

Pioneer

Service Manual

ORDER NO.
RRV2294

AUDIO/VIDEO MULTI-CHANNEL RECEIVER

VSX-D509S

VSX-D509S-G

VSX-D409

VSX-D409-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-D509S	VSX-D509S-G	VSX-D409	VSX-D409-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 this Manual.

● This service manual should be used together with the following manual(s):

Model No.	Order No.	Remarks
VSX-709RDS/MYXJIEW VSX-609RDS/MYXJIEW	RRV2274	

CONTENTS

1. CONTRAST OF MISCELLANEOUS PARTS 2
2. SCHEMATIC DIAGRAM 7
3. PCB CONNECTION DIAGRAM 10

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 EUROPE NV Haven 1087, Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS ASIACENTRE PTE. LTD. 253 Alexandra Road, #04-01, Singapore 159936
©PIONEER CORPORATION 2000

T – ZZK MAY 2000 Printed in Japan

VSX-D509S, VSX-D509S-G, VSX-D409, VSX-D409-G

1. CONTRAST OF MISCELLANEOUS PARTS

- 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 $\blacktriangledown$ mark on product are used for disassembly.
 ● Reference Nos. indicate the pages and Nos. in the service manual for the base model.
 ● 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 | → | 56×10^1 | → | 561 | | RD1/4PU | 5 | 6 | 1 | J |
| 47k | → | 47×10^3 | → | 473 | | RD1/4PU | 4 | 7 | 3 | J |
| 0.5 | → | R50 | | | | RN2H | R | 5 | 0 | K |
| 1 | → | 1R0 | | | | RS1P | 1 | R | 0 | K |
- Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).
- | | | | | | | | | | | | |
|-------|---|-------------------|---|------|-------|---------|---|---|---|---|---|
| 5.62k | → | 562×10^1 | → | 5621 | | RN1/4PC | 5 | 6 | 2 | 1 | F |
|-------|---|-------------------|---|------|-------|---------|---|---|---|---|---|

■ CONTRAST TABLE

VSX-D509S/BXJI, VSX-D509S-G/BXJI, HLXJI and VSX-709RDS/MYXJIEW are constructed the same except for the following :

Ref. No.	Mark	Symbol and Description	Part No.				Remarks
			VSX-709RDS /MYXJIEW	VSX-D509S /BXJI	VSX-D509S-G /BXJI	VSX-D509S-G /HLXJI	
P5- 1		PCB ASSEMBLIES D.D & INPUT ASSY	AWX7464	AWX7501	AWX7501	AWX7501	No. 1
P5- 4	NSP	AMP&PS ASSY	AWK7574	AWK7576	AWK7576	AWK7574	
P5- 8	NSP	└ AMP&PRIMARY ASSY	AWX7484	AWX7486	AWX7486	AWX7484	
		└ TRANS 1ASSY	AWX7390	Not used	Not used	AWX7390	
		└ VOLTAGE SELECT SW ASSY	Not used	AWX7442	AWX7442	Not used	
P7- 1	NSP	COMPLEX ASSY └ FRONT ASSY	AWK7573 AWX7459	AWK7575 AWX7485	AWK7575 AWX7485	AWK7575 AWX7485	
P3- 1	NSP	PACKING SECTION FM Wire Antenna	ADH7005	ADH7004	ADH7004	ADH7004	
P3- 4		Warranty Card	ARY7022	Not used	Not used	Not used	
P3- 5		Remote Control Unit	AXD7249	AXD7248	AXD7248	AXD7248	
P3-11		Packing Case	AHD7832	AHD7828	AHD7830	AHD7829	
P3-12		Operating Instructions (English)	ARB7215	Not used	Not used	Not used	
P3-13		Operating Instructions (German)	ARC7273	Not used	Not used	Not used	
P3-14		Operating Instructions (Spanish/Portuguese)	ARC7274	Not used	Not used	Not used	
P3-15		Operating Instructions (Italian/French)	ARC7275	Not used	Not used	Not used	
P3-16		Operating Instructions (Dutch/Swedish)	ARC7276	Not used	Not used	Not used	
		Operating Instructions (Spanish)	Not used	ARC7277	ARC7277	Not used	Accessories
		Operating Instructions (English/Chinese)	Not used	ARE7247	ARE7247	ARE7247	
		Caution 220V Label	Not used	ARR1003	ARR1003	Not used	
	Δ	AC Plug Adapter	Not used	AKX7011	AKX7011	Not used	
		EXTERIOR SECTION FM/AM TUNER Unit	AXX7048	AXX7047	AXX7047	AXX7047	
P5-10	Δ	Power Transformer (AC220-230V)	ATS7259	Not used	Not used	ATS7259	
P5-10	Δ	Power Transformer (AC110V/120-127V/220V/240V)	Not used	ATS7261	ATS7261	Not used	
P5-11	Δ	Fuse (FU1 : T2.5A/250V)	REK1026	Not used	Not used	REK1026	
P5-11	Δ	Fuse (FU1 : T5A/250V)	Not used	REK1029	REK1029	Not used	
P5-19	Δ	AC Power Cord	VDG1061	VDG1080	VDG1080	VDG1077	
P5-22		Top Cover	AME7375	AME7375	AME7376	AME7376	
P5-24		R Panel	ANC7897	ANC7893	ANC7895	ANC7894	
P5-25		Bonnet Case	AZN7779	AZN7779	AZN7819	AZN7819	

