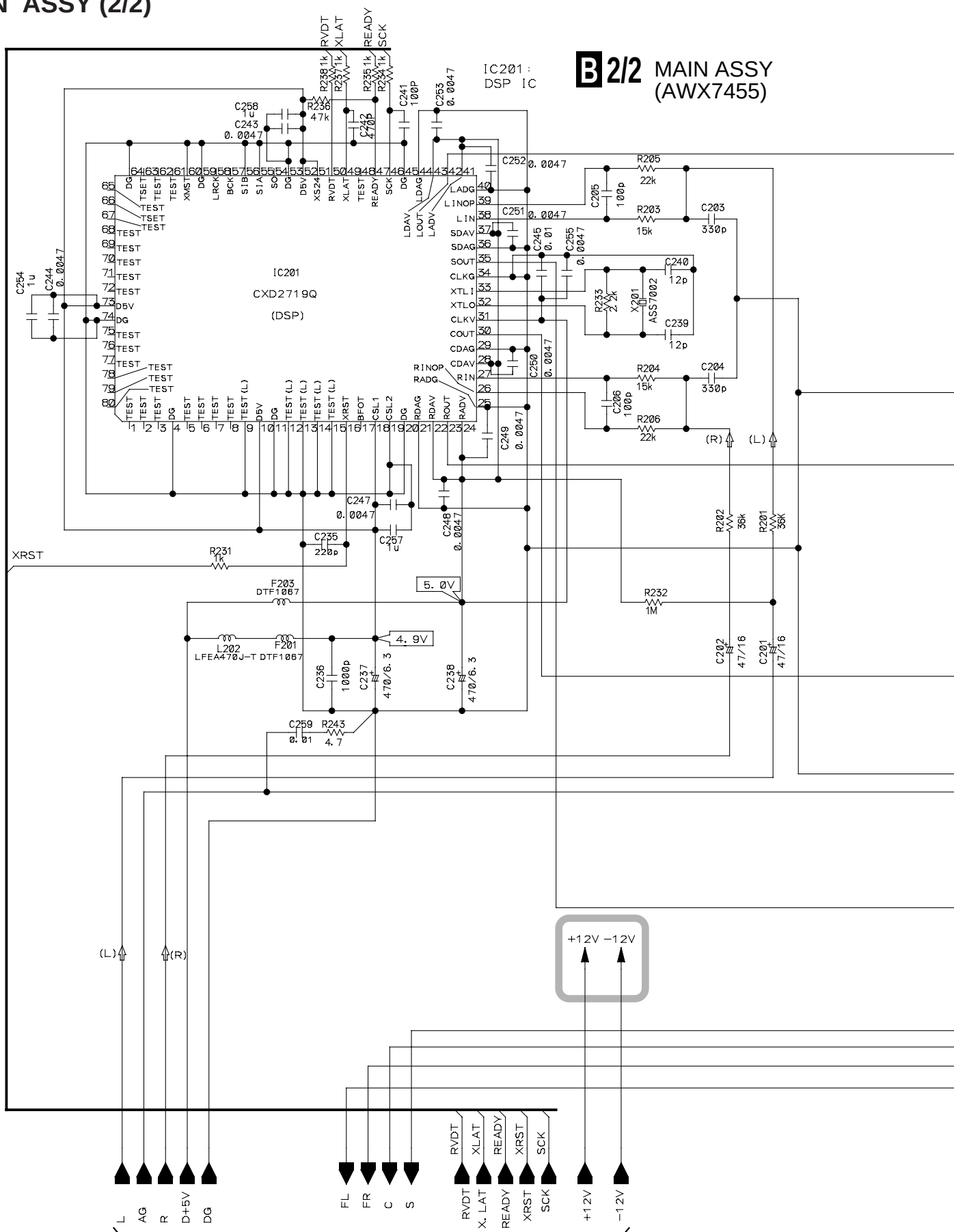


C150, 151	10uF
C152-157	3.3uF
C158-159	100k
R152-154	100k
R155-157	10k
R158-159	10k

*1 R152, 153, 158, 159, 165	2 K
-----------------------------	-----

B1/2

3.4 MAIN ASSY (2/2)



B



D

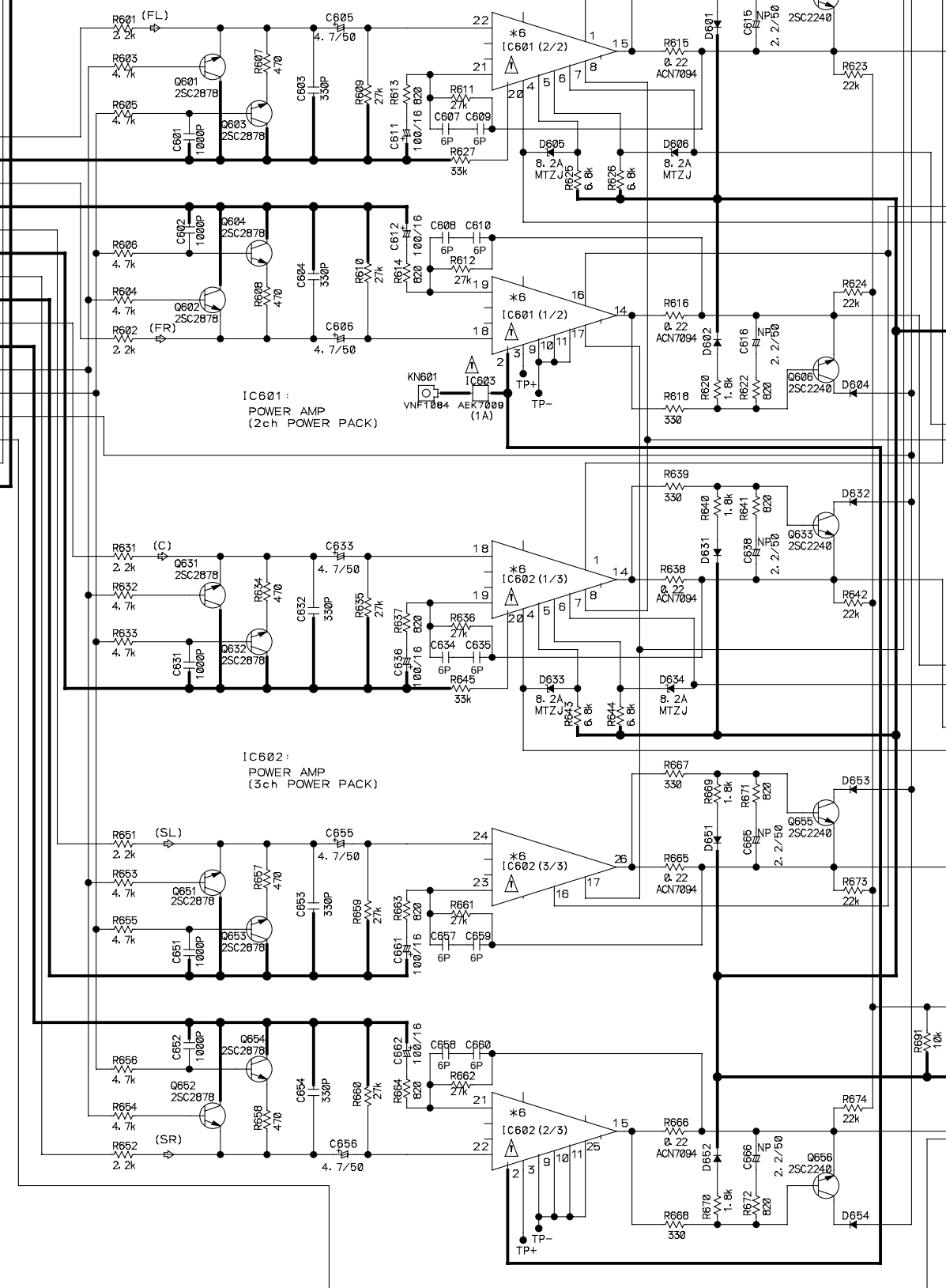
B^{2/2} 15
8

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

C 1/2 AMP&PRIMARY ASSY (AWX7457)

A CN291

CN601
FL (1)
AG (2)
FR (3)
AG (4)
SL (5)
AG (6)
SR (7)
AG (8)
C (9)
AG (10)
A. MUTE (11)
ATT. (12)
OL (13)
DC DET. (14)
NECK (15)
UG (16)
KM200T16



*4	R751, 752, 755, 761, 762	100 1/4W
*5	C751, 752, 755, 761, 762	0.1 Y A

*6	IC601	60W PAC012A
	IC602	PAC013A

POINT VOLTAGE (V)	
SITUATION	60W
NO SIGNAL	A/B ±51.7
LOAD OFF	C/D ±32.8
RATED	A/B ±42.5
LOAD ON	C/D ±27.5
SURROUND	E/F ±38.0

Q605, 606, 633, 655, 656:
OVERLOAD DETECTOR

Q691, 692:
DC OUTPUT DETECTOR

UG : AUDIO SIGNAL ROUTE

E TRANS3 ASSY
(AWX7392)

D TRANS2
ASSY
(AWX7391)

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 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
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 1SS133-T

*B	C709, 710	C703, 704
	ACH7136-A-F	CEAT222M35-F

*1	R701	R703
	R702	R704
	5.6kΩ	18kΩ

C1/2 D E

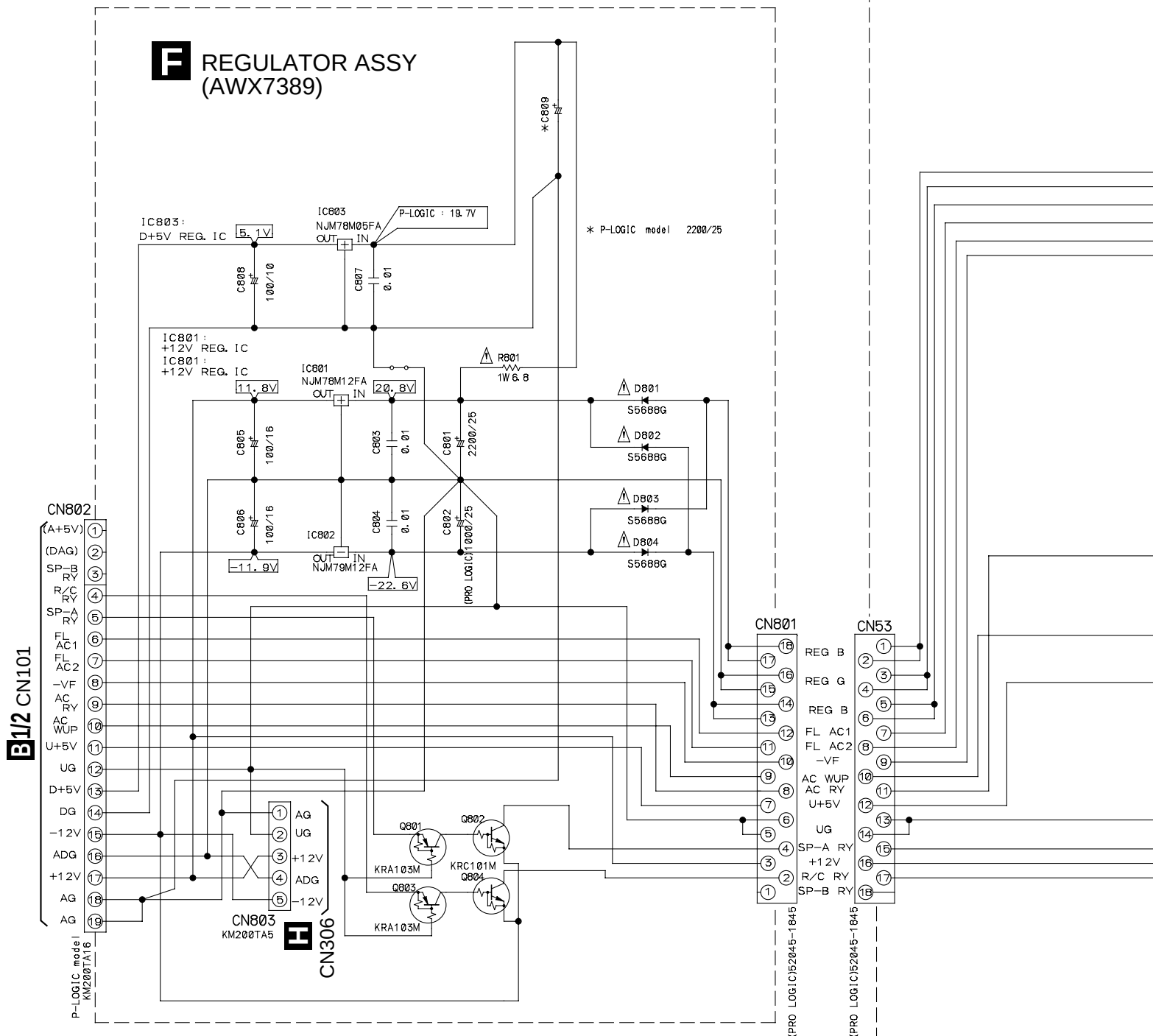
3.6 AMP&PRIMARY (2/2), REGULATOR and TRANS1 ASSYS

