

SERVICE INFORMATION

Date: Mar.26, 2002 No.: SI-H101060C-G (1/10)

MODEL No. * SER.No. S/M No. PG

See to following page

SYMPTOM # **DETAIL**
1 No power. There is a possibility that it may smoke.

CAUSE When the power MOSFET is damaged, protection circuit works and then the power condition turn into Stand-by. When the power is turned on in this condition, it will return to Stand-by after a few seconds. If the power is turned on repeatedly, smoke come out due to the explosion of the capacitor, because 100V will be supplied to the capacitor during power on.

SERVICE REMEDY 1 1) Change of AMP Assy (AZW7262)
2) Change of capacitors (C2013, C033, C053, C113, C2113) in V-AMP Assy
3) Paste of the white round label to around the serial label. (Difference by each model)
2 Paste the Speaker sheet and Cushion circle on the rear panel.

FACTORY COUNTER-MEASURE Circuit change of F-AMP Assy, R-AMP Assy and V-AMP Assy.
For the detail as follows;

----- Please refer to the following pages. -----

Please discard the previous service information SI-H01060B-G dated May.17,2001.

Addition to Service Remedy : To paste the Speaker sheet and Cushion circle on the Rear panel and add the Caution sheet. The separate parts as shown below will be able to supply the end of May. However Speaker sheet Assy, GXX1205 and GXX1207, will be able to supply early June.

<<Contents of the Speaker Sheet Assy>>

* GXX1207 (for North America models): ARM7056 x1, AAK7944 x1, AED7052 x1

* GXX1205 (for Europe and Asia models): ARM7056 x1, AAK7945 x1, AED7052 x1

<FACTORY COUNTERMEASURE>

F-AMP Assy : R2526, R2530, R2546, R2550, R2506, R2510 : RD1/4PUF391J --> RS1PMF391J, R2504, R2524, R2544 : RD1/4PU102J --> RS1PU122J

<provisional countermeasure>: Change of form the transistors Q2502, Q2522, Q2542

<permanent countermeasure>: Addition of the transistors Q2551, Q2552, Q2553 <--- Refer to page 15/15

R-AMP Assy : R2626, R2630, R2606, R2606, R2610 : RD1/4PUF391J --> RS1PMF391J, R2604, R2624 : RD1/4PU102J --> RD1/4PU122J

<permanent countermeasure>: Change of form the transistors Q2602, Q2622

V-AMP Assy : C2013, C2033, C2053, C2113, C2133 CEAT470M50 --> CEAT470M2A

Ref		CURRENT	PARTS	CO	NEW	PARTS
* #		SYMBOL/DESCRIPTION	PART NUMBER	DE	PART NUMBER	SYMBOL/DESCRIPTION
A	1		Add	-	AZW7262	AMP Assy
BC	2		Add	-	ARM7056	Caution Sheet
B	2		Add	-	AAK7944	Speaker Sheet
C	2		Add	-	AAK7945	Speaker Sheet
BC	2		Add	-	AED7052	Cushion circle
B	2		Add	-	GXX1207	Speaker Sheet Assy
C	2		Add	-	GXX1205	Speaker Sheet Assy

PIONEER CORPORATION

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Service Engineering Section
Service Division

NOTE: PARTS CODE

1: Changeable from old to new.

2: Not Interchangeable at all.

3: Interchangeable in both ways

5: Do not use old parts

Memo: TPL02-007 AN 71

Classify:

MODEL No.	*	SER.No.	S/M No.	PG
VSX-35TX/KUXJI/CA	A	unfixed	RRV2351	
VSX-33TX/KUXJI/CA	A	unfixed	RRV2351	
VSX-D709S/KUXJI/CA	A	unfixed	RRV2365	
VSX-859RDS/HYXJI	A	unfixed	RRV2378	
VSX-859RDS-G/HYXJI	A	unfixed	RRV2378	
VSX-859RDS/HVXJI	A	unfixed	RRV2378	
VSX-839RDS/HYXJI	A	unfixed	RRV2379	
VSX-839RDS/HVXJI	A	unfixed	RRV2379	
VSX-D859TX/BXJI	A	unfixed	RRV2403	
VSX-D859TXG/BXJI	A	unfixed	RRV2403	
VSX-D859TXG/HLXJI	A	unfixed	RRV2403	
VSA-D7EX/XJI/JP	A	unfixed	SMD00-277B	
VSA-D6TX/XJI/JP	A	unfixed	SMD00-276B	
VSX-35TX/KUXJI/CA	B	4251-	RRV2351	
VSX-33TX/KUXJI/CA	B	4101-	RRV2351	
VSX-D709S/KUXJI/CA	B	5901-	RRV2365	
VSX-859RDS/HYXJI	C	5751-	RRV2378	
VSX-859RDS-G/HYXJI	C	2501-	RRV2378	
VSX-859RDS/HVXJI	C	801-	RRV2378	
VSX-839RDS/HYXJI	C	6901-	RRV2379	
VSX-839RDS/HVXJI	C	701-	RRV2379	
VSX-D859TX/BXJI	C	601-	RRV2403	
VSX-D859TXG/BXJI	C	1001-	RRV2403	
VSX-D859TXG/HLXJI	C	201-	RRV2403	
VSA-D7EX/XJI/JP	D	2801-	SMD00-277B	
VSA-D6TX/XJI/JP	D	3601-	SMD00-276B	

VSX-35TX, D709S, 859RDS etc. Modification procedure

[Contents]