**VSX-D509S, VSX-D509S-G,
VSX-D409, VSX-D409-G**

Ref. No.	Mark	Symbol and Description	Part No.				Remarks
			VSX-709RDS /MYXJIEW	VSX-D509S /BXJI	VSX-D509S-G /BXJI	VSX-D509S-G /HLXJI	
P5-31	NSP	Insulator (Front side)	PNW2766	AMR7198	PNW2766	PNW2766	
P5-31		Insulator/Foot Assy (Rear side)	PNW2766	REC1263	REC1263	REC1263	
P5-33		Push Rivet	AEC7025	AEC7025	AEC7205	AEC7205	
P5-35		Fuse Card	AAX7277	AAX7098	AAX7098	AAX7277	
		Screw (Both sides of Bonnet Case)	FBT40P080FZK	FBT40P080FZK	FBT40P080FNI	FBT40P080FNI	
	⚠ NSP ⚠	Fuse (FU2, FU3 : T2.5A/250V)	Not used	REK1026	REK1026	Not used	No. 2
		Fuse Card	Not used	AAX7277	AAX7277	Not used	No. 3
		Voltage Selector	Not used	AKX-507	AKX-507	Not used	No. 4
		FRONT PANEL SECTION					
P7- 6		Volume Knob	AAB7179	AAB7179	AAB7180	AAB7180	
P7- 7		Power Button	AAD7440	AAD7440	AAD7485	AAD7485	
P7- 8		Power Button M	AAD7442	AAD7442	AAD7491	AAD7491	
P7- 9		Window	AAK7721	AAK7719	AAK7720	AAK7720	
P7-10		F Button	AAD7564	AAD7564	AAD7565	AAD7565	
P7-12		F Panel	AMB7677	AMB7671	AMB7673	AMB7673	
P7-13		Name Plate	PAM1776	PAM1776	PAM1779	PAM1779	

Notes : ●The numbers in the remarks column correspond to the numbers on the “EXPLODED VIEWS”.

- For PCB ASSEMBLIES, Refer to “CONTRAST OF PCB ASSEMBLIES”, “PCB PARTS LIST”, “2. SCHEMATIC DIAGRAM” and “3. PCB CONNECTION DIAGRAM”.

VSX-D409/BXJI, VSX-D409-G/BXJI, HLXJI and VSX-609RDS/MYXJIEW are constructed the same except for the following :