A

B

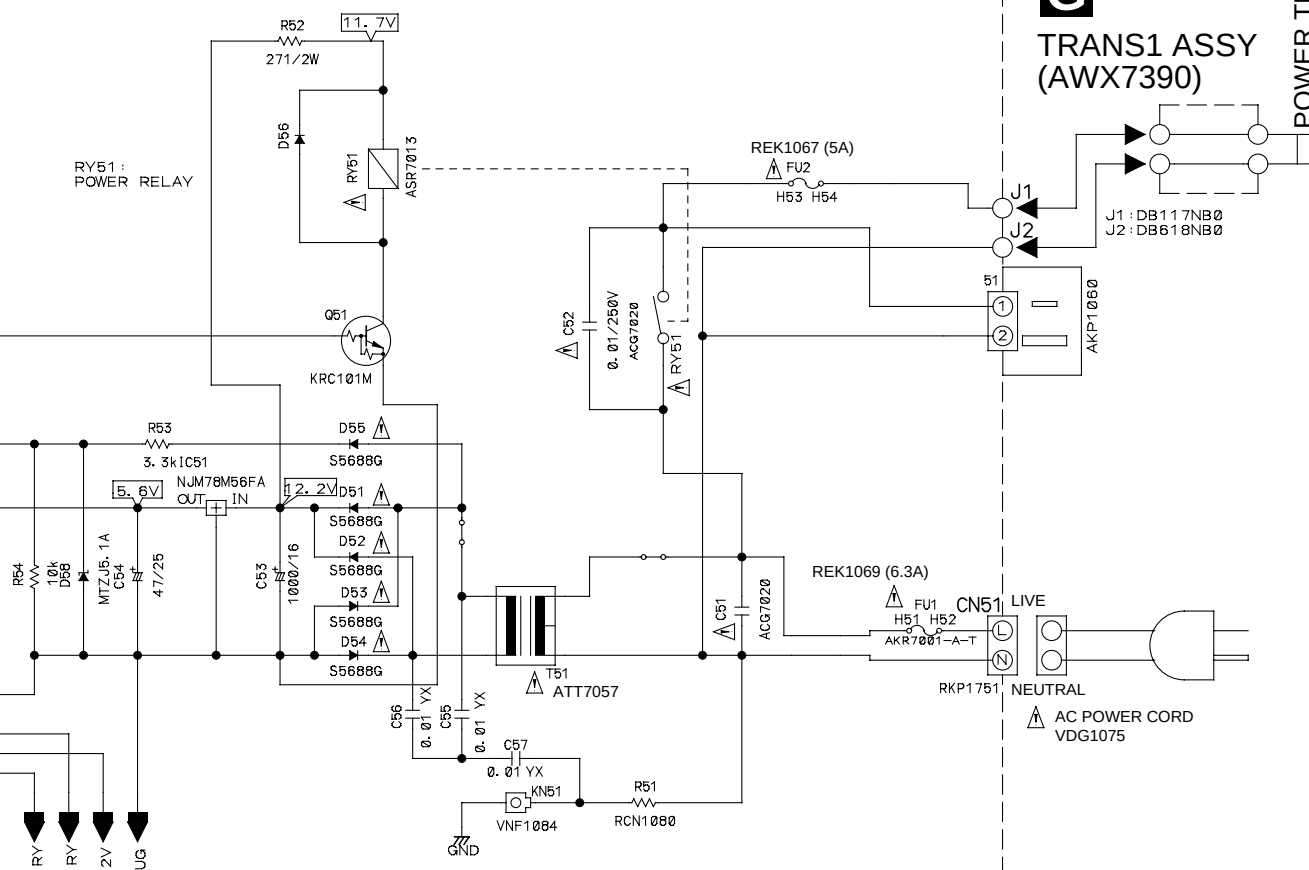
C

D



C 2/2AMP&PRIMARY ASSY
(AWX7457)**C 1/2**REG B
REG G
REG B
FL AC1
FL AC2
-VF**G**TRANS1 ASSY
(AWX7390)

POWER TRANSFORMER



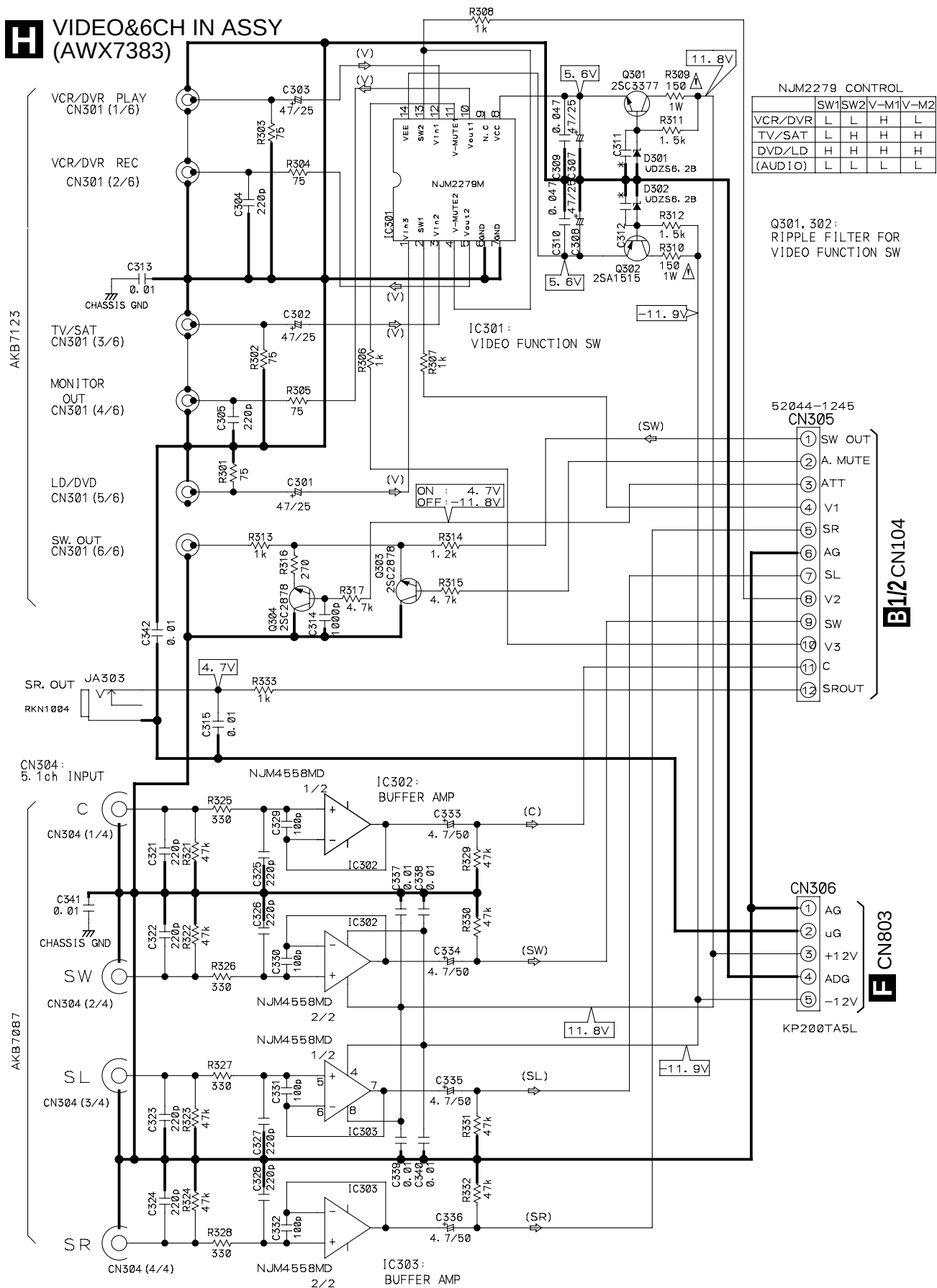
• NOTE FOR FUSE REPLACEMENT

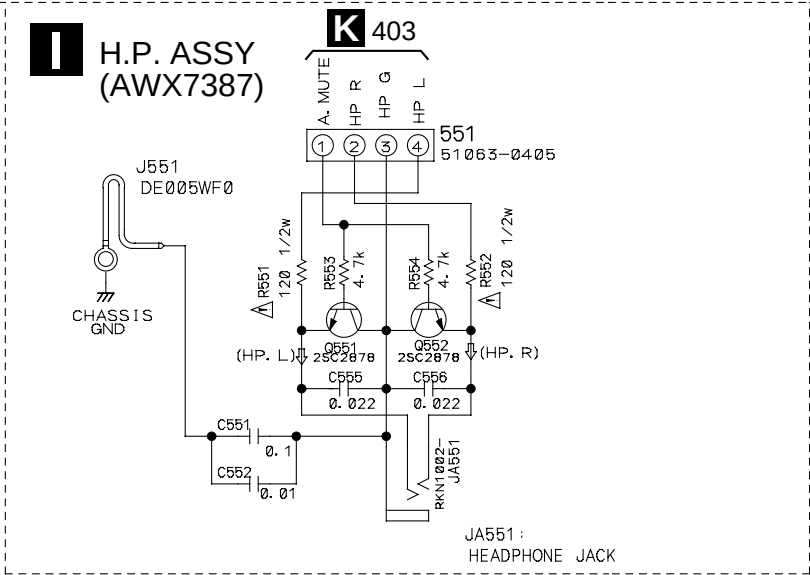
CAUTION -FOR CONTINUED PROTECTION AGAINST RISK OF FIRE.
REPLACE WITH SAME TYPE AND RATINGS ONLY.

3.7 VIDEO&6CH IN and H. P. ASSYS



VIDEO&6CH IN ASSY (AWX7383)





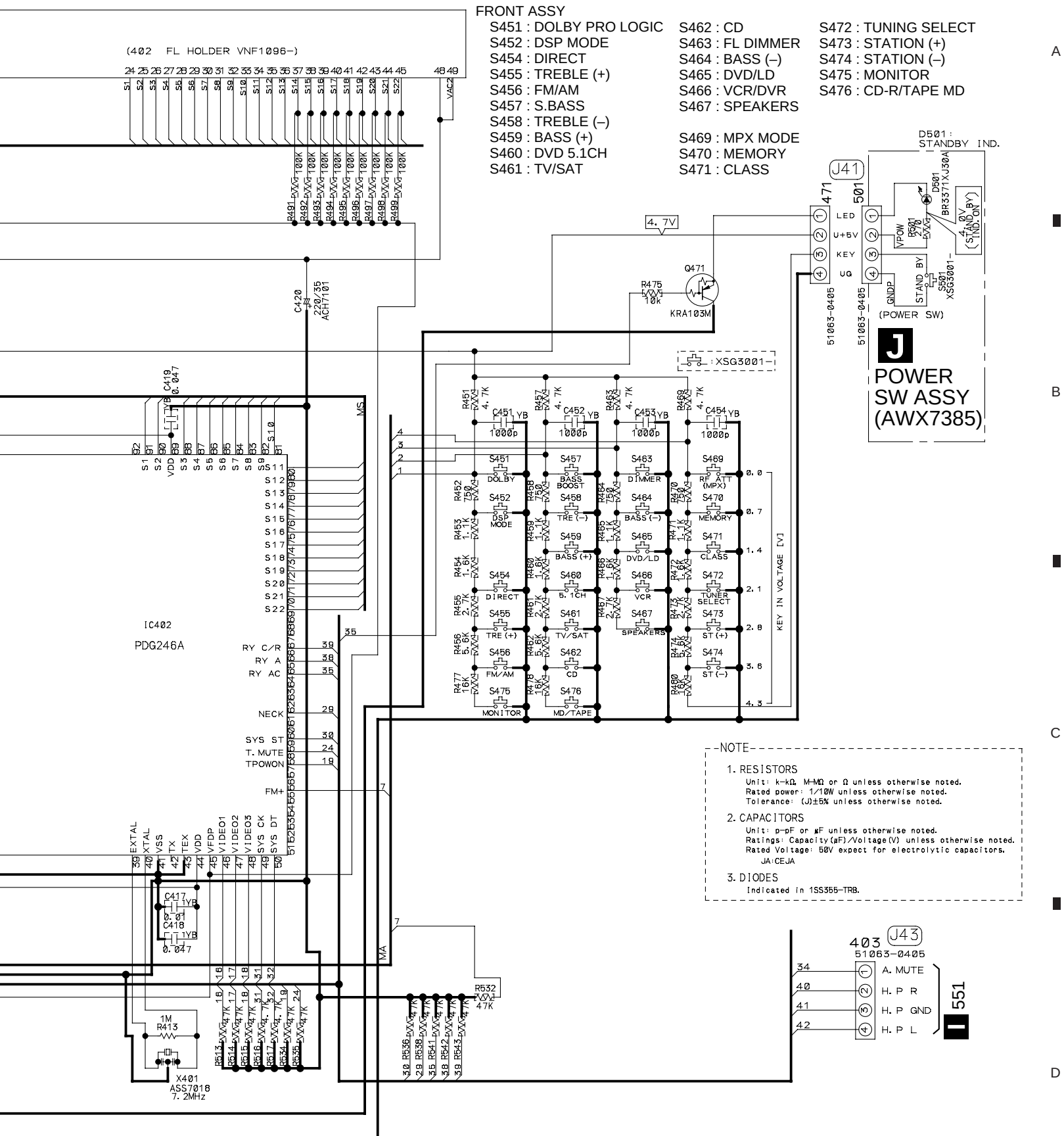
--NOTE--

1. RESISTORS RS1/10S... J-T

2. CAPACITORS
CEMICAL CAPASITOR CEAT... M. -T
CERAMIC CAPASITOR CCSQCH. or CKSQYB..

3. DIODES 1SS355-TRB

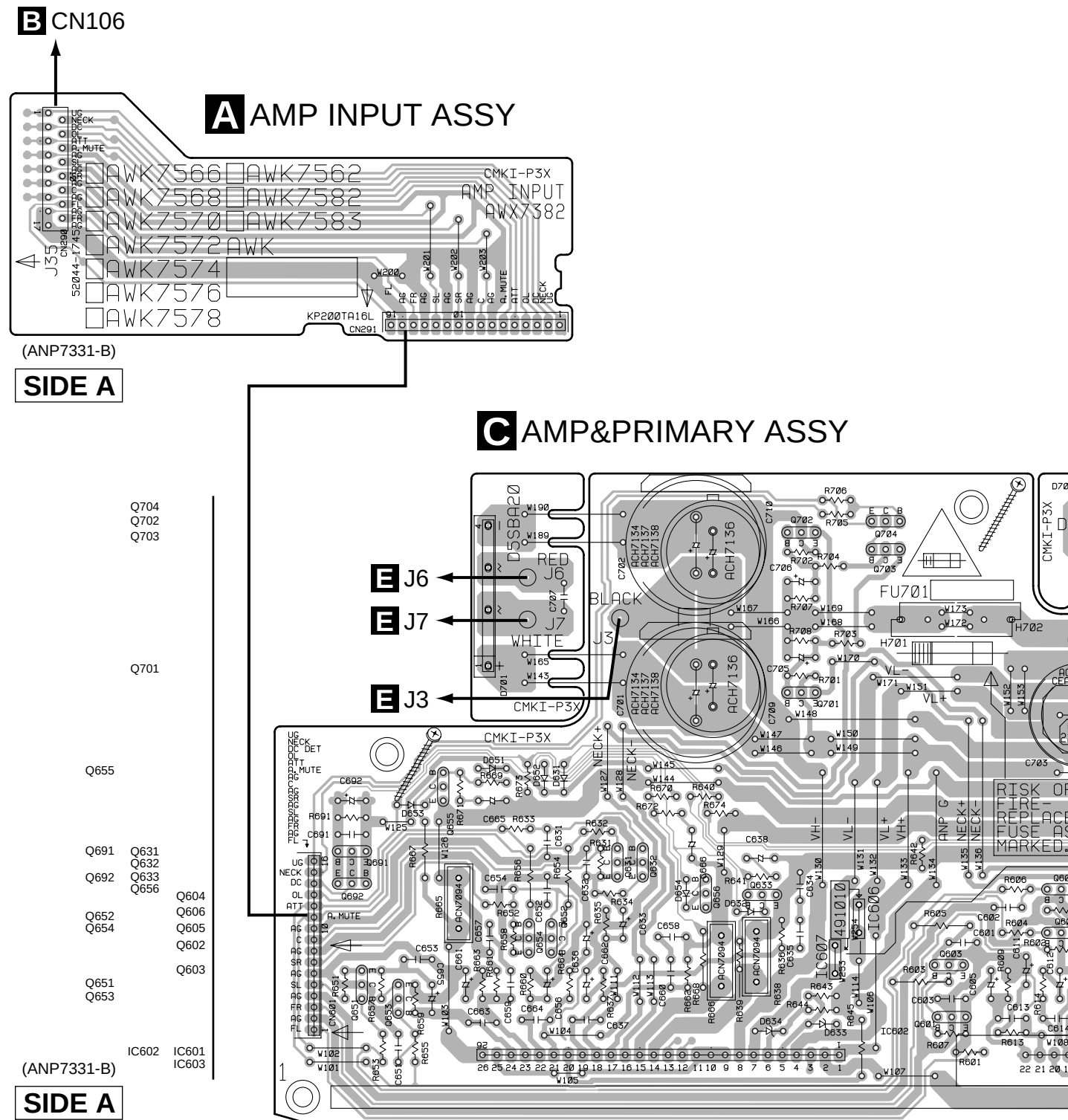
() : AUDIO SIGNAL ROUTE
(V) : VIDEO SIGNAL ROUTE