1 Necessary equipment and tools

2 Modification Procedure

3 Pictures

4 Idle current adjustment procedure

5 Check procedure after modification

6 Dielectric strength test

7 Marking position

1 Necessary equipment and tools

Equipment

	Equipment	Purpose	Remark
1	Slidac (Variable AC Power Supply)	Idle current adjustment	To keep Power supply voltage within +5%
2	Digital Multi-meter	Idle current adjustment	
3	Thermometer	Idle current adjustment	
4	Signal Generator	Performance Check	1KHz, 500mVrms output
5	8W dummy load (100W)	Performance Check	
6	Oscilloscope	Performance Check	
7	Noise Meter (or Milli Volt meter)	Performance Check	at least 0.1mV Range, Capable of 30Vrms
8	Speakers 5pcs	Operation Check	at least 2pcs
9	Dielectric strength tester	Performance Check	
10	Remote Control Unit	Idle current adjustment	Stop Watch also can be used instead.
11	DVD player	Operation Check	
12	DVD soft (Dolby Digital recorded)	Operation Check	

Tools

- 1 Screw Driver(+) (more than 150mm length)
- 2 Soldering Iron
- 3 RF Adjusting Driver
- 4 Pliers
- 5 Wire cutter

2 Modification Procedure

Caution

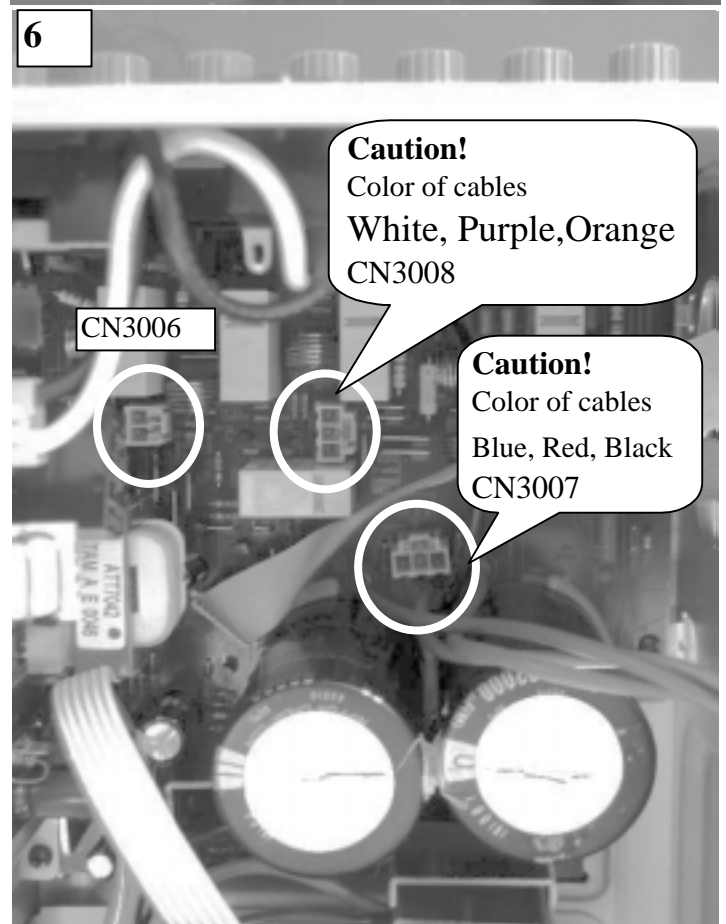
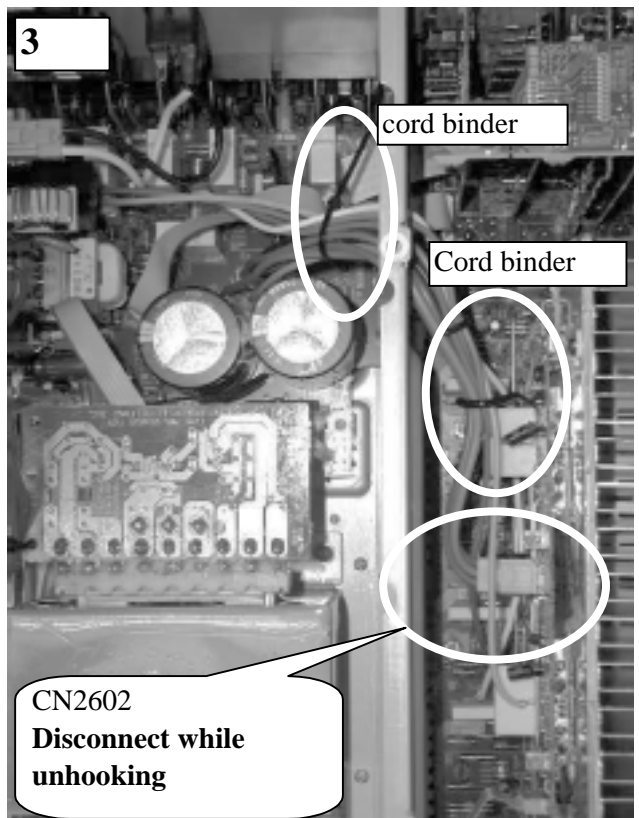
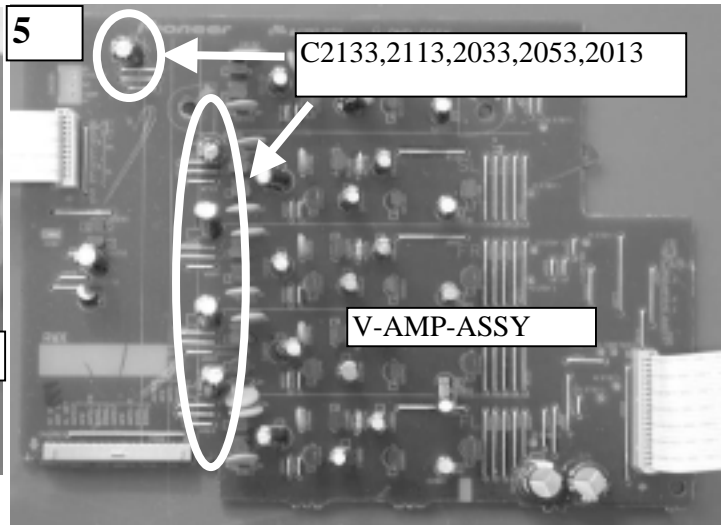
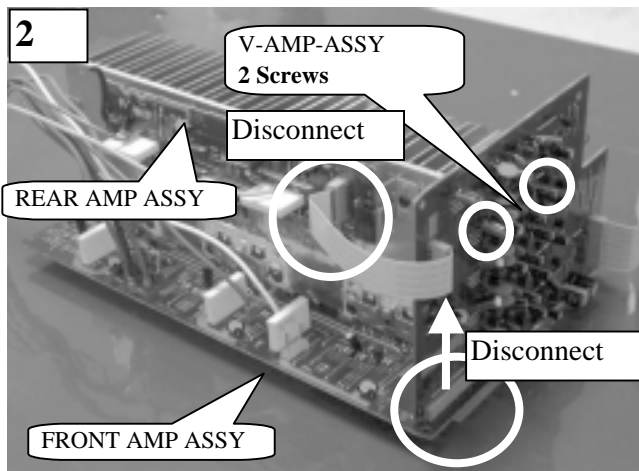
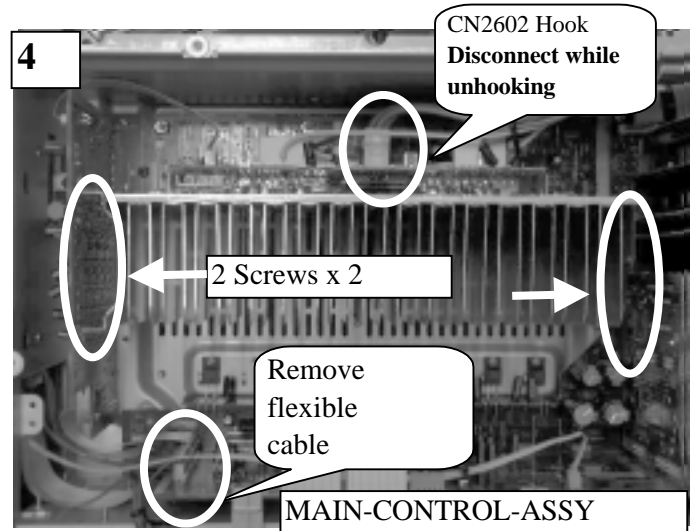
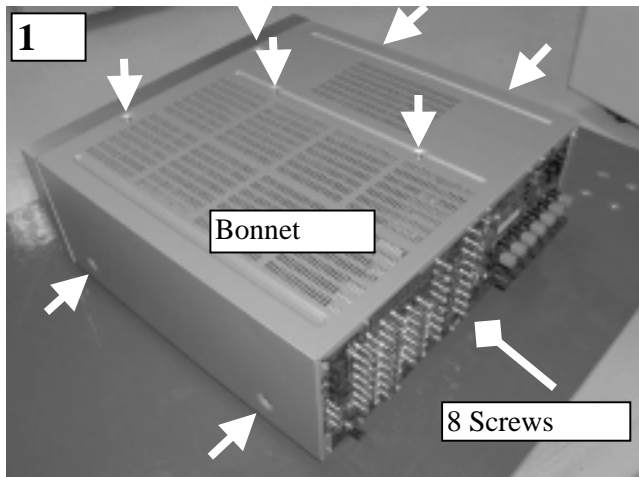
- * In order to discharge, make sure that the product has been left for one hour after disconnecting AC outlet.
- * In order to adjust precisely, AMP Assy has to be left for an hour in the room where the adjustment is performed.