Ref. No.	Mark	Symbol and Description	Part No.				Remarks
			VSX-609RDS /MYXJIEW	VSX-D409 /BXJI	VSX-D409-G /BXJI	VSX-D409-G /HLXJI	
P5- 1	NSP	PCB ASSEMBLIES D.D & INPUT ASSY	AWX7497	AWX7650	AWX7650	AWX7650	
		AMP&PS ASSY	AWK7568	AWK7572	AWK7572	AWK7568	
P5- 4		└ AMP&PRIMARY ASSY	AWX7478	AWX7482	AWX7482	AWX7478	
P5- 8		└ TRANS 1ASSY	AWX7390	Not used	Not used	AWX7390	
	NSP	└ VOLTAGE SELECT SW ASSY	Not used	AWX7442	AWX7442	Not used	No. 1
		COMPLEX ASSY	AWK7567	AWK7571	AWK7571	AWK7571	
P7- 1		└ FRONT ASSY	AWX7477	AWX7481	AWX7481	AWX7481	
		PACKING SECTION					
P3- 1	NSP	FM Wire Antenna	ADH7005	ADH7004	ADH7004	ADH7004	
P3- 4		Warranty Card	ARY7022	Not used	Not used	Not used	
P3- 5		Remote Control Unit	AXD7247	AXD7246	AXD7246	AXD7246	
P3- 6		Battery Cover	AZA7378	RZN1156	RZN1156	RZN1156	
P3- 8		Left Pad	AHA7263	AHA7275	AHA7275	AHA7275	
P3- 9		Right Pad	AHA7264	AHA7276	AHA7276	AHA7276	
P3-11		Packing Case	AHD7831	AHD7824	AHD7826	AHD7825	
P3-12		Operating Instructions (English)	ARB7215	Not used	Not used	Not used	
P3-13		Operating Instructions (German)	ARC7273	Not used	Not used	Not used	
P3-14		Operating Instructions (Spanish/Portuguese)	ARC7274	Not used	Not used	Not used	
P3-15		Operating Instructions (Italian/French)	ARC7275	Not used	Not used	Not used	
P3-16		Operating Instructions (Dutch/Swedish)	ARC7276	Not used	Not used	Not used	
		Operating Instructions (Spanish)	Not used	ARC7277	ARC7277	Not used	
		Operating Instructions (English/Chinese)	Not used	ARE7247	ARE7247	ARE7247	
		Caution 220V Label	Not used	ARR1003	ARR1003	Not used	
	⚠	AC Plug Adapter	Not used	AKX7011	AKX7011	Not used	Accessories

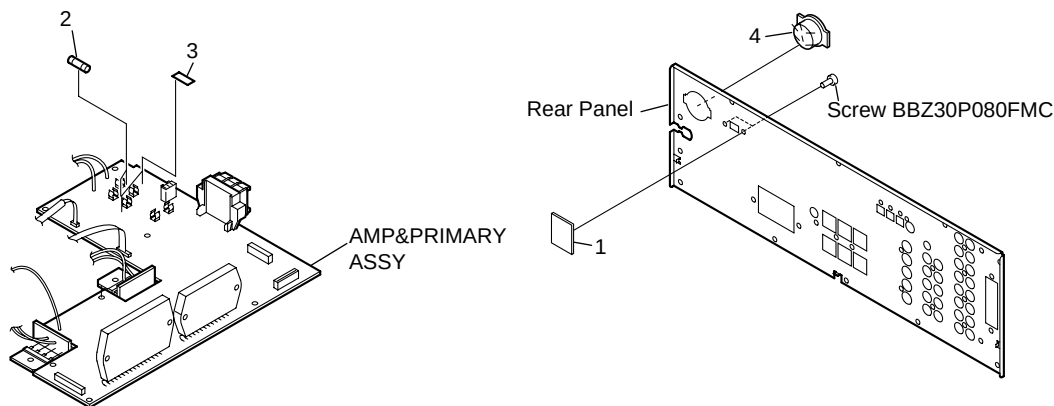
VSX-D509S, VSX-D509S-G, VSX-D409, VSX-D409-G