FREGULATOR ASSY

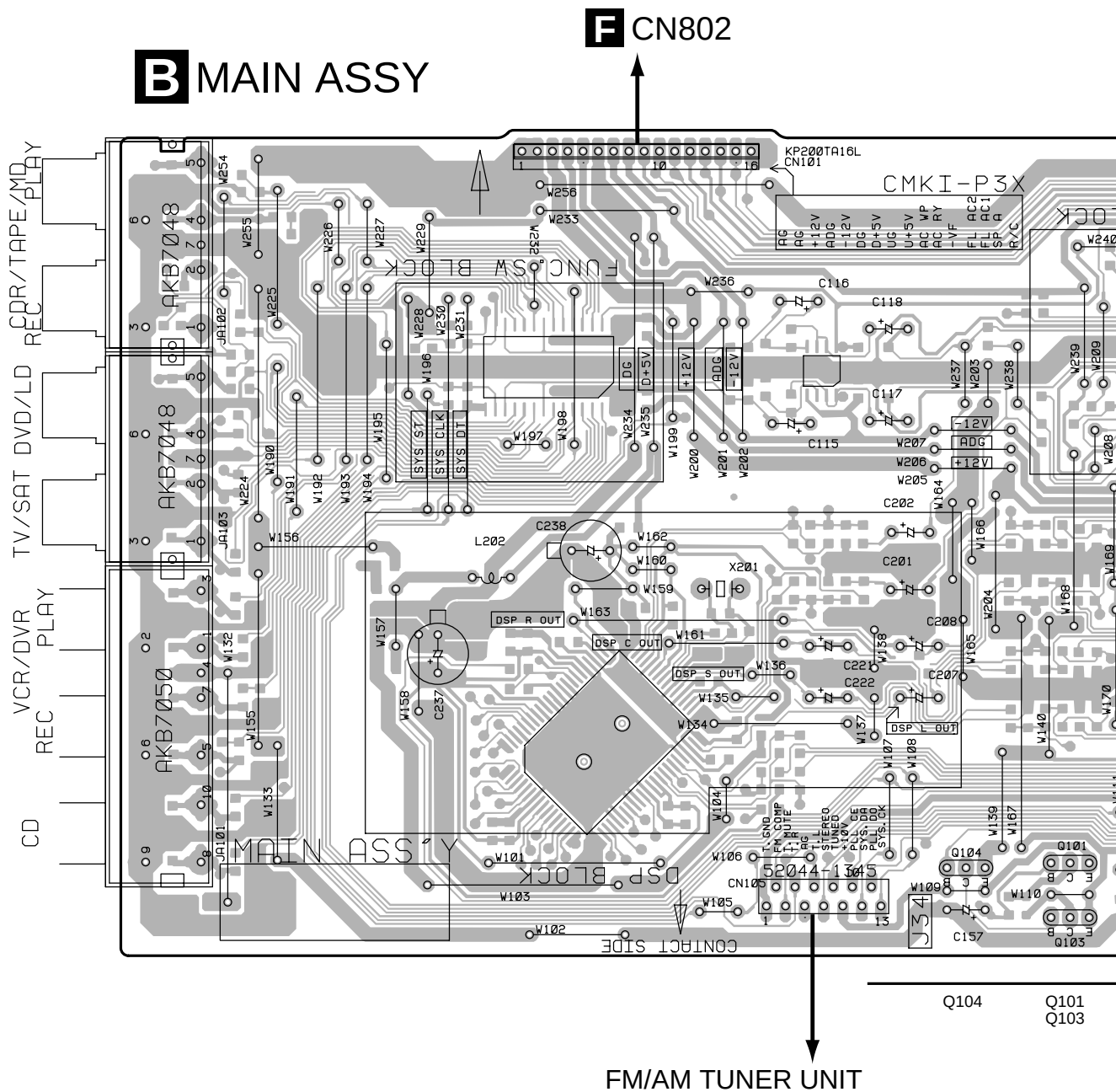


4.3 AMP INPUT and AMP&PRIMARY ASSYS



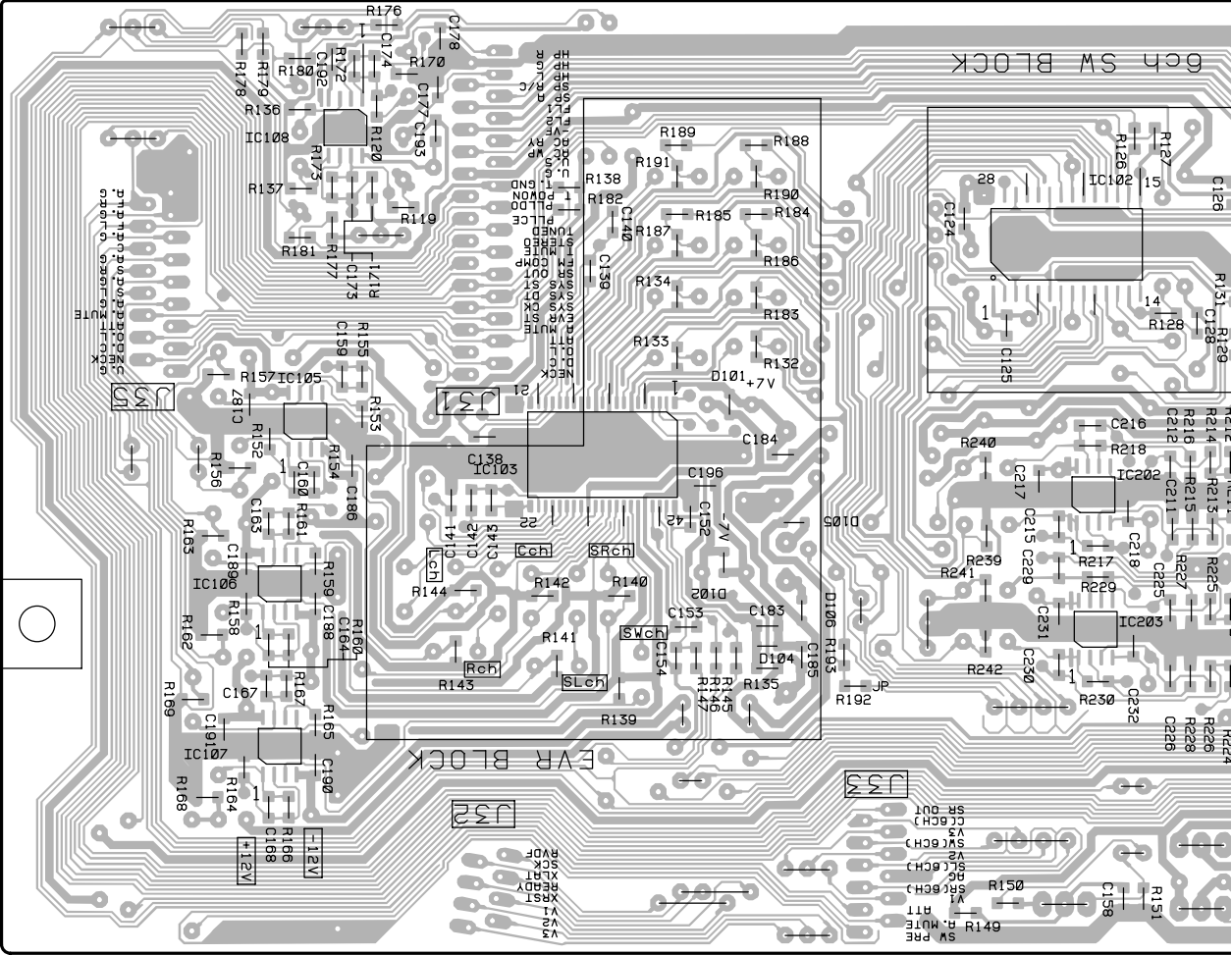


4.4 MAIN ASSY





B MAIN ASSY

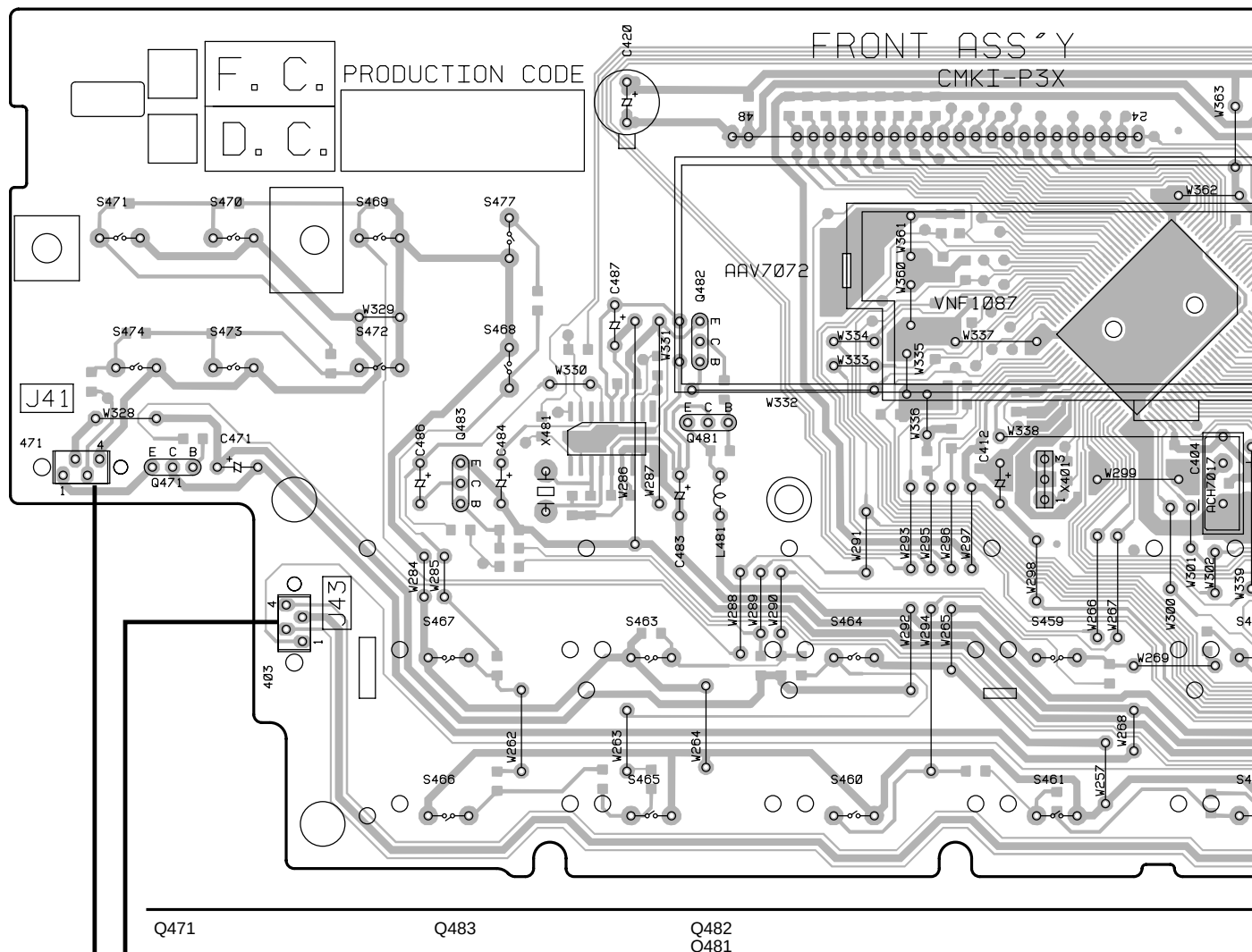


IC105 IC108
IC106
IC107
IC103
IC102
IC202 IC203

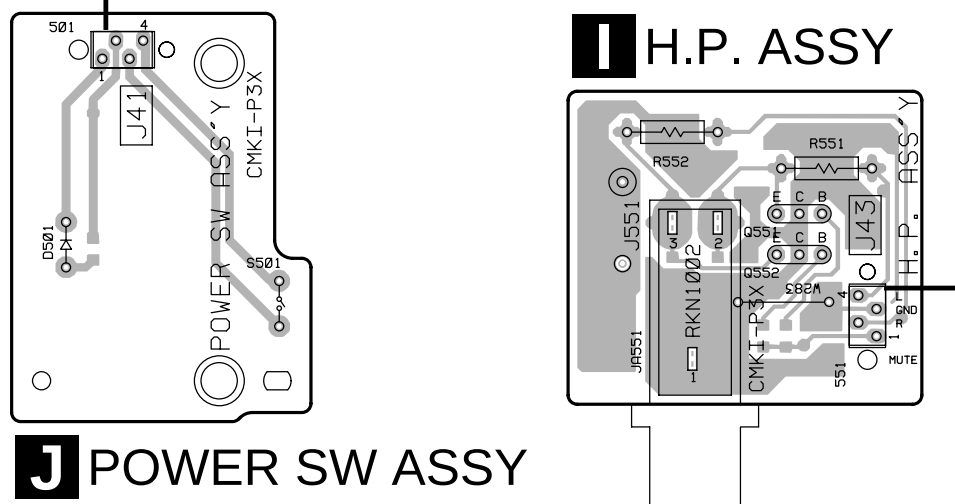


4.5 H.P., FRONT, R.ENCODER and POWER SW ASSYS

K FRONT ASSY



I H.P. ASSY

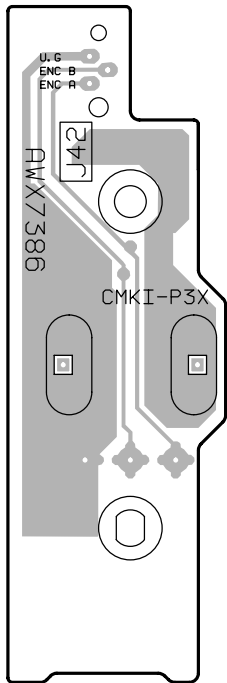
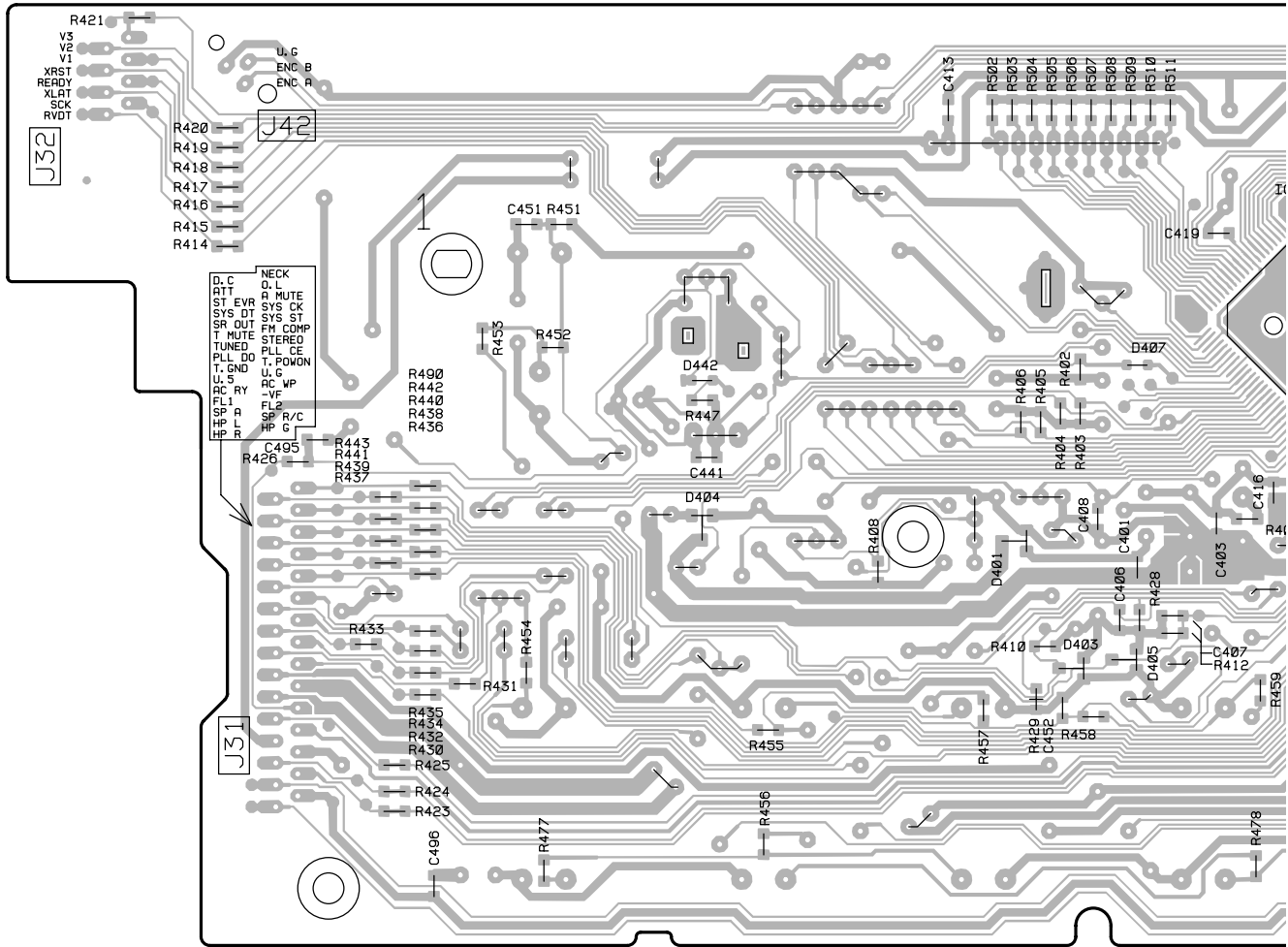


J POWER SW ASSY



K L

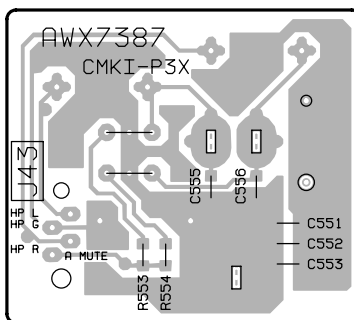
K FRONT ASSY



L R.ENCODER ASSY

(ANP7330-B)

SIDE B



I J K

5. PCB PARTS LIST

NOTES: ● 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%).

$560\ \Omega \rightarrow 56 \times 10^1 \rightarrow 561 \dots\dots\dots RD1/4PU \begin{matrix} 5 & 6 & 1 \\ \hline \end{matrix} J$
 $47k\ \Omega \rightarrow 47 \times 10^3 \rightarrow 473 \dots\dots\dots RD1/4PU \begin{matrix} 4 & 7 & 3 \\ \hline \end{matrix} J$
 $0.5\ \Omega \rightarrow R50 \dots\dots\dots RN2H \begin{matrix} R & 5 & 0 \\ \hline \end{matrix} K$
 $1\ \Omega \rightarrow 1R0 \dots\dots\dots RS1P \begin{matrix} 1 & R & 0 \\ \hline \end{matrix} K$

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

$5.62k\ \Omega \rightarrow 562 \times 10^1 \rightarrow 5621 \dots\dots\dots RN1/4PC \begin{matrix} 5 & 6 & 2 & 1 \\ \hline \end{matrix} F$

Mark	No.	Description	Part No.
NSP		COMPLEX ASSY	AWK7558
		└ VIDEO&6CH IN ASSY	AWX7383
		└ POWER SW ASSY	AWX7385
NSP		└ R.ENCODER ASSY	AWX7386
NSP		└ H.P. ASSY	AWX7387
		└ MAIN ASSY	AWX7455
		└ FRONT ASSY	AWX7456
NSP		AMP&PS ASSY	AWK7559
NSP		└ AMP INPUT ASSY	AWX7382
		└ REGULATOR ASSY	AWX7389
		└ TRANS2 ASSY	AWX7391
NSP		└ TRANS1 ASSY	AWX7390
NSP		└ TRANS3 ASSY	AWX7392
		└ AMP&PRIMARY ASSY	AWX7457

Mark	No.	Description	Part No.
COILS AND FILTERS			
	F101	CHIP BEAD	DTF1067
	F102	CHIP BEAD	DTF1067
	F201	CHIP BEAD	DTF1067
	F203	CHIP BEAD	DTF1067
	L202	RADIAL INDUCTOR	LFEA470J

Mark	No.	Description	Part No.
CAPACITORS			
	C101	CHIP CAPACITOR	CCSQCH101J50
	C102	CHIP CAPACITOR	CCSQCH101J50
	C103	CHIP CAPACITOR	CCSQCH101J50
	C104	CHIP CAPACITOR	CCSQCH101J50
	C105	CHIP CAPACITOR	CCSQCH101J50

	C106	CHIP CAPACITOR	CCSQCH101J50
	C107	CHIP CAPACITOR	CCSQCH101J50
	C108	CHIP CAPACITOR	CCSQCH101J50
	C109	CHIP CAPACITOR	CCSQCH101J50
	C110	CHIP CAPACITOR	CCSQCH101J50

	C111	CHIP CAPACITOR	CCSQCH101J50
	C112	CHIP CAPACITOR	CCSQCH101J50
	C113	CHIP CAPACITOR	CCSQCH101J50
	C114	CHIP CAPACITOR	CCSQCH101J50
	C115	ELECT. CAPACITOR	CEAT2R2M50

	C116	ELECT. CAPACITOR	CEAT2R2M50
	C117	ELECT. CAPACITOR	CEAT470M25
	C118	ELECT. CAPACITOR	CEAT470M25
	C119	CERAMIC CAPACITOR	CKSQYB103K50
	C120	CERAMIC CAPACITOR	CKSQYB103K50

	C121	CHIP CAPACITOR	CCSQCH101J50
	C122	CHIP CAPACITOR	CCSQCH101J50
	C123	CHIP CAPACITOR	CCSQCH101J50
	C124	CERAMIC CAPACITOR	CKSQYB103K50
	C125	CERAMIC CAPACITOR	CKSQYB103K50

	C126	CHIP CAPACITOR	CCSQCH101J50
	C127	CHIP CAPACITOR	CCSQCH101J50
	C128	CHIP CAPACITOR	CCSQCH101J50
	C129	CERAMIC CAPACITOR	CKSQYB103K50
	C130	ELECT. CAPACITOR	CEAT3R3M50

	C131	ELECT. CAPACITOR	CEAT3R3M50
	C132	ELECT. CAPACITOR	CEAT3R3M50
	C133	ELECT. CAPACITOR	CEAT3R3M50
	C134	ELECT. CAPACITOR	CEAT3R3M50
	C135	ELECT. CAPACITOR	CEAT3R3M50

	C136	ELECT. CAPACITOR	CEAT3R3M50
	C137	ELECT. CAPACITOR	CEAT3R3M50
	C138	CERAMIC CAPACITOR	CKSQYB822K50
	C139	CERAMIC CAPACITOR	CKSQYB153K50
	C140	CERAMIC CAPACITOR	CKSQYB334K16

A AMP INPUT ASSY

OTHERS

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

B MAIN ASSY

SEMICONDUCTORS

IC101	E-SW IC	TC9164AF
IC102	E-SW IC	TC9163AF
IC103	E-VR IC	M62446FP
IC104	OP-AMP IC	UPC4570G2
IC105	OP-AMP IC	UPC4570G2
IC106	OP-AMP IC	UPC4570G2
IC107	OP-AMP IC	UPC4570G2
IC108	OP-AMP IC	M5216FP
IC201	DSP IC	CXD2719Q
IC202	IC	NJM4558MD
IC203	IC	NJM4558MD
Q101	TRANSISTOR	2SC1740S
Q103	TRANSISTOR	KRA101M
Q104	TRANSISTOR	KRC103M
Q105	TRANSISTOR	2SC2878
Q106	TRANSISTOR	2SC2878
D101	CHIP ZENER DIODE	UDZS6.8B
D102	CHIP ZENER DIODE	UDZS6.8B
D103	DIODE	1SS355
D104	CHIP ZENER DIODE	UDZS5.1B
D105	DIODE	1SS355
D106	DIODE	1SS355

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