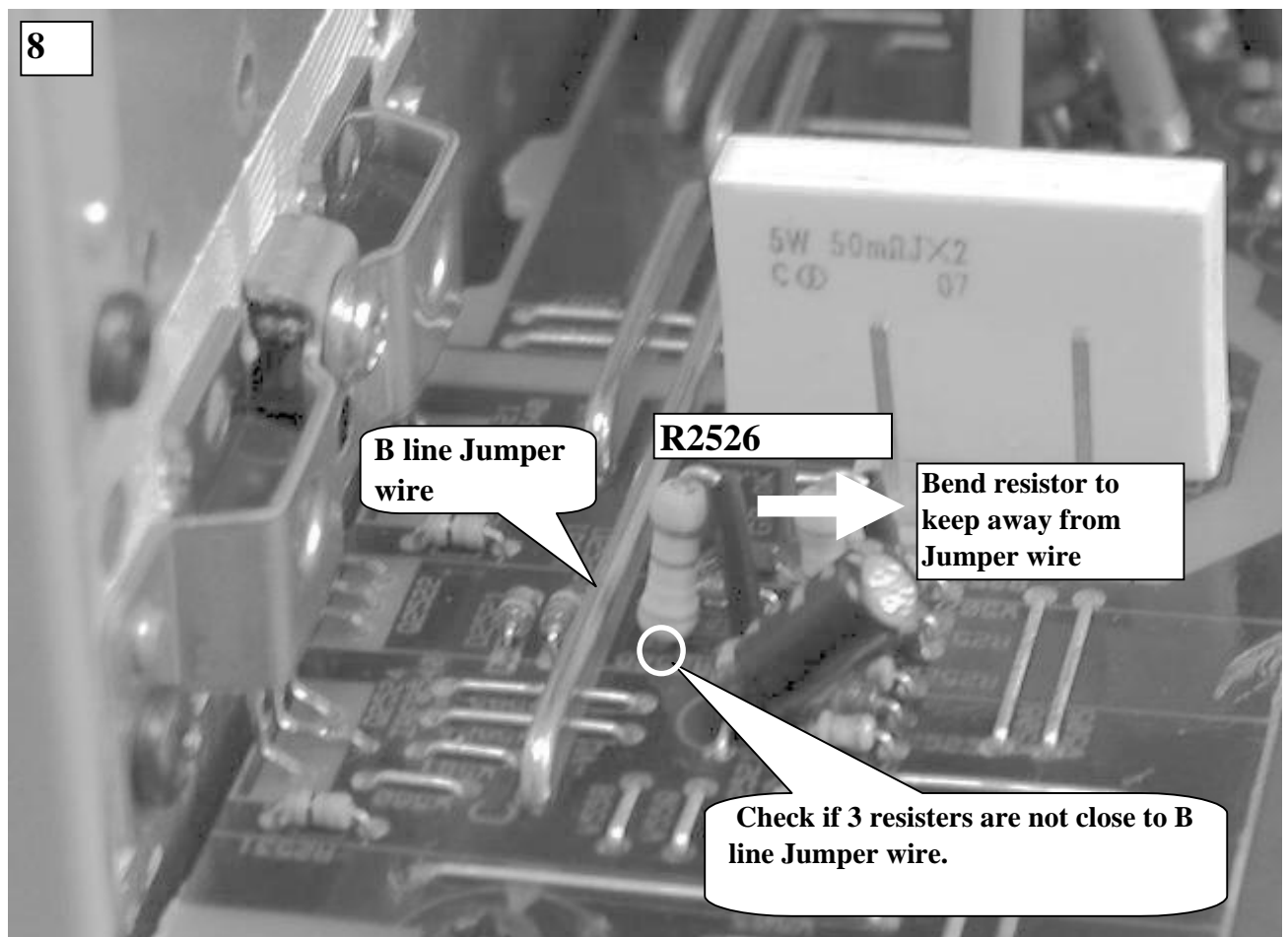
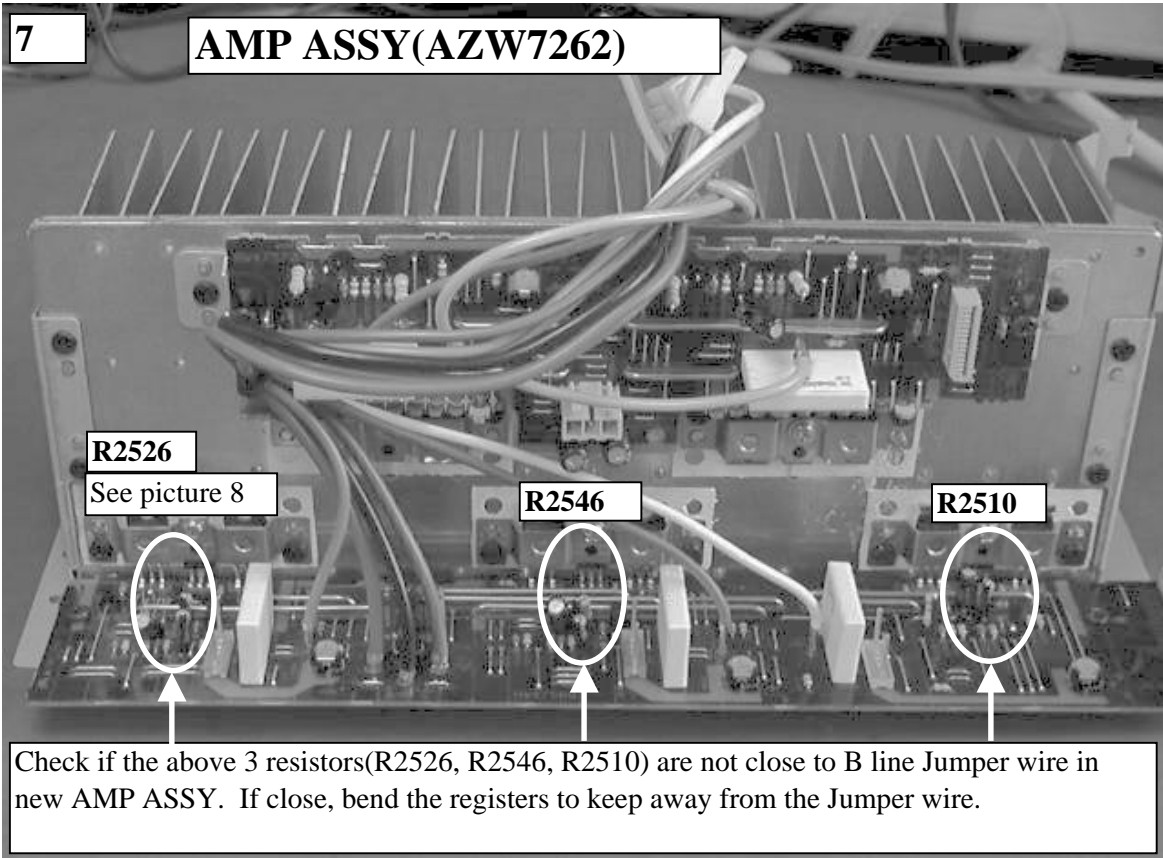
	Step	Description	Pict. No.
1	Unpacking	1. Cut a tape on the back side of the packing case. 2. Take out the product from the packing case.	
2	Unwrapping	1. Remove pads and wrapping sheet. 2. Put all the accessories, front & rear pads and wrapping sheet into packing	
3	Removing Bonnet	1. Remove 16 screws and remove the bonnet (8pcs.for rear, 2pcs for each left and right , 4pcs for top of the bonnet)	1
4	Removing AMP Assy	1. Remove 2 screws from each front and rear of the heat sink (total 4 pcs).	4
		2. Cut the cord binder near SP/PS Assy.	3
		3. Release another cord binder (reusable).	3
		4. Disconnect the connector (CN2602) from the R-AMP Assy.	3
		5. Disconnect 3 connectors(CN3006, CN3007, CN3008) from the SP/PS Assy. (Disconnect while pressing the hook of the male connector.)	6
		6. Remove the flexible cable from the connector(CN105) on Main Control Assy.	4
		7. Remove the AMP ASSY.	2
5	Removing V-AMP Assy	1. Disconnect the flat cable from CN2002 on V-AMP assy.	2
		2. Remove 1 screw from the heat sink and remove the thermistor. (HY,HV,B,HL model only)* 3. Remove 2 screws from V-AMP assy and take out V-AMP assy from the Heat Sink.	2
6	Replacing capacitors on V-AMP Assy	1. Replace 5 Capacitors (C2013,C2033,C2053,C2113,C21333) on V-AMP CEAT470M50 -> CEAT470M2A Since the foil pattern is easily damaged, cut the legs of the capacitor before removing the solder. Check the contact by using multi meter after If foil pattern is damaged, replace V-AMP ASSY.	5 9,10
		2. Install V-AMP ASSY to the H.S angle of the new AMP ASSY with 2 screws.	2