Ref. No.	Mark	Symbol and Description	Part No.				Remarks
			VSX-609RDS /MYXJIEW	VSX-D409 /BXJI	VSX-D409-G /BXJI	VSX-D409-G /HLXJI	
P5- 7		EXTERIOR SECTION FM/AM TUNER Unit	AXX7048	AXX7047	AXX7047	AXX7047	
P5-10	△	Power Transformer (AC220-230V)	ATS7259	Not used	Not used	ATS7259	
P5-10	△	Power Transformer (AC110V/120-127V/220V/240V)	Not used	ATS7261	ATS7261	Not used	
P5-11	△	Fuse (FU1 : T2.5A/250V)	REK1026	Not used	Not used	REK1026	
P5-11	△	Fuse (FU1 : T5A/250V)	Not used	REK1029	REK1029	Not used	
P5-19	△	AC Power Cord	VDG1061	VDG1080	VDG1080	VDG1077	
P5-22		Top Cover	AME7375	AME7375	AME7376	AME7376	
P5-24		R Panel	ANC7896	ANC7888	ANC7890	ANC7889	
P5-25		Bonnet Case	AZN7779	AZN7779	AZN7819	AZN7819	
P5-31		Insulator (Front side)	PNW2766	AMR7198	PNW2766	PNW2766	
P5-31		Insulator/Foot Assy (Rear side)	PNW2766	REC1263	REC1263	REC1263	
P5-33		Push Rivet	AEC7025	AEC7025	AEC7205	AEC7205	
P5-35	NSP	Fuse Card	AAX7277	AAX7098	AAX7098	AAX7277	
		Screw (Both sides of Bonnet Case)	FBT40P080FZK	FBT40P080FZK	FBT40P080FNI	FBT40P080FNI	
	△	Fuse (FU2, FU3 : T2.5A/250V)	Not used	REK1026	REK1026	Not used	No. 2
	NSP	Fuse Card	Not used	AAX7277	AAX7277	Not used	No. 3
	△	Voltage Selector	Not used	AKX-507	AKX-507	Not used	No. 4
		FRONT PANEL SECTION					
P7- 6		Volume Knob	AAB7179	AAB7179	AAB7180	AAB7180	
P7- 7		Power Button	AAD7440	AAD7440	AAD7485	AAD7485	
P7- 8		Power Button M	AAD7442	AAD7442	AAD7491	AAD7491	
P7- 9		Window	AAK7721	AAK7719	AAK7720	AAK7720	
P7-10		F Button	AAD7562	AAD7562	AAD7563	AAD7563	
P7-12		F Panel	AMB7675	AMB7665	AMB7667	AMB7667	
P7-13		Name Plate	PAM1776	PAM1776	PAM1779	PAM1779	

Notes : ●The numbers in the remarks column correspond to the numbers on the “ EXPLODED VIEWS ”.
● For PCB ASSEMBLIES, Refer to “CONTRAST OF PCB ASSEMBLIES”, “PCB PARTS LIST”, “2. SCHEMATIC DIAGRAM” and “3. PCB CONNECTION DIAGRAM”.

■ EXPLODED VIEWS

● EXTERIOR SECTION



■ **CONTRAST OF PCB ASSEMBLIES**

B **F D.D & INPUT ASSY**

AWX7501, AWX7650 and AWX7464 are constructed the same except for the following :

Mark	Symbol and Description	Part No.			Remarks
		AWX7464	AWX7501	AWX7650	
	Q102 Q103 Q104 F111, F112 C158	2SC2412K Not used Not used DTF1067 CKSRYB103K50	Not used DTA143EK DTC124EK Not used Not used	Not used DTA143EK DTC124EK Not used Not used	
	C211, C212 R119 R149 R150 R151	CCSQCH220J50 RS1/16S0R0J RS1/16S101J RS1/16S221J RS1/16S472J	Not used Not used Not used Not used Not used	Not used Not used Not used Not used Not used	
	R215, R216 CN107 3P CONNECTOR POST 101, 102 PCB BINDER	Not used B3B-PH-K-S VEF1040	RS1/10S0R0J B3B-PH-K-S VEF1040	RS1/10S0R0J Not used Not used	

C **F AMP&PRIMARY ASSY**

AWX7486, AWX7482 and AWX7484 are constructed the same except for the following :