	C141	CERAMIC CAPACITOR	CKSQYB822K50		C215	CERAMIC CAPACITOR	CKSQYB331K50
	C142	CERAMIC CAPACITOR	CKSQYB153K50		C216	CERAMIC CAPACITOR	CKSQYB331K50
	C143	CERAMIC CAPACITOR	CKSQYB334K16		C217	CERAMIC CAPACITOR	CKSQYB103K50
	C144	ELECT. CAPACITOR	CEAT3R3M50		C218	CERAMIC CAPACITOR	CKSQYB103K50
	C145	ELECT. CAPACITOR	CEAT3R3M50		C219	ELECT. CAPACITOR	CEAT1R0M50
	C146	ELECT. CAPACITOR	CEAT3R3M50		C220	ELECT. CAPACITOR	CEAT1R0M50
	C147	ELECT. CAPACITOR	CEAT3R3M50		C221	ELECT. CAPACITOR	CEAT100M50
	C148	ELECT. CAPACITOR	CEAT3R3M50		C222	ELECT. CAPACITOR	CEAT100M50
	C149	ELECT. CAPACITOR	CEAT3R3M50		C223	CHIP CAPACITOR	CKSQYB102K50
	C150	ELECT. CAPACITOR	CEAT100M50		C224	CHIP CAPACITOR	CKSQYB102K50
	C151	ELECT. CAPACITOR	CEAT100M50		C225	CHIP CAPACITOR	CCSQCH331J50
	C152	CHIP CAPACITOR	CCSQCH101J50		C226	CHIP CAPACITOR	CCSQCH331J50
	C153	CHIP CAPACITOR	CCSQCH101J50		C229	CHIP CAPACITOR	CCSQCH331J50
	C154	CHIP CAPACITOR	CCSQCH101J50		C230	CHIP CAPACITOR	CCSQCH331J50
	C155	ELECT. CAPACITOR	CEAT471M10		C231	CERAMIC CAPACITOR	CKSQYB103K50
	C156	ELECT. CAPACITOR	CEAT471M10		C232	CERAMIC CAPACITOR	CKSQYB103K50
	C157	ELECT. CAPACITOR	CEAT101M16		C233	ELECT. CAPACITOR	CEAT4R7M50
	C159	CHIP CERAMIC C.	CCSQCH221J50		C234	ELECT. CAPACITOR	CEAT4R7M50
	C160	CHIP CERAMIC C.	CCSQCH221J50		C235	CHIP CERAMIC C.	CCSQCH221J50
	C161	ELECT. CAPACITOR	CEAT470M25		C236	CHIP CAPACITOR	CKSQYB102K50
	C162	ELECT. CAPACITOR	CEAT470M25		C237	ELECT. CAPACITOR	CEAT471M6R3
	C163	CHIP CERAMIC C.	CCSQCH221J50		C238	ELECT. CAPACITOR	CEAT471M6R3
	C164	CHIP CERAMIC C.	CCSQCH221J50		C239	CHIP CAPACITOR	CCSQCH120J50
	C165	ELECT. CAPACITOR	CEAT470M25		C240	CHIP CAPACITOR	CCSQCH120J50
	C166	ELECT. CAPACITOR	CEAT470M25		C241	CHIP CAPACITOR	CCSQCH101J50
	C167	CHIP CERAMIC C.	CCSQCH221J50		C242	CHIP CERAMIC C.	CCSQCH471J50
	C168	CHIP CAPACITOR	CKSQYB102K50		C243	CERAMIC CAPACITOR	CKSQYB472K50
	C169	ELECT. CAPACITOR	CEAT470M25		C244	CERAMIC CAPACITOR	CKSQYB472K50
	C170	ELECT. CAPACITOR	CEAT220M25		C245	CERAMIC CAPACITOR	CKSQYB103K50
	C171	CERAMIC CAPACITOR	CKSQYB103K50		C247	CERAMIC CAPACITOR	CKSQYB472K50
	C172	CERAMIC CAPACITOR	CKSQYB103K50		C248	CERAMIC CAPACITOR	CKSQYB472K50
	C173	CHIP CAPACITOR	CCSQCH151J50		C249	CERAMIC CAPACITOR	CKSQYB472K50
	C174	CHIP CAPACITOR	CCSQCH151J50		C250	CERAMIC CAPACITOR	CKSQYB472K50
	C175	ELECT. CAPACITOR	CEAT101M16		C251	CERAMIC CAPACITOR	CKSQYB472K50
	C176	ELECT. CAPACITOR	CEAT101M16		C252	CERAMIC CAPACITOR	CKSQYB472K50
	C177	CERAMIC CAPACITOR	CKSQYB103K50		C253	CERAMIC CAPACITOR	CKSQYB472K50
	C178	CERAMIC CAPACITOR	CKSQYB103K50		C254	CERAMIC CAPACITOR	CKSQYB105K10
	C179	CERAMIC CAPACITOR	CKSQYB103K50		C255	CERAMIC CAPACITOR	CKSQYB472K50
	C180	CERAMIC CAPACITOR	CKSQYB103K50		C257	CERAMIC CAPACITOR	CKSQYB105K10
	C183	CERAMIC CAPACITOR	CKSQYB103K50		C258	CERAMIC CAPACITOR	CKSQYB105K10
	C184	CERAMIC CAPACITOR	CKSQYB473K25		C259	CERAMIC CAPACITOR	CKSQYB103K50
	C185	CERAMIC CAPACITOR	CKSQYB473K25		C271	CHIP CERAMIC C.	CCSQCH220J50
	C186	CERAMIC CAPACITOR	CKSQYB103K50		C272	CHIP CERAMIC C.	CCSQCH220J50
	C187	CERAMIC CAPACITOR	CKSQYB103K50		C273	CHIP CERAMIC C.	CCSQCH220J50
	C188	CERAMIC CAPACITOR	CKSQYB103K50		C274	CHIP CERAMIC C.	CCSQCH220J50
	C189	CERAMIC CAPACITOR	CKSQYB103K50		C275	CHIP CERAMIC C.	CCSQCH220J50
	C190	CERAMIC CAPACITOR	CKSQYB103K50		C276	CHIP CERAMIC C.	CCSQCH220J50
	C191	CERAMIC CAPACITOR	CKSQYB103K50				
	C192	CERAMIC CAPACITOR	CKSQYB103K50				
	C193	CERAMIC CAPACITOR	CKSQYB103K50				
	C194	ELECT. CAPACITOR	CEAT4R7M50				
	C195	ELECT. CAPACITOR	CEAT4R7M50				
	C197	CERAMIC CAPACITOR	CKSQYB103K50				
	C201	ELECT. CAPACITOR	CEAT470M16				
	C202	ELECT. CAPACITOR	CEAT470M16				
	C203	CERAMIC CAPACITOR	CKSQYB331K50				
	C204	CERAMIC CAPACITOR	CKSQYB331K50				
	C205	CHIP CAPACITOR	CCSQCH101J50				
	C206	CHIP CAPACITOR	CCSQCH101J50				
	C207	ELECT. CAPACITOR	CEAT100M50				
	C208	ELECT. CAPACITOR	CEAT100M50				
	C209	CHIP CAPACITOR	CKSQYB102K50				
	C210	CHIP CAPACITOR	CKSQYB102K50				
	C211	CHIP CAPACITOR	CCSQCH331J50				
	C212	CHIP CAPACITOR	CCSQCH331J50				