		3. Install the thermistor to the heat sink with 1 screw. (HY,HV,B,HL model	
		4. Connect the flexible cable to the connector (CN2002) on V-AMP Assy.	2
7	Installing AMP Assy	1. Check if 3 registers are not close to B line Jumper wire in new AMP ASSY. If close, bend the registers to keep away from B line Jumper wire.	7,8
		2. Install the new AMP ASSY to the unit with 4 screws.	4
		3 Reconnect the wires from the new AMP ASSY to the 3 connectors (CN3006, CN3007 and CN3008) on SP/PA assy. The color of wires is printed near each connectors on the PS/PA ASSY.	6
		4. Reconnect the wire from SP/PA assy to CN2602 on R-AMP assy.	4
		5. Secure the wires with cord binder.	3
		6. Secure the wires near the SP/PS assy with cord binder.	3
		7. Reconnect the flexible cable to the connector(CN105) on the Main Control Assy.	4
8	Adjustment	Refer to the attached "4 Idle current adjustment procedure".	
9	Install the Bonnet	Install the bonnet (8pcs: rear, 2pcs: each left and right , 4pcs: top of the bonnet)	1
10	Performance Check & Operation check	Refer to the attached "5 Check procedure after modification".	
11	Dielectric strength test	Perform the Dielectric test (Refer to "Dielectric strength test").	
12	Marking	Attach a marking sticker (White) on the rear panel (refer to the attached sheet).	
13	Wrapping	Wrap the unit with wrapping sheet and attach with tape.	
14	Packing	1. Fit the front and rear pad to the unit and put back into the packing case.	
		2. Close the packing case with tape.	
15	Stamp "V"	Stamp "V" mark in the Ref. No. frame on the packing case.	