Mark	Symbol and Description	Part No.			Remarks
		AWX7484	AWX7486	AWX7482	
△	L51	Not used	ATF7018	ATF7018	
△	L52	ATF3001	Not used	Not used	
△	T51 STANDBY TRANSFORMER	ATT7037	ATT7038	ATT7038	
	C607-C610, C634, C635, C657-C660	CCCSL120J50	CCCSL6R0D50	CCCSL6R0D50	
	C613, C614, C637, C663, C664	CCCSL221J50	Not used	Not used	
	C765-C768	CQMBA472J50	Not used	Not used	
	C769	CKCYB102K50	Not used	Not used	
	R757	Not used	Not used	RD1/4PU223J	*
	R758	Not used	Not used	RD1/4PU242J	*
	CN751 SPEAKER TERMINAL 6-P	Not used	Not used	AKE7020	*
	CN753 PIN JACK 1-P	Not used	Not used	AKB7042	*
	CN784 10P SOCKET	KP250NA10	KP250NA10	Not used	
	H53-H56 FUSE CLIP	Not used	AKR7001	AKR7001	

* : These parts are used for VSX-609RDS. Refer to page 19 on the service manual RRV2274.

VSX-D509S, VSX-D509S-G, VSX-D409, VSX-D409-G

KF FRONT ASSY

AWX7485, AWX7481 and AWX7459 are constructed the same except for the following :

Mark	Symbol and Description	Part No.			Remarks
		AWX7459	AWX7485	AWX7481	
	IC481	BU1923F	Not used	Not used	
	Q481	2SA1515	Not used	Not used	
	Q482	KRC101M	Not used	Not used	
	Q483	2SC1740S	Not used	Not used	
	L481	LFEA2R2J	Not used	Not used	
	S468, S477	XSG3001	Not used	Not used	
	C481, C482	CKSQYB102K50	Not used	Not used	
	C483, C487	CEAT101M10	Not used	Not used	
	C484	CEAT2R2M50	Not used	Not used	
	C485	CKSQYB472K50	Not used	Not used	
	C486	CEAT1R0M50	Not used	Not used	
	C488	CKSQYB561K50	Not used	Not used	
	C489, C490	CCSQCH270J50	Not used	Not used	
	R407	RS1/10S472J	Not used	Not used	
	R409	Not used	RS1/10S0R0J	RS1/10S0R0J	
	R428	Not used	RS1/10S472J	RS1/10S472J	
	R429	RS1/10S0R0J	RS1/10S332J	RS1/10S622J	
	R468	RS1/10S562J	Not used	Not used	
	R479	RS1/10S163J	Not used	Not used	
	R481	RS1/10S473J	Not used	Not used	
	R482	RS1/10S222J	Not used	Not used	
	R483	RS1/10S333J	Not used	Not used	
	R484	RS1/10S104J	Not used	Not used	
	R485-R487	RS1/10S102J	Not used	Not used	
	X481 CRYSTAL RESONATOR (4.332MHz)	ASS7004	Not used	Not used	

■ PCB PARTS LIST

Mark No. Description Part No.