RESISTORS

△	R174	METAL OXIDE RESISTOR	RS1LMF101J
△	R175	METAL OXIDE RESISTOR	RS1LMF101J
	Other Resistors		RS1/10S□□□J

OTHERS

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

Mark	No.	Description	Part No.
C AMP&PRIMARY ASSY SEMICONDUCTORS			
	IC51	REGULATOR IC	NJM78M56FA
△	IC601	AUDIO IC	PAC012A
△	IC602	AUDIO IC	PAC013A
△	IC603	PROTECTOR(1A)	AEK7009
	Q51	TRANSISTOR	KRC101M
	Q601	TRANSISTOR	2SC2878
	Q602	TRANSISTOR	2SC2878
	Q603	TRANSISTOR	2SC2878
	Q604	TRANSISTOR	2SC2878
	Q605	TRANSISTOR	2SC2240
	Q606	TRANSISTOR	2SC2240
	Q631	TRANSISTOR	2SC2878
	Q632	TRANSISTOR	2SC2878
	Q633	TRANSISTOR	2SC2240
	Q651	TRANSISTOR	2SC2878
	Q652	TRANSISTOR	2SC2878
	Q653	TRANSISTOR	2SC2878
	Q654	TRANSISTOR	2SC2878
	Q655	TRANSISTOR	2SC2240
	Q656	TRANSISTOR	2SC2240
	Q691	TRANSISTOR	2SC1740S
	Q692	TRANSISTOR	2SC1740S
	Q701	TRANSISTOR	2SD1859X
	Q702	TRANSISTOR	2SB1238X
	Q703	TRANSISTOR	2SA1145
	Q704	TRANSISTOR	2SC1845
△	D51	DIODE	S5688G
△	D52	DIODE	S5688G
△	D53	DIODE	S5688G
△	D54	DIODE	S5688G
△	D55	DIODE	S5688G
	D56	DIODE	1SS133
	D58	ZENER DIODE	MTZJ5.1A
	D601	DIODE	1SS133
	D602	DIODE	1SS133
	D603	DIODE	1SS133
	D604	DIODE	1SS133
	D605	ZENER DIODE	MTZJ8.2A
	D606	ZENER DIODE	MTZJ8.2A
	D631	DIODE	1SS133
	D632	DIODE	1SS133
	D633	ZENER DIODE	MTZJ8.2A
	D634	ZENER DIODE	MTZJ8.2A
	D651	DIODE	1SS133
	D652	DIODE	1SS133
	D653	DIODE	1SS133
	D654	DIODE	1SS133
△	D701	DIODE	D5SBA20(B)
△	D702	DIODE	D5SBA20(B)
	D711	ZENER DIODE	MTZJ22D
	D712	ZENER DIODE	MTZJ5.1B
	D752	DIODE	1SS133
	D754	DIODE	1SS133
	D756	DIODE	1SS133

Mark	No.	Description	Part No.
COILS AND FILTERS			
	L751	COIL	ATH1004
	L752	COIL	ATH1004
	L753	COIL	ATH1004
	L761	COIL	ATH1004
	L762	COIL	ATH1004
SWITCHES AND RELAYS			
△	RY51	JOE LOWPOWER RELAY	ASR7013
	RY751	RELAY	ASR7001
	RY752	RELAY	ASR7001
	RY753	RELAY	ASR7001
CAPACITORS			
△	C51	CKA (10000pF/AC250V)	ACG7020
△	C52	CKA (10000pF/AC250V)	ACG7020
	C53	ELECT. CAPACITOR	CEAT102M16
	C54	ELECT. CAPACITOR	CEAT470M25
	C55	CERAMIC CAPACITOR	CGCYX103M25
	C56	CERAMIC CAPACITOR	CGCYX103M25
	C57	CERAMIC CAPACITOR	CGCYX103M25
	C601	CERAMIC CAPACITOR	CKCYB102K50
	C602	CERAMIC CAPACITOR	CKCYB102K50
	C603	CERAMIC CAPACITOR	CKCYB331K50
	C604	CERAMIC CAPACITOR	CKCYB331K50
	C605	ELECT. CAPACITOR	CEAT4R7M50
	C606	ELECT. CAPACITOR	CEAT4R7M50
	C607	CERAMIC CAPACITOR	CCCSL6R0D50
	C608	CERAMIC CAPACITOR	CCCSL6R0D50
	C609	CERAMIC CAPACITOR	CCCSL6R0D50
	C610	CERAMIC CAPACITOR	CCCSL6R0D50
	C611	ELECT. CAPACITOR	CEAT101M16
	C612	ELECT. CAPACITOR	CEAT101M16
	C615	ELECT. CAPACITOR	CEANP2R2M50
	C616	ELECT. CAPACITOR	CEANP2R2M50
	C631	CERAMIC CAPACITOR	CKCYB102K50
	C632	CERAMIC CAPACITOR	CKCYB331K50
	C633	ELECT. CAPACITOR	CEAT4R7M50
	C634	CERAMIC CAPACITOR	CCCSL6R0D50
	C635	CERAMIC CAPACITOR	CCCSL6R0D50
	C636	ELECT. CAPACITOR	CEAT101M16
	C638	ELECT. CAPACITOR	CEANP2R2M50
	C651	CERAMIC CAPACITOR	CKCYB102K50
	C652	CERAMIC CAPACITOR	CKCYB102K50
	C653	CERAMIC CAPACITOR	CKCYB331K50
	C654	CERAMIC CAPACITOR	CKCYB331K50
	C655	ELECT. CAPACITOR	CEAT4R7M50
	C656	ELECT. CAPACITOR	CEAT4R7M50
	C657	CERAMIC CAPACITOR	CCCSL6R0D50
	C658	CERAMIC CAPACITOR	CCCSL6R0D50
	C659	CERAMIC CAPACITOR	CCCSL6R0D50
	C660	CERAMIC CAPACITOR	CCCSL6R0D50
	C661	ELECT. CAPACITOR	CEAT101M16
	C662	ELECT. CAPACITOR	CEAT101M16
	C665	ELECT. CAPACITOR	CEANP2R2M50
	C666	ELECT. CAPACITOR	CEANP2R2M50
	C691	CERAMIC CAPACITOR	CKCYB102K50
	C692	ELECT. CAPACITOR	CEAT221M10
	C703	ELECT. CAPACITOR	CEAT222M35
	C704	ELECT. CAPACITOR	CEAT222M35
	C705	ELECT. CAPACITOR	CEAT100M2A
	C706	ELECT. CAPACITOR	CEAT100M2A
	C707	CKA (0.01μF/AC250V)	ACG1005
	C708	CKA (0.01μF/AC250V)	ACG1005

Mark	No.	Description	Part No.
	C709	ELECT.CAPACITOR (3300μF/56V)	ACH7136
	C710	ELECT.CAPACITOR (3300μF/56V)	ACH7136
	C711	ELECT. CAPACITOR	CEAT101M35
	C712	ELECT. CAPACITOR	CEAT101M10
	C751	AUDIO FILM CAPACITOR	CFTYA104J50
	C752	AUDIO FILM CAPACITOR	CFTYA104J50
	C755	AUDIO FILM CAPACITOR	CFTYA104J50
	C761	AUDIO FILM CAPACITOR	CFTYA104J50
	C762	AUDIO FILM CAPACITOR	CFTYA104J50

RESISTORS

△	R51	RESISTOR (2.2MΩ/ 1/2W)	RCN1080
△	R52	CARBON FILM RESISTOR	RD1/2PM270J
△	R615	RESISTOR (0.22Ω/5W)	ACN7094
△	R616	RESISTOR (0.22Ω/5W)	ACN7094
△	R638	RESISTOR (0.22Ω/5W)	ACN7094
△	R665	RESISTOR (0.22Ω/5W)	ACN7094
△	R666	RESISTOR (0.22Ω/5W)	ACN7094
△	R711	METAL OXIDE RESISTOR	RS2LMF182J
△	R751	CARBON FILM RESISTOR	RD1/4PMF101J
△	R752	CARBON FILM RESISTOR	RD1/4PMF101J
△	R753	METAL OXIDE RESISTOR	RS1LMF4R7J
△	R754	METAL OXIDE RESISTOR	RS1LMF4R7J
△	R755	CARBON FILM RESISTOR	RD1/4PMF101J
△	R756	METAL OXIDE RESISTOR	RS1LMF4R7J
△	R761	CARBON FILM RESISTOR	RD1/4PMF101J
△	R762	CARBON FILM RESISTOR	RD1/4PMF101J
△	R763	METAL OXIDE RESISTOR	RS1LMF4R7J
△	R764	METAL OXIDE RESISTOR	RS1LMF4R7J
	Other Resistors		

OTHERS

	51	AC SOCKET 1-P	AKP1060
	701	7P CABLE HOLDER	51048-0700
	752	SPEAKER TERMINAL 4-P	AKE1012
	CN51	AC CODE SOCKET	RKP1751
	CN53	18P CONNECTOR	52045-1845
	CN601	16P PLUG	KM200TA16
	CN751	SPEAKER TERMINAL 6-P	AKE7020
	H51	FUSE CLIP	AKR7001
	H52	FUSE CLIP	AKR7001
	H53	FUSE CLIP	AKR7001
	H54	FUSE CLIP	AKR7001
	H701	FUSE CLIP	AKR7001
	H702	FUSE CLIP	AKR7001
	KN51	EARTH METAL FITTING	VNF1084
	KN601	EARTH METAL FITTING	VNF1084
△	T51	STANDBY TRANSFORMER	ATT7057

D TRANS2 ASSY**SEMICONDUCTORS**

△	IC851	PROTECTOR (1.6A)	AEK7012
△	IC852	PROTECTOR (1.6A)	AEK7012

OTHERS

	851	7P CABLE HOLDER	51048-0700
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E TRANS3 ASSY

TRANS3 ASSY has no service part.

F REGULATOR ASSY**SEMICONDUCTORS**

	IC801	REGULATOR IC	NJM78M12FA
	IC802	REGULATOR IC	NJM79M12FA
	IC803	REGULATOR IC	NJM78M05FA
	Q801	TRANSISTOR	KRA103M
	Q802	TRANSISTOR	KRC101M
	Q803	TRANSISTOR	KRA103M
	Q804	TRANSISTOR	KRC101M
△	D801	DIODE	S5688G
△	D802	DIODE	S5688G
△	D803	DIODE	S5688G
△	D804	DIODE	S5688G

CAPACITORS

	C801	ELECT. CAPACITOR	CEAT222M25
	C802	ELECT. CAPACITOR	CEAT102M25
	C803	CERAMIC CAPACITOR	CGCYX103M25
	C804	CERAMIC CAPACITOR	CGCYX103M25
	C805	ELECT. CAPACITOR	CEAT101M16
	C806	ELECT. CAPACITOR	CEAT101M16
	C807	CERAMIC CAPACITOR	CGCYX103M25
	C808	ELECT. CAPACITOR	CEAT101M10
	C809	ELECT. CAPACITOR	CEAT222M25

RESISTORS

△	R801	METAL OXIDE RESISTOR	RS1LMF6R8J
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OTHERS

	CN801	18P CONNECTOR	52045-1845
	CN802	16P PLUG	KM200TA16
	CN803	5P PLUG	KM200TA5

G TRANS1 ASSY

TRANS1 ASSY has no service part.