* mark are (/HY,HV,B,HL model only)

3 Pictures

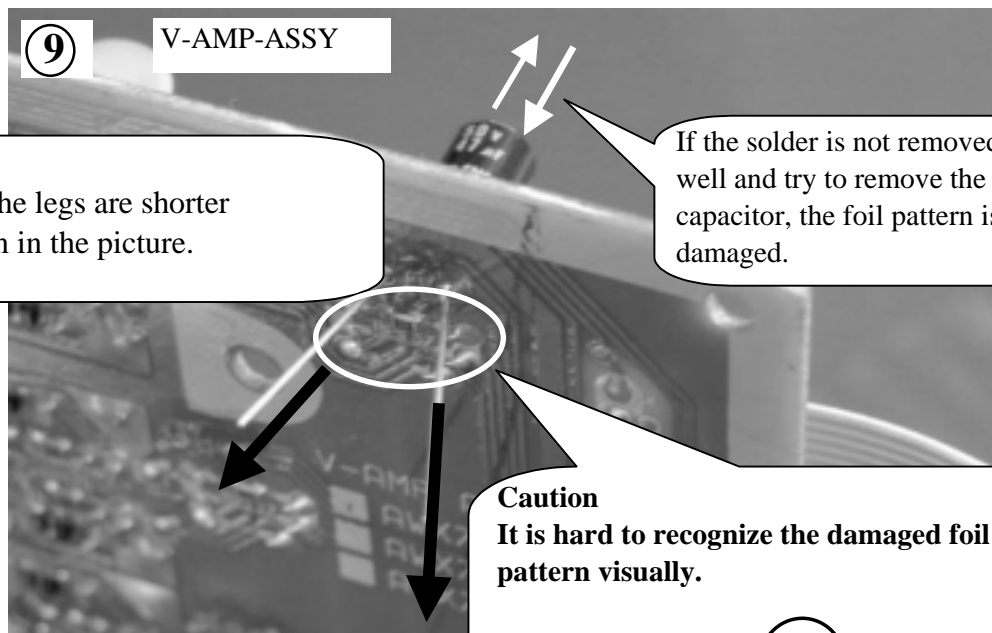
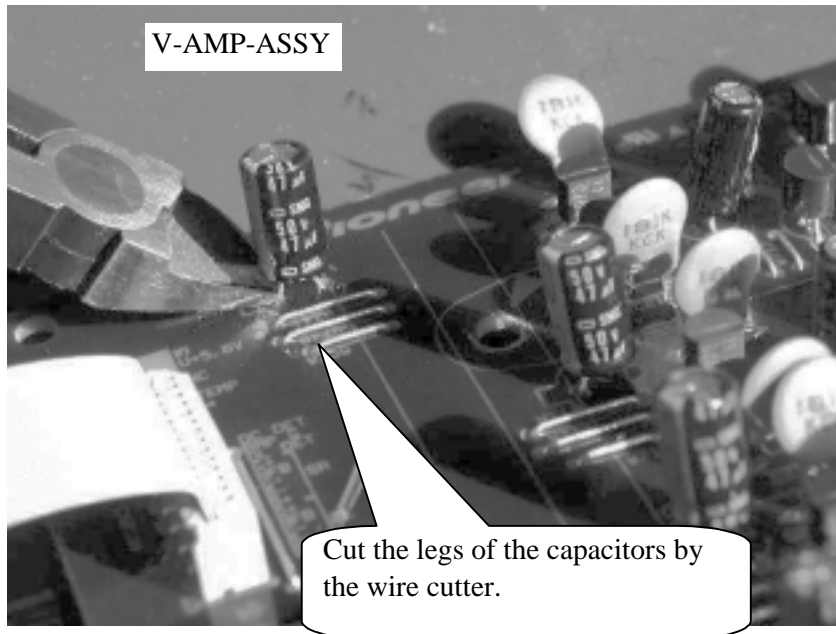
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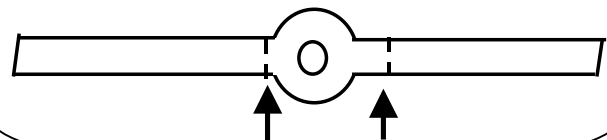