SF VOLTAGE SELECT SW ASSY

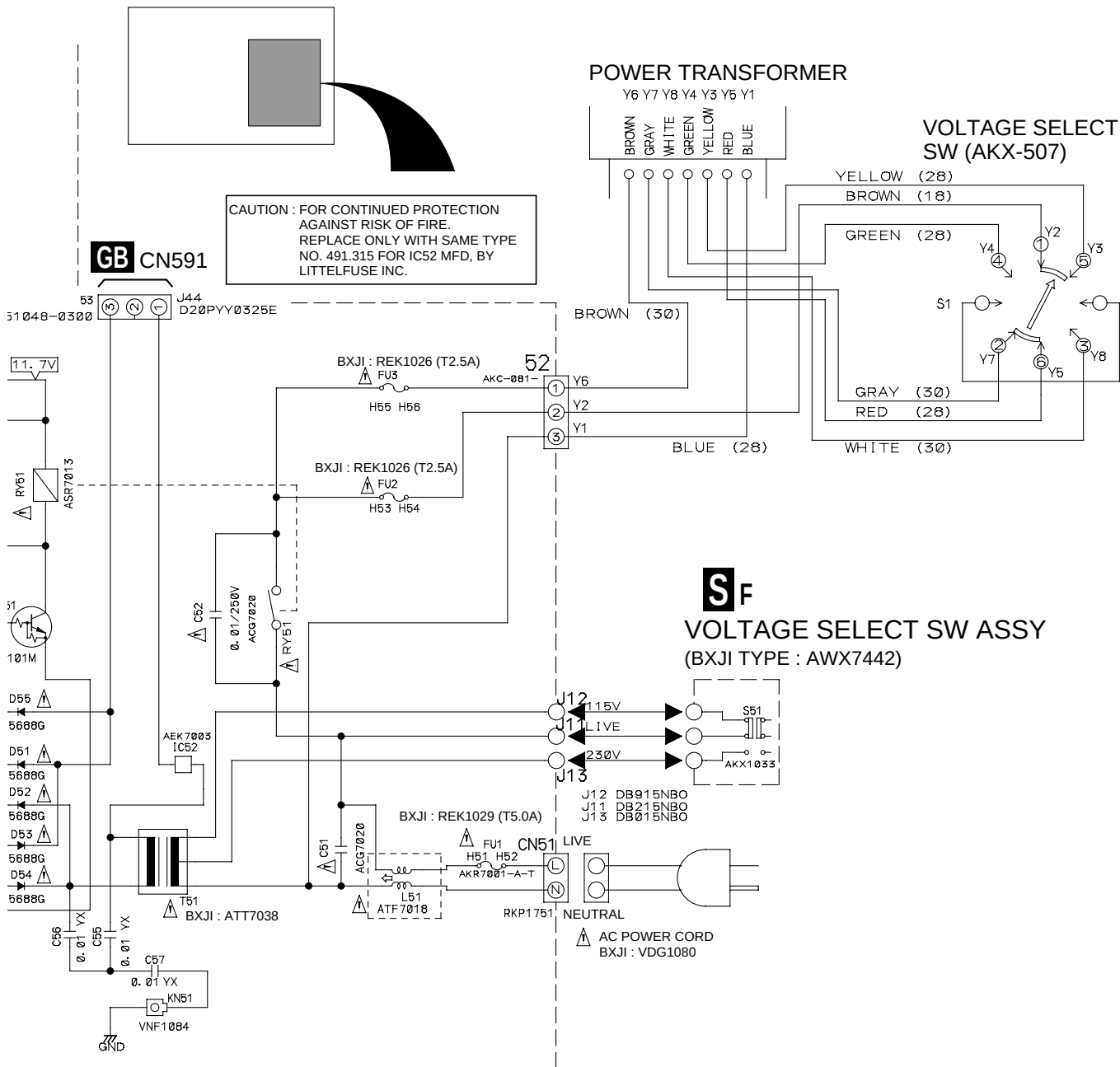
SWITCHES

△ S51 VOLTAGE SELECTOR AKX1033

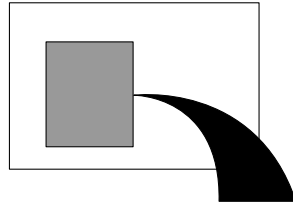
VSX-D509S, VSX-D509S-G, VSX-D409, VSX-D409-G

2.2 AMP&PRIMARY (2/2) and VOLTAGE SELECT SW ASSY ASSYS

C 2/2F AMP&PRIMARY ASSY
(VSX-D509S, VSX-D509S-G/BXJI : AWX7486)
(VSX-D409, VSX-D409-G/BXJI : AWX7482)