H VIDEO&6CH IN ASSY**SEMICONDUCTORS**

	IC301	VIDEO SW IC	NJM2279M
	IC302	IC	NJM4558MD
	IC303	IC	NJM4558MD
	Q301	TRANSISTOR	2SC3377
	Q302	TRANSISTOR	2SA1515
	Q303	TRANSISTOR	2SC2878
	Q304	TRANSISTOR	2SC2878
	D301	CHIP ZENER DIODE	UDZS6.2B
	D302	CHIP ZENER DIODE	UDZS6.2B

CAPACITORS

	C301	ELECT. CAPACITOR	CEAT470M25
	C302	ELECT. CAPACITOR	CEAT470M25
	C303	ELECT. CAPACITOR	CEAT470M25
	C304	CERAMIC CAPACITOR	CKSQYB221K50
	C305	CERAMIC CAPACITOR	CKSQYB221K50
	C307	ELECT. CAPACITOR	CEAT470M25
	C308	ELECT. CAPACITOR	CEAT470M25
	C309	CERAMIC CAPACITOR	CKSQYB473K16
	C310	CERAMIC CAPACITOR	CKSQYB473K16
	C313	CERAMIC CAPACITOR	CKSQYB103K50

Mark	No.	Description	Part No.
	C314	CHIP CAPACITOR	CKSQYB102K50
	C315	CERAMIC CAPACITOR	CKSQYB103K50
	C321	CERAMIC CAPACITOR	CKSQYB221K50
	C322	CERAMIC CAPACITOR	CKSQYB221K50
	C323	CERAMIC CAPACITOR	CKSQYB221K50
	C324	CERAMIC CAPACITOR	CKSQYB221K50
	C325	CERAMIC CAPACITOR	CKSQYB221K50
	C326	CERAMIC CAPACITOR	CKSQYB221K50
	C327	CERAMIC CAPACITOR	CKSQYB221K50
	C328	CERAMIC CAPACITOR	CKSQYB221K50
	C329	CHIP CAPACITOR	CCSQCH101J50
	C330	CHIP CAPACITOR	CCSQCH101J50
	C331	CHIP CAPACITOR	CCSQCH101J50
	C332	CHIP CAPACITOR	CCSQCH101J50
	C333	ELECT. CAPACITOR	CEAT4R7M50
	C334	ELECT. CAPACITOR	CEAT4R7M50
	C335	ELECT. CAPACITOR	CEAT4R7M50
	C336	ELECT. CAPACITOR	CEAT4R7M50
	C337	CERAMIC CAPACITOR	CKSQYB103K50
	C338	CERAMIC CAPACITOR	CKSQYB103K50
	C339	CERAMIC CAPACITOR	CKSQYB103K50
	C340	CERAMIC CAPACITOR	CKSQYB103K50
	C341	CERAMIC CAPACITOR	CKSQYB103K50
	C342	CERAMIC CAPACITOR	CKSQYB103K50

RESISTORS

△	R309	METAL OXIDE RESISTOR	RS1LMF151J
△	R310	METAL OXIDE RESISTOR	RS1LMF151J
	Other Resistors		RS1/10S□□□J

OTHERS

CN301	6P PIN JACK	AKB7123
CN304	PIN JACK(4P)	AKB7087
CN305	12P CONNECTOR	52044-1245
CN306	5P SOCKET	KP200TA5L
JA303	JACK	RKN1004

I H.P. ASSY

SEMICONDUCTORS

Q551	TRANSISTOR	2SC2878
Q552	TRANSISTOR	2SC2878

CAPACITORS

C551	CERAMIC CAPACITOR	CKSQYB104K16
C552	CERAMIC CAPACITOR	CKSQYB103K50
C555	CHIP CAPACITOR	CKSQYB223K50
C556	CHIP CAPACITOR	CKSQYB223K50

RESISTORS

△	R551	METAL OXIDE RESISTOR	RS1/2LMF121J
△	R552	METAL OXIDE RESISTOR	RS1/2LMF121J
	Other Resistors		RS1/10S□□□J

OTHERS

551	CABLE HOLDER(4P)	51063-0405
JA551	JACK	RKN1002

J POWER SW ASSY

SEMICONDUCTORS

D501	LED	BR3371XJ30A
------	-----	-------------

Mark	No.	Description	Part No.
SWITCHES AND RELAYS			
	S501	SWITCH	XSG3001
RESISTORS			
	R501	CHIP RESISTOR	RS1/10S271J
OTHERS			
	501	CABLE HOLDER(4P)	51063-0405

K FRONT ASSY

SEMICONDUCTORS

IC401	CONTROL MCU	PDG246A
Q401	TRANSISTOR	KRA103M
Q402	TRANSISTOR	KRA103M
Q403	TRANSISTOR	KRC101M
Q441	TRANSISTOR	KRC101M
Q442	TRANSISTOR	KRA103M
Q471	TRANSISTOR	KRA103M
D401	CHIP DIODE ARRAY	DAP202K
D403	DIODE	DAN217
D404	CHIP DIODE ARRAY	DAP202K
D405	DIODE	DAN217
D407	DIODE	1SS355
D442	DIODE	1SS355

COILS AND FILTERS

L401	RADIAL INDUCTOR	LFEA2R2J
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SWITCHES AND RELAYS

S451	SWITCH	XSG3001
S452	SWITCH	XSG3001
S454	SWITCH	XSG3001
S455	SWITCH	XSG3001
S456	SWITCH	XSG3001
S457	SWITCH	XSG3001
S458	SWITCH	XSG3001
S459	SWITCH	XSG3001
S460	SWITCH	XSG3001
S461	SWITCH	XSG3001
S462	SWITCH	XSG3001
S463	SWITCH	XSG3001
S464	SWITCH	XSG3001
S465	SWITCH	XSG3001
S466	SWITCH	XSG3001
S467	SWITCH	XSG3001
S469	SWITCH	XSG3001
S470	SWITCH	XSG3001
S471	SWITCH	XSG3001
S472	SWITCH	XSG3001
S473	SWITCH	XSG3001
S474	SWITCH	XSG3001
S475	SWITCH	XSG3001
S476	SWITCH	XSG3001

CAPACITORS

C401	CERAMIC CAPACITOR	CKSQYB103K50
C402	ELECT. CAPACITOR	CEAT221M6R3
C403	CERAMIC CAPACITOR	CKSQYB103K50
C404	EDL CAPACITOR (0.047F/5.5V)	ACH7017
C405	ELECT. CAPACITOR	CEAT221M6R3

Mark	No.	Description	Part No.
	C406	CERAMIC CAPACITOR	CKSQYB473K16
	C407	CERAMIC CAPACITOR	CKSQYB473K16
	C408	CERAMIC CAPACITOR	CKSQYF104Z25
	C409	ELECT. CAPACITOR	CEAT2R2M50
	C410	ELECT. CAPACITOR	CEAT2R2M50
	C411	CERAMIC CAPACITOR	CKSQYB103K50
	C412	ELECT. CAPACITOR	CEAT470M35
	C415	CERAMIC CAPACITOR	CKSQYB103K50
	C416	CERAMIC CAPACITOR	CKSQYB473K16
	C417	CERAMIC CAPACITOR	CKSQYB103K50
	C418	CERAMIC CAPACITOR	CKSQYB473K16
	C419	CERAMIC CAPACITOR	CKSQYB473K16
	C420	ELECTROLYTIC CAPACIT (220μF/35V)	ACH7101
	C441	CERAMIC CAPACITOR	CKSQYB103K50
	C442	ELECT. CAPACITOR	CEJA470M10
	C451	CHIP CAPACITOR	CKSQYB102K50
	C452	CHIP CAPACITOR	CKSQYB102K50
	C453	CHIP CAPACITOR	CKSQYB102K50
	C454	CHIP CAPACITOR	CKSQYB102K50
	C495	CHIP CAPACITOR	CCSQCH102J50
	C496	CHIP CAPACITOR	CKSQYB223K50

RESISTORS

All Resistors RS1/10S□□□J

OTHERS

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

L R.ENCODER ASSY

SWITCHES AND RELAYS

S511	ROTARY ENCODER	ASX7004
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OTHERS

511	CABLE HOLDER(3P)	51063-0305
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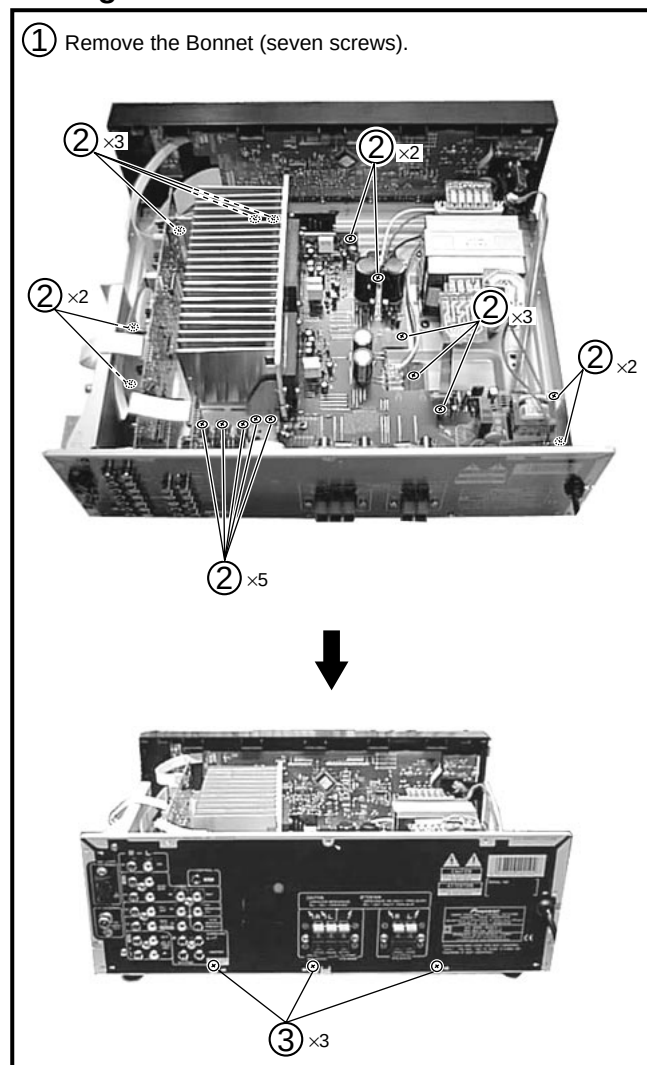
6. ADJUSTMENT

There is no information to be shown in this chapter.

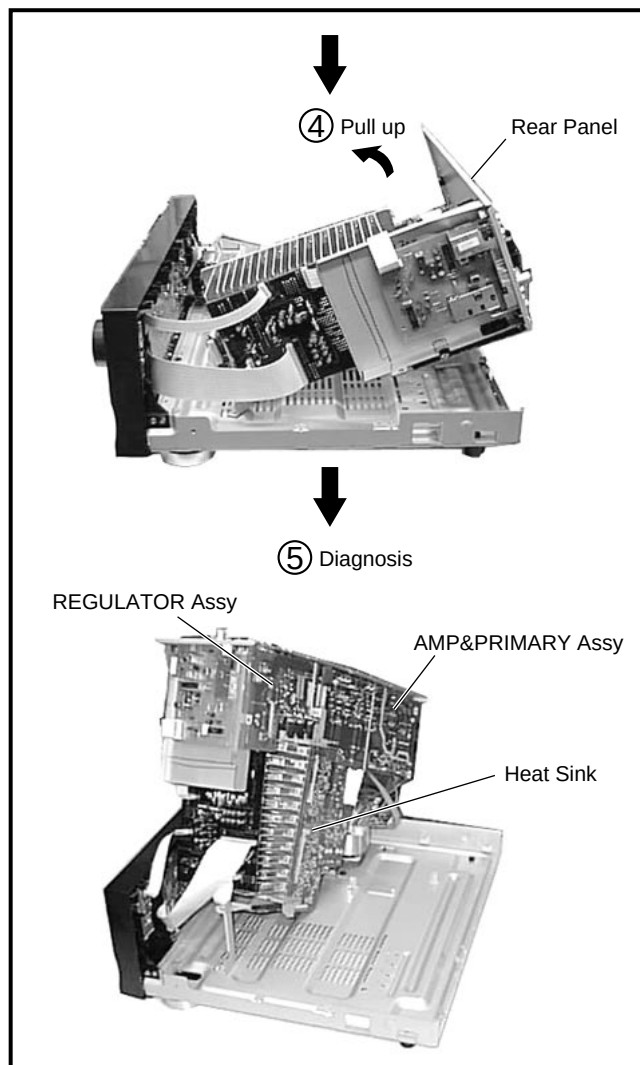
7. GENERAL INFORMATION

7.1 DISASSEMBLY

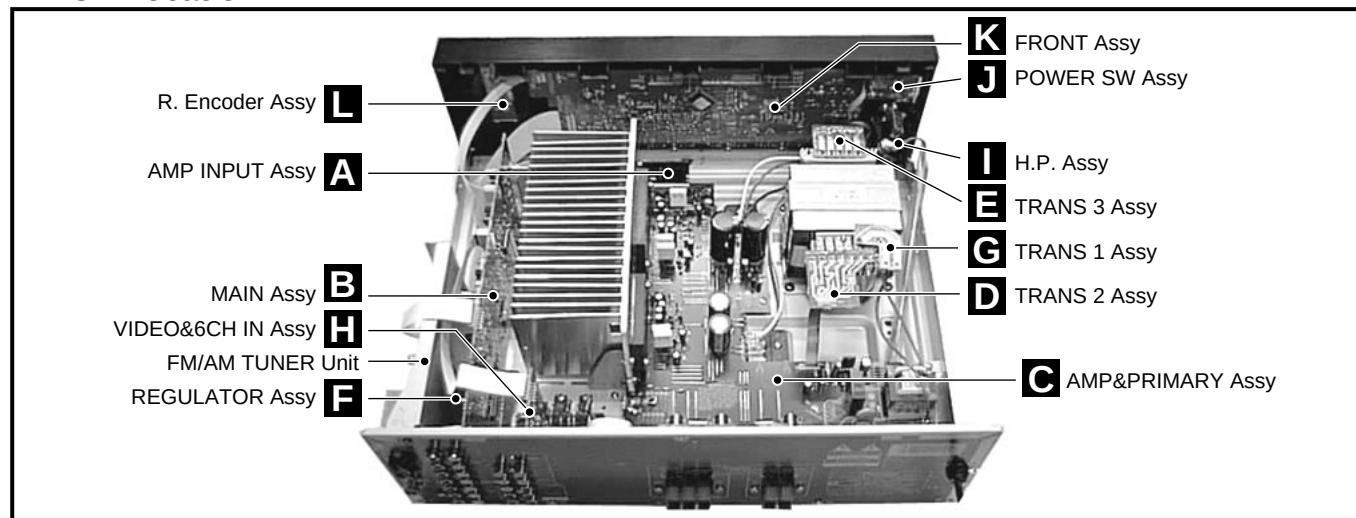
■ Diagnosis



Note : This photograph shows other models.
However, the work method is the same.