How to replace the capacitors in V-AMP ASSY

Since the foil pattern is easily damaged, cut the legs of the capacitor before removing the solder.



After cutting the legs of the capacitor, remove the solder and take out the legs carefully.



Check the contact of the foil pattern by using multi-meter after replacing capacitors.
(If foil pattern is damaged, replace V-AMP ASSY.)

4 Idle current adjustment procedure

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<Adjustment point and preparation>

- 1 Since it is necessary to perform the Initial adjustment within 1.5 minutes after power on, confirm the procedure before the adjustment.
- 2 Perform the idle adjustment with no dummy load and no input signal.
- 3 Since adjustment value is different depending on the room temperature, confirm the adjustment value before the adjustment.
- 4 Make sure that the AC outlet is within +5% of AC power supply. (If not, use variable AC power supply.)
- 5 Set up the remote control unit for Test Mode
 - 1) Set USE-SETUP-SW to "SETUP"
 - 2) Press [1] while pressing [INPUT/ATT]
 - 3) Press [CD] -->[5]-->[5]-->[6]-->[INPUT/ATT]
 - 4) Set USE-SETUP-SW to "USE"
 Then the remote control unit can transmit the test mode command.

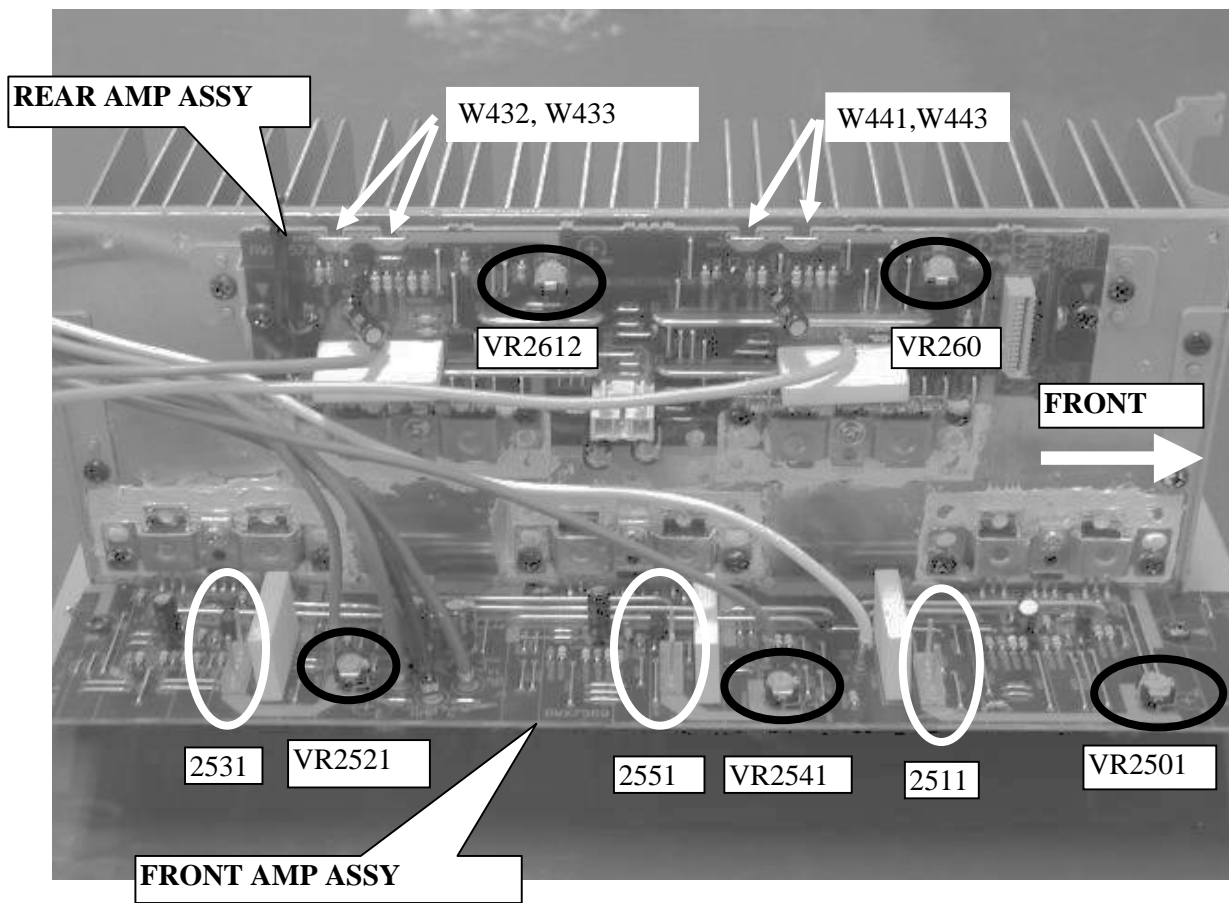
Step	Adjustment Channel	Adjustment point	Measuring point
1	SL ch	VR2601	W441 - W443
2	SR ch	VR2612	W432 - W433
3	FL ch	VR2501	Both side of 2511
4	C ch	VR2541	Both side of 255
5	FR ch	VR2521	Both side of 2531