2.3 FRONT ASSY

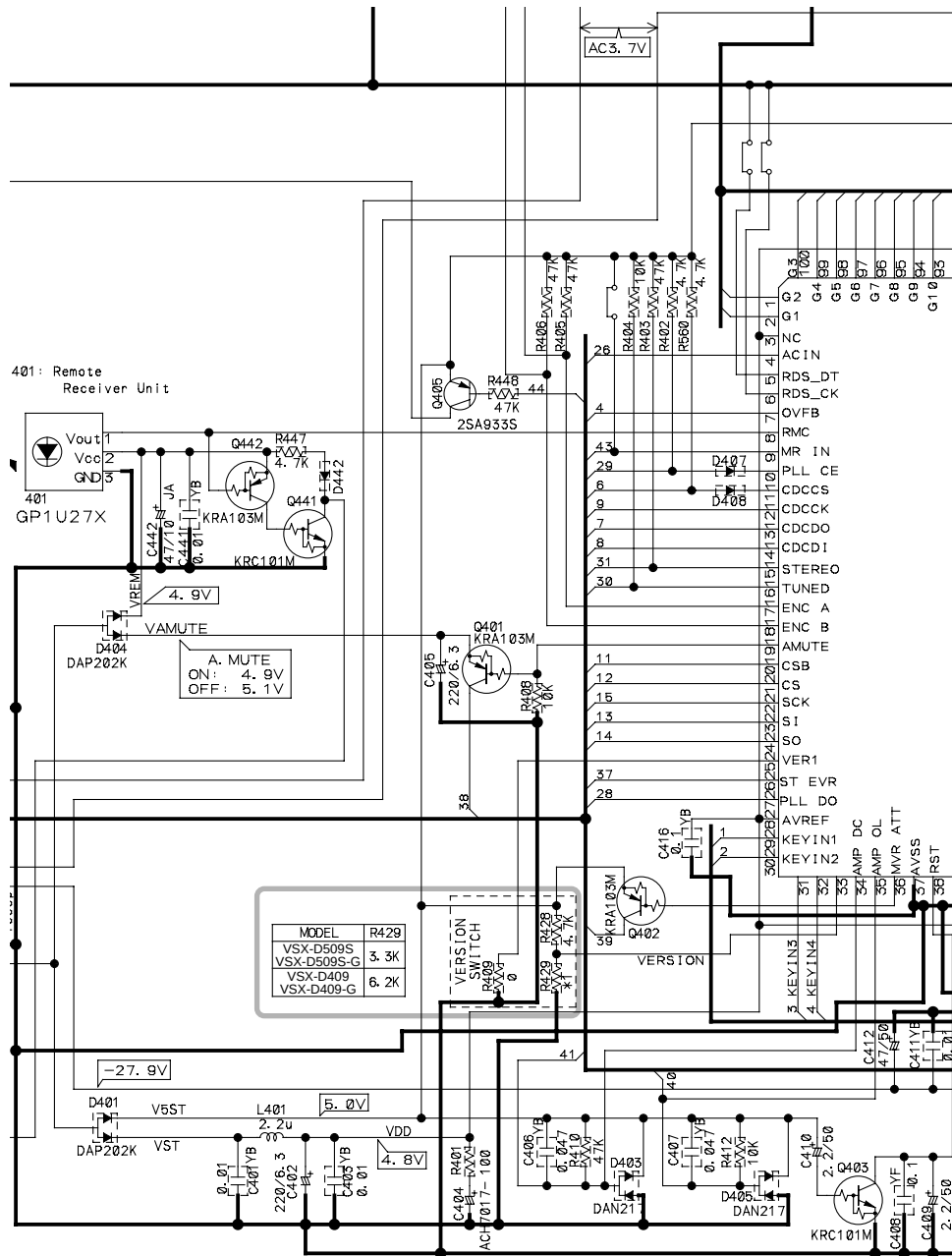


K F

FRONT ASSY

(VSX-D509S, VSX-D509S-G : AWX7485)

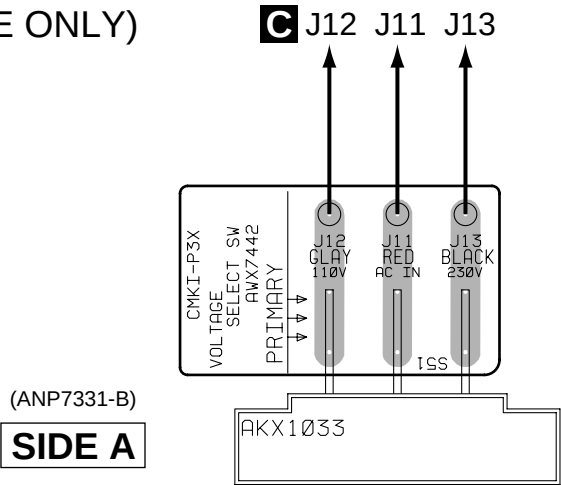
(VSX-D409, VSX-D409-G : AWX7481)



3. PCB CONNECTION DIAGRAM

3.1 VOLTAGE SELECT SW and TRANS1 ASSYS

SF VOLTAGE
SELECT SW ASSY
(BXJI TYPE ONLY)



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)