■ PCB Location



7.2 PARTS

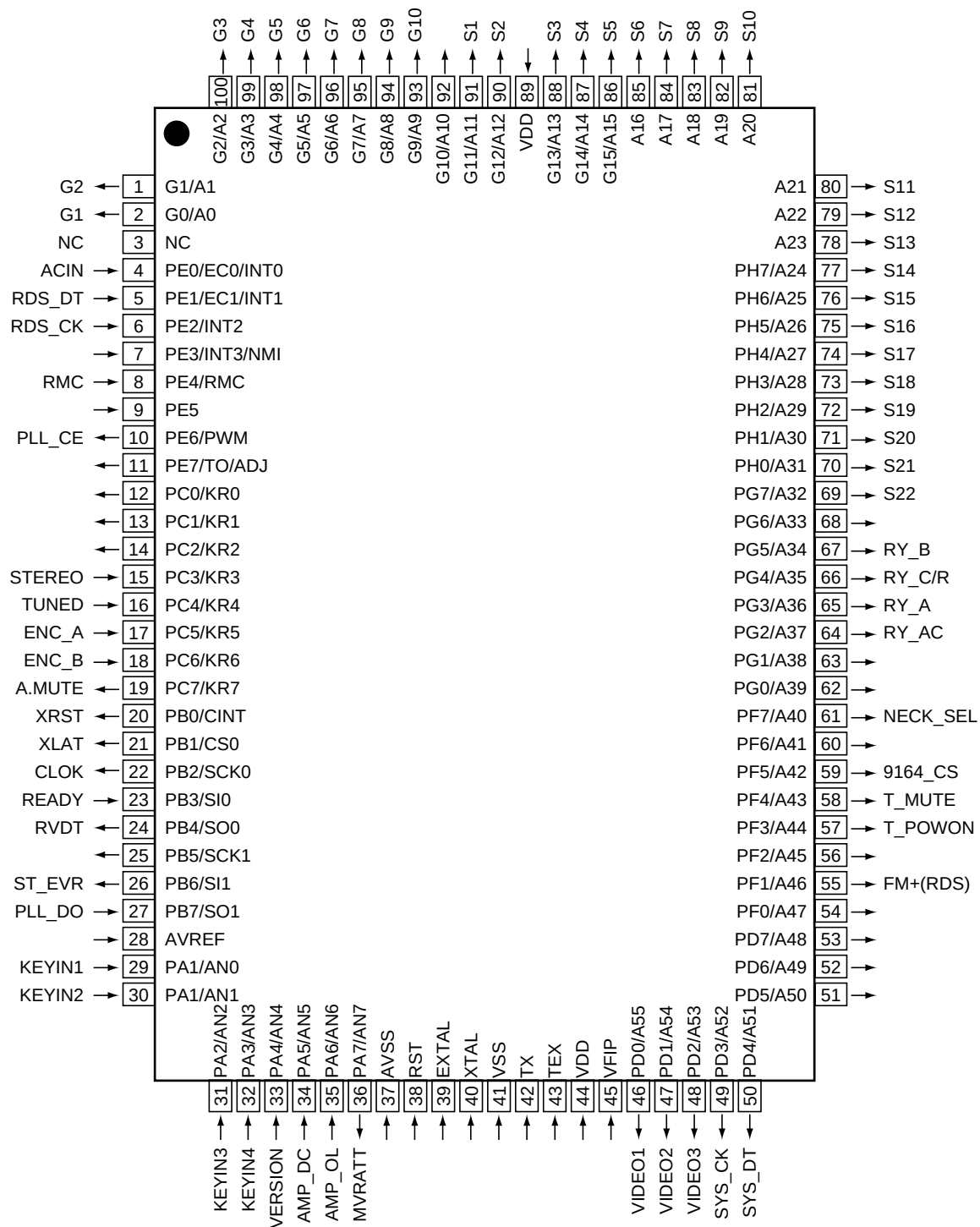
7.2.1 IC

• 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

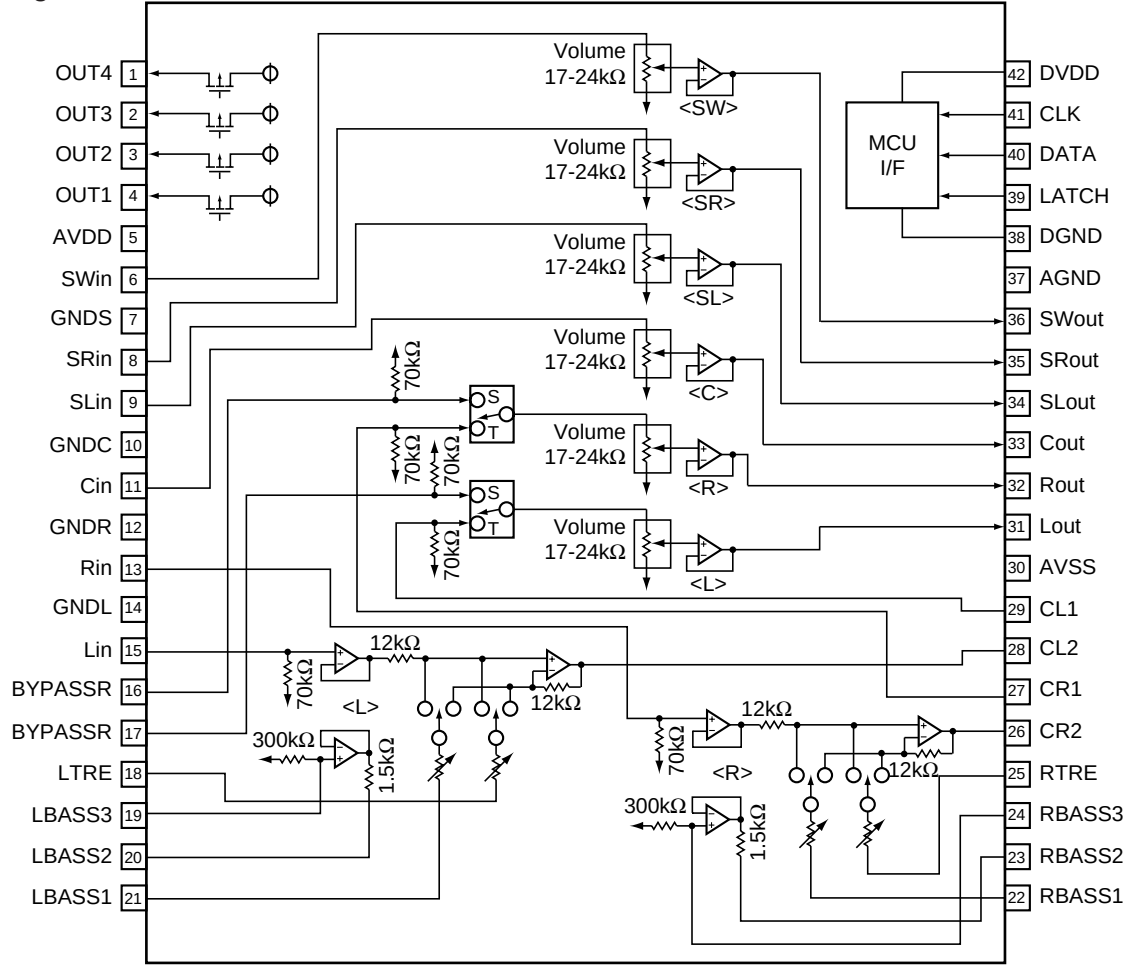
No.	Pin Name	I/O	Pin Function	Active
1	G2	O	Grid output 2	H
2	G1	O	Grid output 1	H
3	NC	–	Connect to VDD	
4	ACIN	I	AC pulse input	
5	RDS_DT	I	Serial control DATA signal of RDS communication	
6	RDS_CK	I	Serial control CLOCK signal of RDS communication	
7		I	Not used	
8	RMC	I	Remote control signal input (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	CLOCK	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 (Volume and Tone Control)

● Block Diagram



● Pin Function

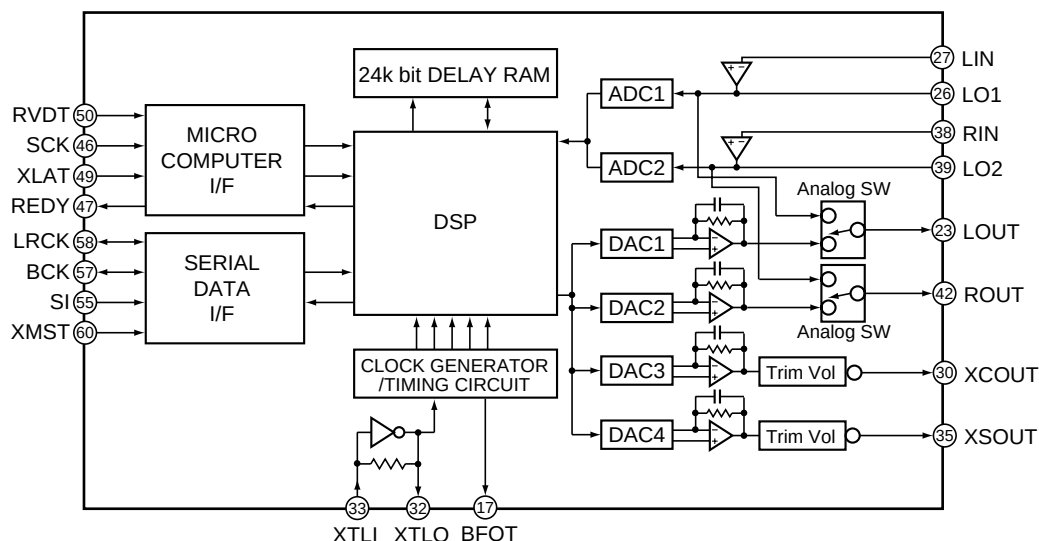
No.	Pin Name	Function
1	OUT4	Output port (open drain of PchTr)
2	OUT3	
3	OUT2	
4	OUT1	
5	AVDD	Analog positive power supply port
7	GNDS	GND (connect to analog ground)
10	GNDC	
12	GNDR	
14	GNDL	
6	SWin	Volume input
8	SRin	
9	SLin	
11	Cin	Volume output
36	SWout	
35	SRout	
34	SLout	
33	Cout	TONE input
13	Rin	
15	Lin	L and R Volume input at bypass
16	BYPASSR	
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	TONE output port
26	CR2	
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	XCOU	O	C-ch D/A converter output
31	AVDX	—	Analog power supply for master clock
32	XTLO	O	Crystal oscillation circuit output

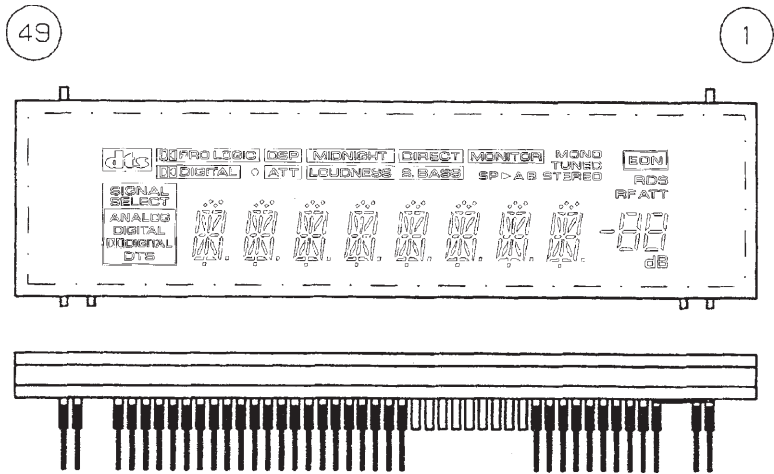
No.	Pin Name	I/O	Function
33	XTLI	I	Crystal oscillation circuit input
34	AVSX	–	Analog ground for master clock
35	XSOUT	O	S-ch D/A converter output
36	AVS6	–	Ground for S-ch D/A converter
37	AVD6	–	Power supply for S-ch D/A converter
38	RIN	I	Analog input of R-ch A/D converter
39	LO2	O	OP amp. inverting 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 Normally, 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

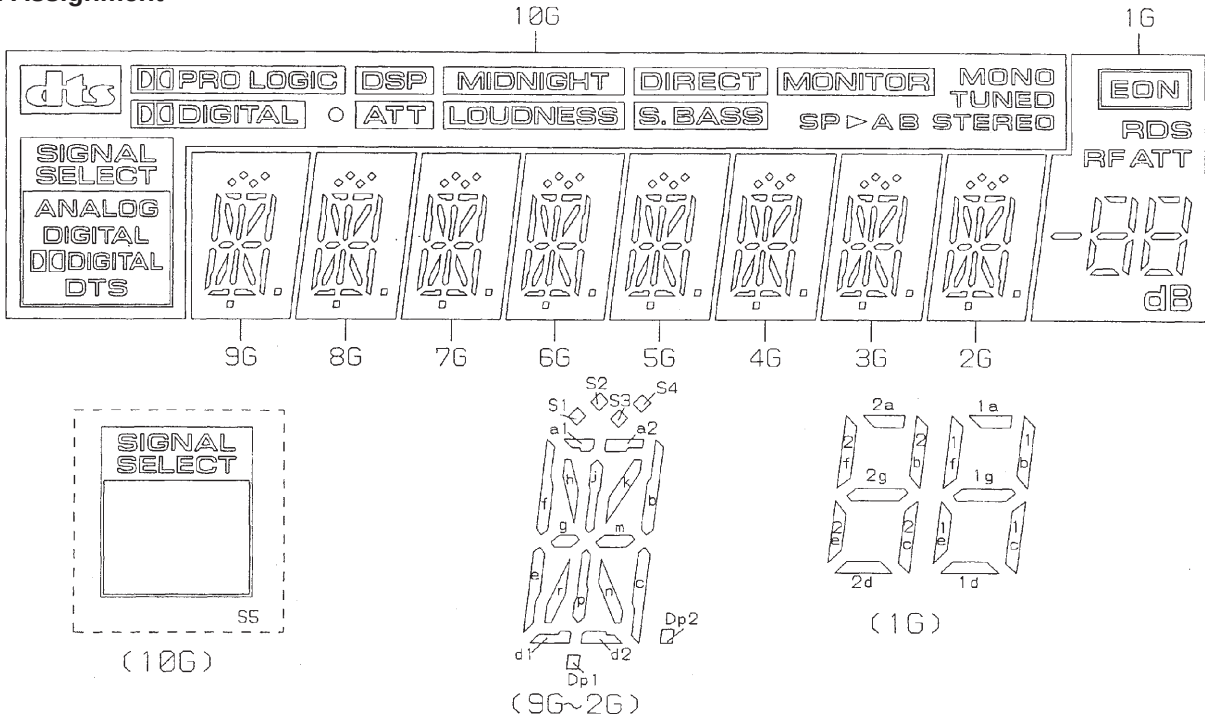


• Pin Connection

PIN NO.	4444444433333333333333222222222211111111111111110987654321
CONNECTION	FFNNPPPPPPPPPPPPPPPPPPNNNNNNNNNNNNNN0987654321NNFF 22PP2109876543210987654321XXXXXXG