<Procedure>

- 1) Minimize all the adjustment VR VR2601,2612,2501,2541,2521 (Counterclockwise)
- 2) Make sure that the AC inlet is disconnected
- 3) Connect the AC inlet
- 4) In Standby mode, enter the test mode by the remote control unit
How to enter the test mode : [CD] -->[ENTER]
- 5) Confirm the Relay ON sound 7 seconds later after entering test mode
- 6) Press MULTI JOG on the front panel (Timer display start)
- 7) Perform the initial adjustment in order of SR - SL - FL - C - FR
- 8) Perform the final adjustment after 15 min..

Adjustment Value

Power Supply Voltage	Room Temperature (Celsius)	Initial Adjustment	Final Adjustment
Rated Power supply voltage +5%	5.0-9.9 degrees centigrade	7.0 ± 0.5 mV	4.5 ± 0.3 mV
	10.0-14.0	6.0 ± 0.5 mV	4.0 ± 0.3 mV
	15.0-19.9	5.0 ± 0.5 mV	3.5 ± 0.3 mV
	20.0-24.9	4.0 ± 0.5 mV	3.0 ± 0.3 mV
	25.0-29.9	3.0 ± 0.5 mV	2.5 ± 0.3 mV
	30.0-34.9	2.5 ± 0.5 mV	2.0 ± 0.3 mV
	35.0-	2.0 ± 0.5 mV	1.5 ± 0.3 mV
Elapsed time after power on		0:00-01:30	15:00



5 Check procedure after modification

- * The following procedure is mentioned to check by one channel.
However if the AC power supply is with in +5% and the capable of dummy load is enough, it is possible to check by 2 channels.

<Procedure>

1) Performance Check

- 1 Connect the Dummy Load (8ohm) to front Lch
 - 2 Connect the Oscilloscope to the Dummy Load
 - 3 Connect the signal generator to the Multi ch Input(Front L ch)
 - * Signal Generator output signal : 1KHz Sine wave , approx. 400mVrms
 - 4 Turn the power on
 - 5 Make sure FL is displayed.
 - 6 Minimize main volume
 - 7 By using jog dial, select "Assign Set Up"--> "Multi Channel In"
 - Select "MULTI CHANNEL IN" and Press MULTI JOG
 - Select "BYPASS" by rotating MULTI JOG and then press MULTI JOG
 - 8 Press speaker button for 3 seconds. Check FL if the speaker impedance is set to 8ohm.
 - If 6ohm is displayed on FL, switch to 8ohm
 - 9 Check the output Signal
 - Select MULTI mode by pressing MULTI Channel In.
 - Input the sine wave signal (1kHz, Approx. 400m Vrms)
 - Turn the main volume gradually up and make sure to be clipped at nearly 28Vrms(80Vp-p) by oscilloscope. Also check if there is no distortion in wave form.
- Note) Clip point is changed depending on the power supply voltage.
If the Clip point is changed a lot, check the power supply voltage.
- 10 Check the remaining noise
 - Connect the Milli Volt Meter to Dummy load.
 - Turn the main volume to minimum and measure the remaining noise by the Milli Volt Meter.
 - Standard : Less than 1.5mV
 - 11 Perform the above procedure for Center ch, Front Rch, Surround Lch, Surround Rch

Cancel the Multi mode by pressing MULTI Channel In.

Operation check

- 1 Connect Front L&R ch, Center ch, Rear L&R to speakers
- 2 Connect digital output of DVD player to digital input (DVD)
- 3 Turn the power on
- 4 Play DVD (with source of Dolby digital software)
- 5 Set STANDARD by pressing DSP mode button
- 6 Turn main volume up and check if sound from speakers of all the speakers.

Set function to the factory shipment position

(The unit can store the setting data for 1 week after disconnect the AC plug.)

- 1 Main volume : MIN
- 2 Function : DVD
- 3 STANDBY power : OFF (STANDBY)
- 4 Main Power : OFF

6 Dielectric strength test

Destination	Dielectric strength test			Dielectric resistance test		
	Test Voltage	Testing Time	Cut off current	Test Voltage	Testing Time	Standard
KU, CA	AC1250V \pm 40V	1.5 \pm 0.5sec.	5mA	DC500V	1.5 \pm 0.5sec.	More than 2Mohm
HY, HL	AC3400V \pm 100V	3.0 \pm 0.5sec.	5mA	DC500V	1.5 \pm 0.5sec.	More than 4Mohm
HV, B	AC3400V \pm 100V	3.0 \pm 0.5sec.	5mA	DC500V	3.0 \pm 0.5sec.	More than 4Mohm