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

• Grid Assignment



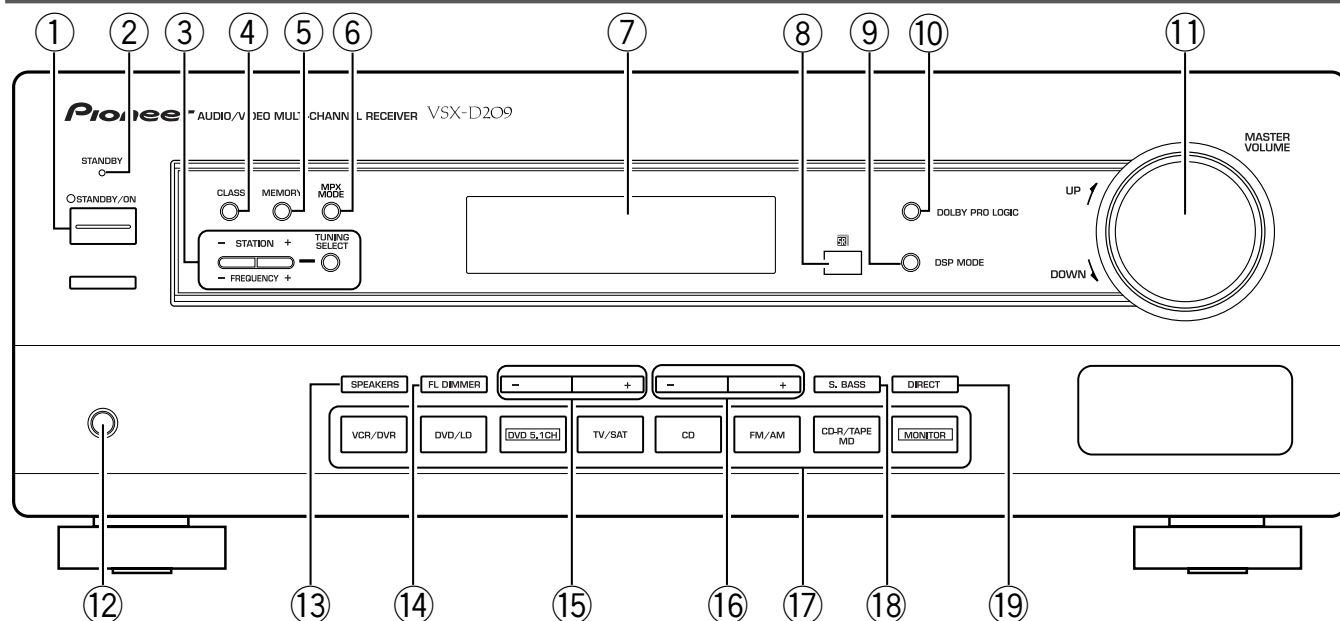
● Anode Connection

	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	RFATT
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	dB	S3	S3	S3	S3	S3	S3	S3	S3	-

8. PANEL FACILITIES AND SPECIFICATIONS

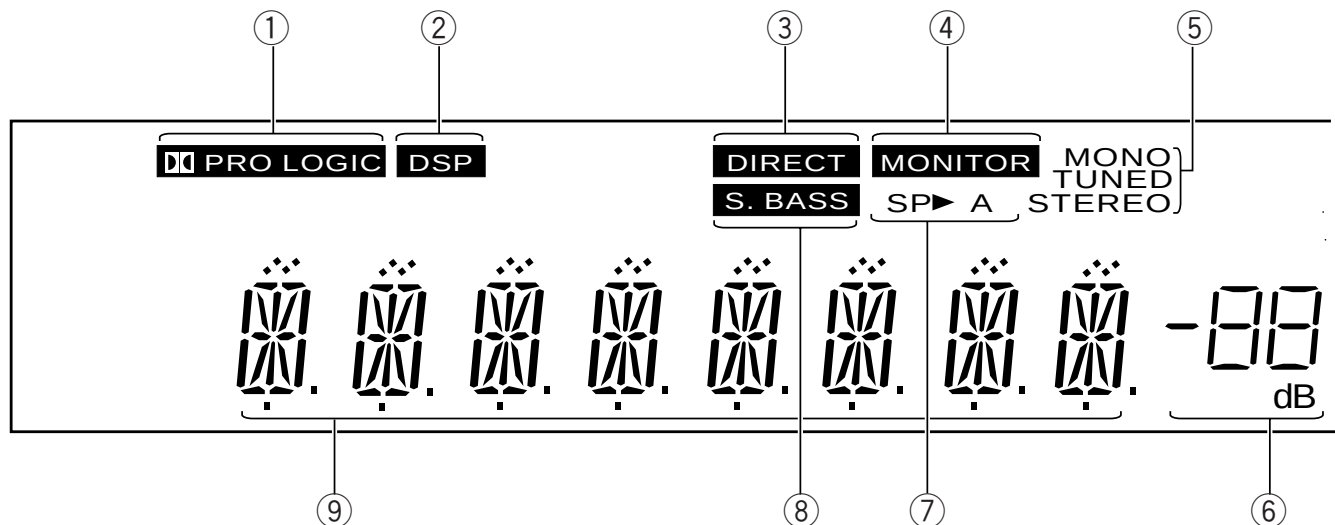
8.1 PANEL FACILITIES

Front Panel



- ① **STANDBY/ON button**
Switches the receiver between on and standby.
- ② **STANDBY indicator**
Lights when the receiver is in standby mode (note that the receiver consumes a small amount of power (1W) in standby mode).
- ③ **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.
- ④ **CLASS button**
Switches between the three banks (classes) of station memories.
- ⑤ **MEMORY button**
Press to memorize a station for recall using the STATION (+/-) buttons.
- ⑥ **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.
- ⑦ **Display**
- ⑧ **Remote sensor**
Receives the signals from the remote control.
- ⑨ **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.
- ⑩ **DOLBY PRO LOGIC button**
Use to switch between the various Pro Logic modes (PRO LOGIC, PRO LOGIC THEATER1, PRO LOGIC THEATER2) and Pro Logic off.
- ⑪ **MASTER VOLUME**
Use to set the overall listening volume.
- ⑫ **PHONES jack**
Use to connect headphones but this does not switch the speakers off.
- ⑬ **SPEAKER button**
Use to switch the speaker system on or off.
- ⑭ **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.
- ⑮ **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.
- ⑯ **TREBLE (+/-) buttons**
Use to increase/decrease treble (within a range of -6dB to 6dB in 2dB steps).
- ⑰ **Function buttons**
Use to select a source for playback or recording.
- ⑱ **S.BASS button**
Use to switch on and off the bass boost. Use for a more powerful bass sound. Negates use of BASS buttons.
- ⑲ **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, Channel Level, 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.

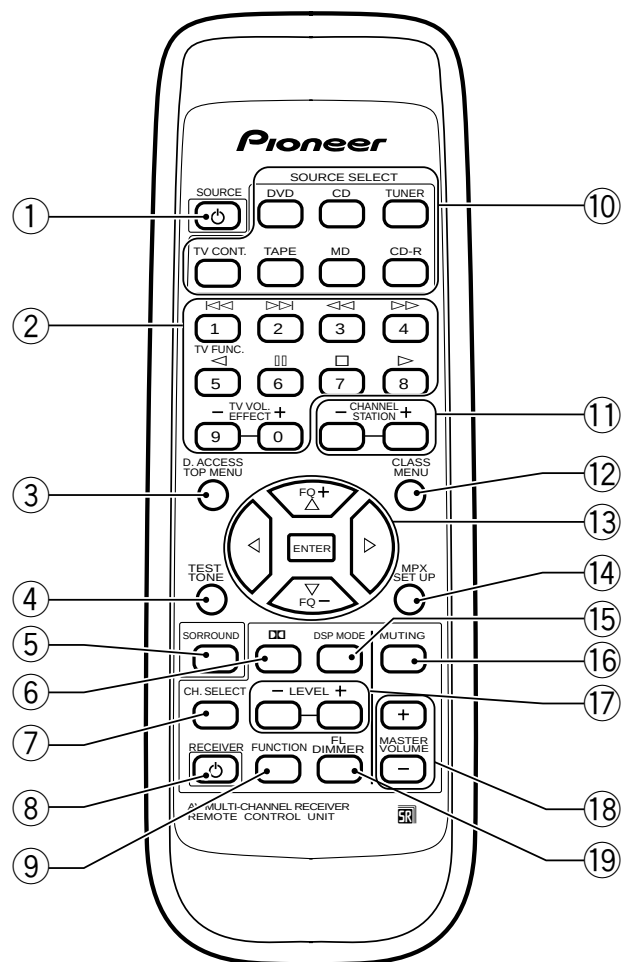
⑧ S. BASS indicator

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.

② NUMBER/PLAYER COMMAND buttons

Use to select the radio frequency in tuner mode. Also, you can use to control PIONEER components like CD players, cassette decks, etc. according to the commands 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 (This function does not operate when Dolby Pro Logic Mode is not selected.). Also switches the BAND in TUNER mode.

⑤ SURROUND button

Use this button to set up the surround sound features of the VSX-D209. 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 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

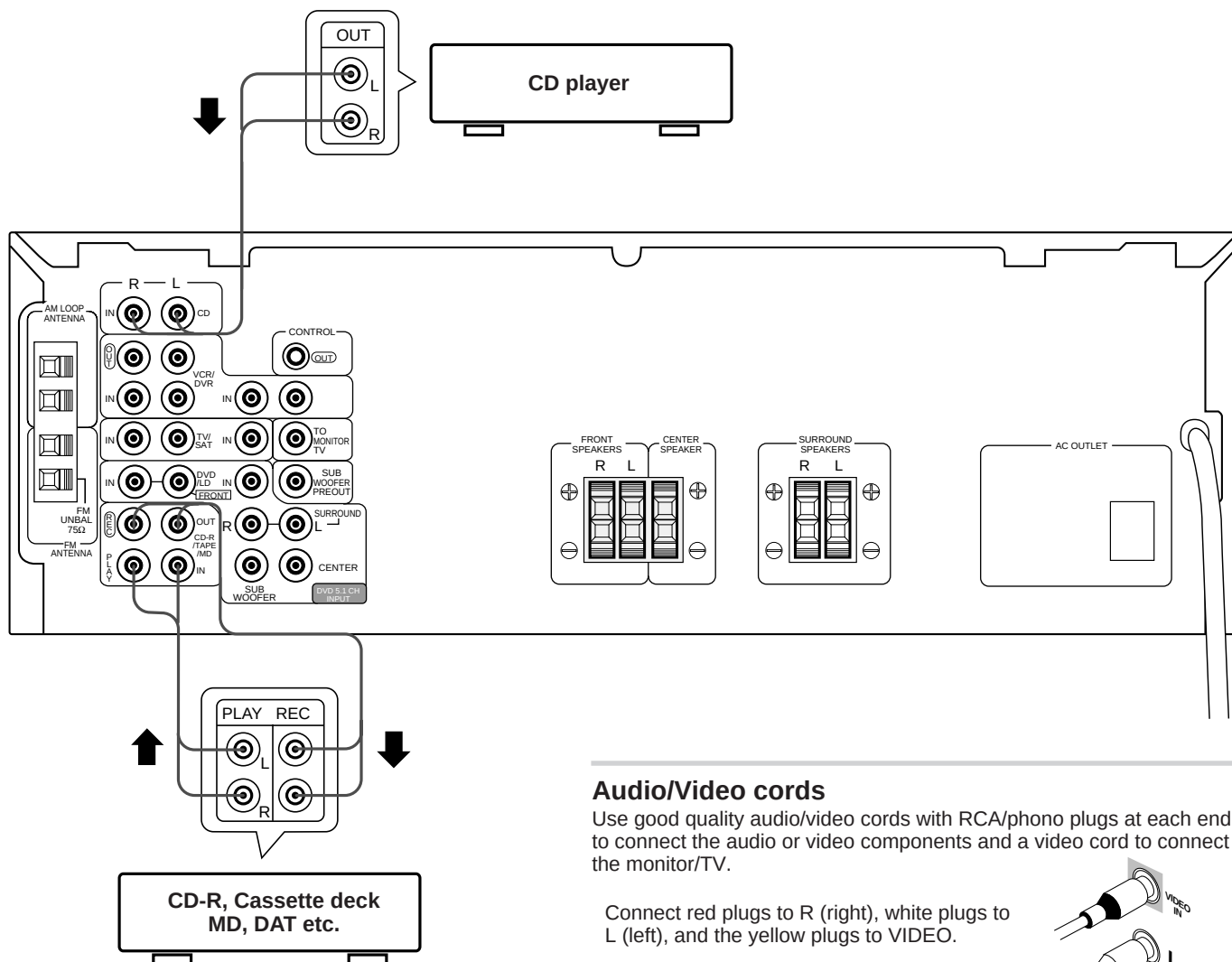
Use to set the overall listening volume.

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.

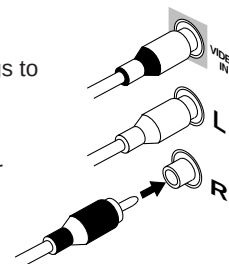


Audio/Video cords

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

Continuous average power output of 60 watts* per channel, min., at 8 ohms, from 40 Hz to 20,000 Hz with no more than 0.2 % total harmonic distortion (front).**

Continuous Power Output	
Front	60 W/ch (1kHz, 0.8 %, 8 Ω)
Center	60 W (1kHz, 0.8 %, 8 Ω)
Surround	60 W/ch (1kHz, 0.8 %, 8 Ω)

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

Frequency Response	
CD, VCR/DVR, CD-R/TAPE/MD, DVD/LD, TV/SAT	5 Hz to 100,000 Hz ± 0 dB

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

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

* 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)	
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 $\rightarrow$ MONITOR	5 Hz to 7 MHz ± 0 dB

Signal-to-Noise Ratio	
Cross Talk	55 dB

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 dB
	Stereo: 38.6 dBf

Signal-to-Noise Ratio	
	Mono: 76 dB (at 85 dBf)
	Stereo: 72 dB (at 85 dBf)

Distortion	
	Stereo: 0.5 % (1 kHz)

Alternate Channel Selectivity	
	60 dB (400 kHz)

Stereo Separation	
	40 dB (1 kHz)

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

Antenna Input	
	75 Ω unbalanced

AM Tuner Section

Frequency Range	530 kHz to 1,700 kHz
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Sensitivity (IHF, Loop antenna)	350 μ V/m
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Selectivity	25 dB
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Signal-to-Noise Ratio	50 dB
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Antenna	
	Loop antenna

Miscellaneous

Power Requirements	AC 120 V, 60 Hz
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Power Consumption	180 W
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In Standby	1 W
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Dimensions	
	420 (W) x 158 (H) x 391 (D) mm
	(16-9/16 (W) x 6-4/16 (H) x 15-7/16 (D) in.)

Weight (without package)	
	8.4 kg (18 lb 9 oz)

Furnished Parts

FM Antenna	1
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AM Loop Antenna	1
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Dry Cell Batteries	
size AA (IEC R6P)	2

Remote Control Unit	1
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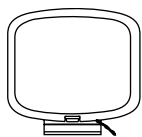
Operating Instructions	1
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NOTE:

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

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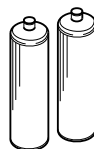
Accessories



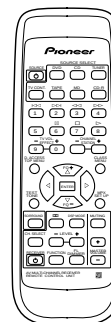
AM loop antenna
(ATB7009)



FM wire antenna
(ADH7004)



AA size IEC R6P
batteries (x2)



Remote control unit
(CU-VSX166 : AXD7245)