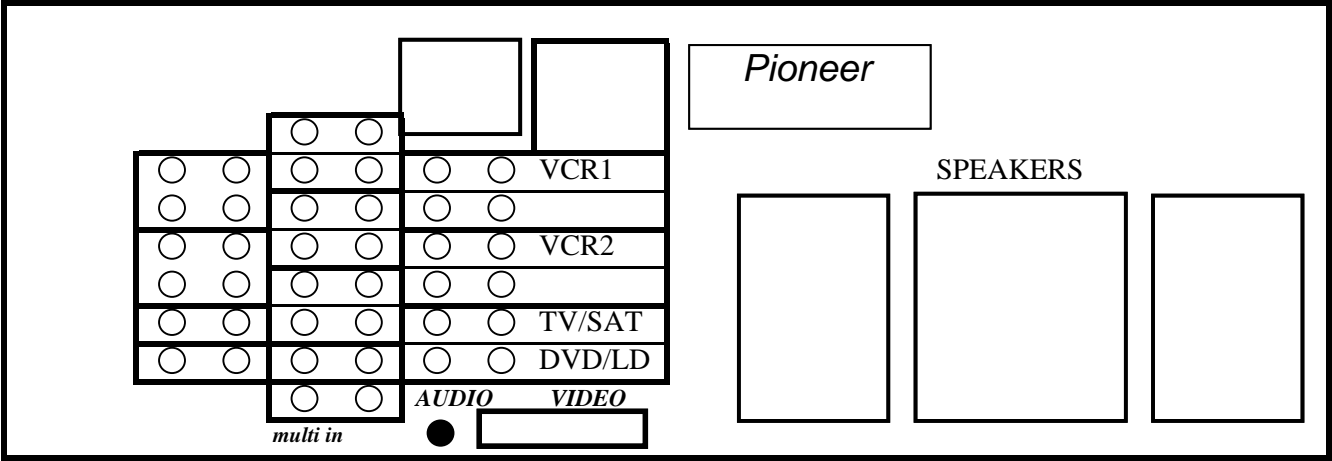
7 Marking position

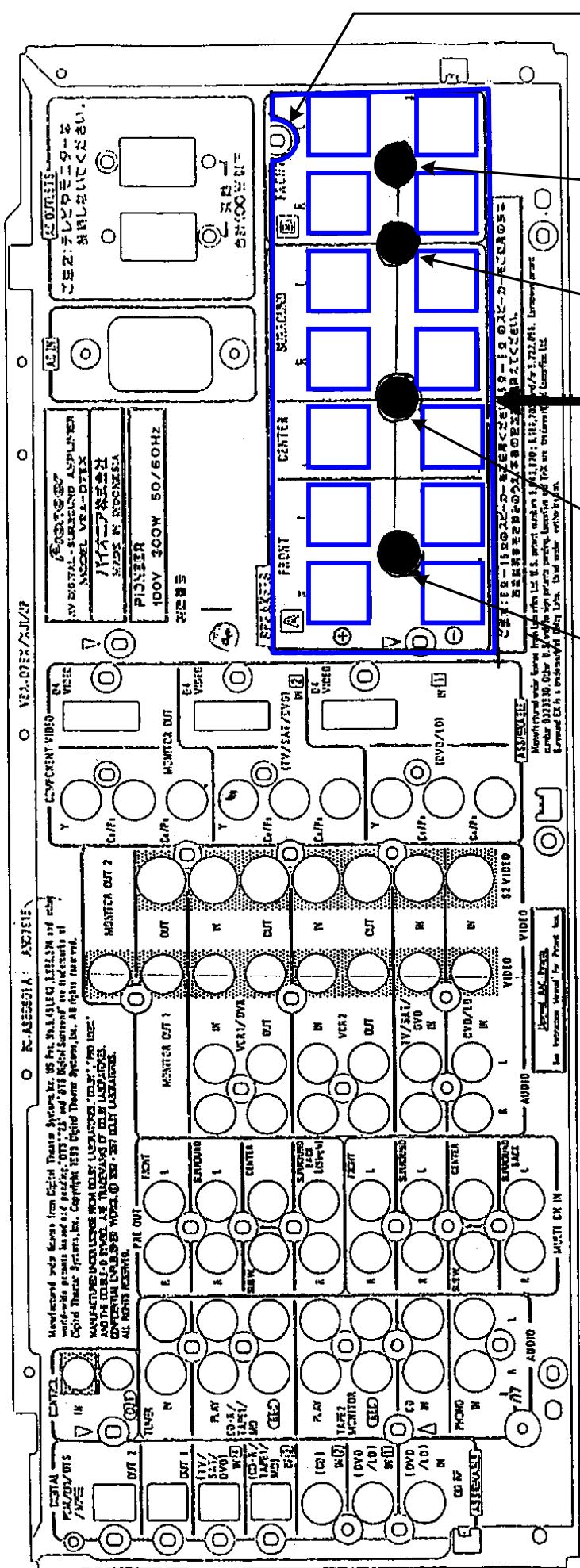
Product	Marking position
VSA-D7EX VSX-839RDS VSA-D6TX	
VSX-859RDS VSX-33TX VSX-35TX VSX-D709S	
VSX-D859TXG/HLXJI	



Product
VSX-D859TX VSX-D859TXG/BXJ I

Rear Panel





<PROCEDURE>

- 1) To strip the paper from the couple-face tape on Speaker Sheet
- 2) To paste the Speaker Sheet so as to fit the hollow for the Screw.
- 3) To paste the Cushion Circles on the Screws' head.

Attention to the direction
2) To paste the Speaker Sheet
so as to fit the hollow for the
Screw.

Speaker Sheet

For Japan & North America	For Europe & the others
↑ mark X	↑ mark ○

3) To paste the Cushion
Circles on Screws.

