

STR-DB795

SERVICE MANUAL

Ver 1.0 2004.10

AEP Model
UK Model
E Model
Australian Model



This receiver incorporates Dolby* Digital and Pro Logic Surround and the DTS** Digital Surround System.

* Manufactured under license from Dolby Laboratories.

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

SPECIFICATIONS

Amplifier section

POWER OUTPUT

Models of area code AEP, UK, TW, KR, AUS

Rated Power Output at Stereo Mode

(8 ohms 1 kHz, THD 0.7%)

100 W + 100 W²⁾

90 W + 90 W³⁾

Reference Power Output²⁾

(8 ohms 20 Hz–20 kHz, THD 0.09%)

FRONT¹⁾: 90 W + 90 W

CENTER¹⁾: 90 W

SURR¹⁾: 90 W + 90 W

SURR BACK¹⁾: 90 W + 90 W

(8 ohms 1 kHz, THD 0.7%)

FRONT¹⁾: 100 W + 100 W

CENTER¹⁾: 100 W

SURR¹⁾: 100 W + 100 W

SURR BACK¹⁾: 100 W + 100 W

(8 ohms 1 kHz, THD 10%)

FRONT¹⁾: 110 W + 110 W

CENTER¹⁾: 110 W

SURR¹⁾: 110 W + 110 W

SURR BACK¹⁾: 110 W + 110 W

Models of area code SP, MY

Rated Power Output at Stereo Mode

(8 ohms 1 kHz, THD 0.7%)

90 W + 90 W²⁾

Reference Power Output²⁾

(8 ohms 1 kHz, THD 0.7%)

FRONT¹⁾: 90 W + 90 W

CENTER¹⁾: 90 W

SURR¹⁾: 90 W + 90 W

SURR BACK¹⁾: 90 W + 90 W

STR-DB795

- 4) INPUT SHORT.
5) Weighted network, input level.

Inputs (Digital)	
DVD (Coaxial)	Impedance: 75 ohms S/N: 100 dB (A, 20 kHz LPF)
DVD, TV/SAT, MD, VIDEO3 (Optical)	S/N: 100 dB (A, 20 kHz LPF)
Outputs	
MD/TAPE (REC OUT), VIDEO 1, 2 (AUDIO OUT)	Voltage: 150 mV Impedance: 2.2 kilohms
SUB WOOFER	Voltage: 2 V Impedance: 1 kilohms
EQ	
Gain levels	±10 dB, 1 dB step

FM tuner section

Tuning range	87.5 - 108.0 MHz
Antenna	FM wire antenna
Antenna terminals	75 ohms, unbalanced
Intermediate frequency	10.7 MHz
Sensitivity	
Mono:	18.3 dBf, 2.2 μV/75 ohms
Stereo:	38.3 dBf, 22.5 μV/75 ohms
Useable sensitivity	11.2 dBf, 1 μV/75 ohms
S/N	
Mono:	76 dB
Stereo:	70 dB
Harmonic distortion at 1 kHz	
Mono:	0.3%
Stereo:	0.5%
Separation	45 dB at 1 kHz
Frequency response	30 Hz – 15 kHz, +0.5/−2 dB
Selectivity	60 dB at 400 kHz

AM tuner section

Tuning range	
Models of area code AEP, UK, SP, MY, TW, KR, AUS	
With 9-kHz tuning scale	531 – 1,602 kHz
Antenna	Loop antenna
Intermediate frequency	450 kHz
Usable sensitivity	50 dB/m (at 1,000 kHz or 999 kHz)
S/N	54 dB (at 50 mV/m)
Harmonic distortion	0.5% (50 mV/m, 400 Hz)
Selectivity	
At 9 kHz:	35 dB

Video section

Inputs/Outputs	
Video:	1 Vp-p, 75 ohms
S-video:	Y: 1 Vp-p, 75 ohms C: 0.286 Vp-p, 75 ohms
COMPONENT VIDEO:	Y: 1 Vp-p, 75 ohms B-Y: 0.7 Vp-p, 75 ohms R-Y: 0.7 Vp-p, 75 ohms 80 MHz HD Pass Through

General

Power requirements	
Area code	Power requirements
AEP, UK	230 V AC, 50/60 Hz
AUS	240 V AC, 50 Hz
SP, MY	220–230 V AC, 50/60 Hz
TW	110 V AC, 60 Hz
KR	220–230 V AC, 50/60 Hz
Power consumption	
Area code	Power consumption
AEP, UK, SP, MY, KR, AUS	270 W
TW	650 W

Power consumption (during standby mode)	
	0.3 W (when “POWER SAVE” in the CUSTOMIZE menu is set to “ON”)
Dimensions	430 × 161 × 400 mm including projecting parts and controls
Mass (Approx.)	14.5 kg

Supplied accessories

FM wire antenna (1)
AM loop antenna (1)
Remote commander RM-PP413 (1)
R6 (size-AA) batteries (2)

Design and specifications are subject to change without notice.

- Abbreviation
AUS : Australian model
KR : Korean model
MY : Malaysia model
SP : Singapore model
TW : Taiwan model

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety check before releasing the set to the customer:

Check the antenna terminals, metal trim, “metallized” knobs, screws, and all other exposed metal parts for AC leakage.

Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes.).

Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The “limit” indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

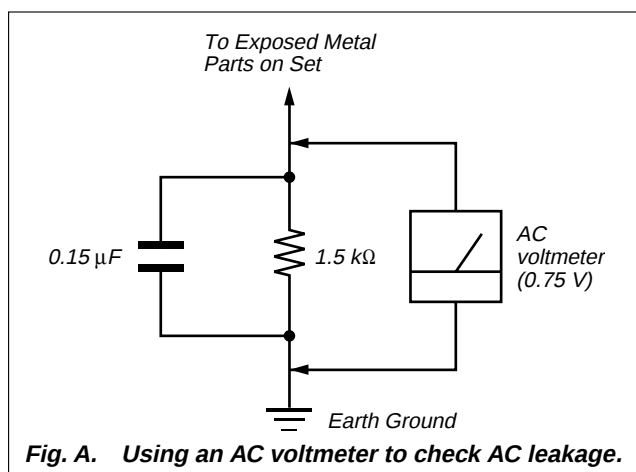


Fig. A. Using an AC voltmeter to check AC leakage.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK $\triangle$ OR DOTTED LINE WITH MARK $\triangle$ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

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SECTION 1
SERVICING NOTES

• MODEL IDENTIFICATION

– Back Panel –



Model	PART No.
AEP and UK models	4-050-932-0□
Singapore and Malaysia models	4-050-932-2□
Australian model	4-050-932-3□
Taiwan model	4-050-932-4□
Korean model	4-050-932-5□

UNLEADED SOLDER

Boards requiring use of unleaded solder are printed with the lead-free mark (LF) indicating the solder contains no lead.
(Caution: Some printed circuit boards may not come printed with the lead free mark due to their particular size)

LF : LEAD FREE MARK

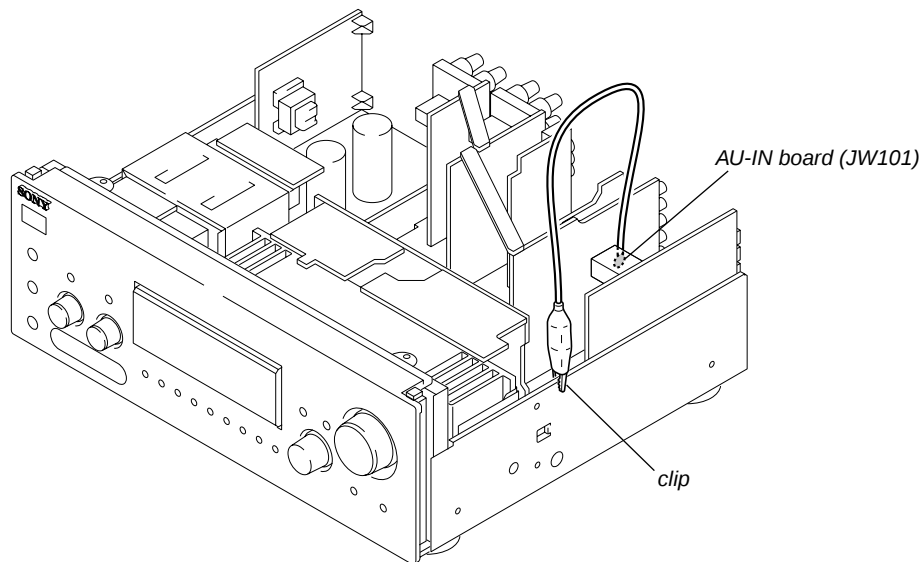
Unleaded solder has the following characteristics.

- Unleaded solder melts at a temperature about 40 °C higher than ordinary solder.
Ordinary soldering irons can be used but the iron tip has to be applied to the solder joint for a slightly longer time.
Soldering irons using a temperature regulator should be set to about 350 °C.
Caution: The printed pattern (copper foil) may peel away if the heated tip is applied for too long, so be careful!
- Strong viscosity
Unleaded solder is more viscous (sticky, less prone to flow) than ordinary solder so use caution not to let solder bridges occur such as on IC pins, etc.
- Usable with ordinary solder
It is best to use only unleaded solder but unleaded solder may also be added to ordinary solder.

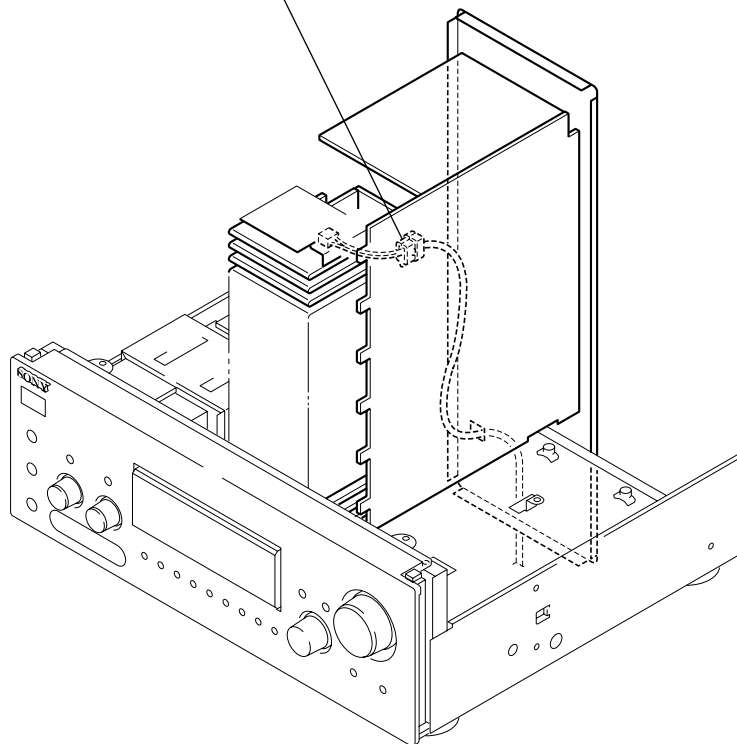
SERVICE POSITION

[Connecting the clip for GND]

When checking without back panel, it is necessary to connect the clip for GND to a chassis.



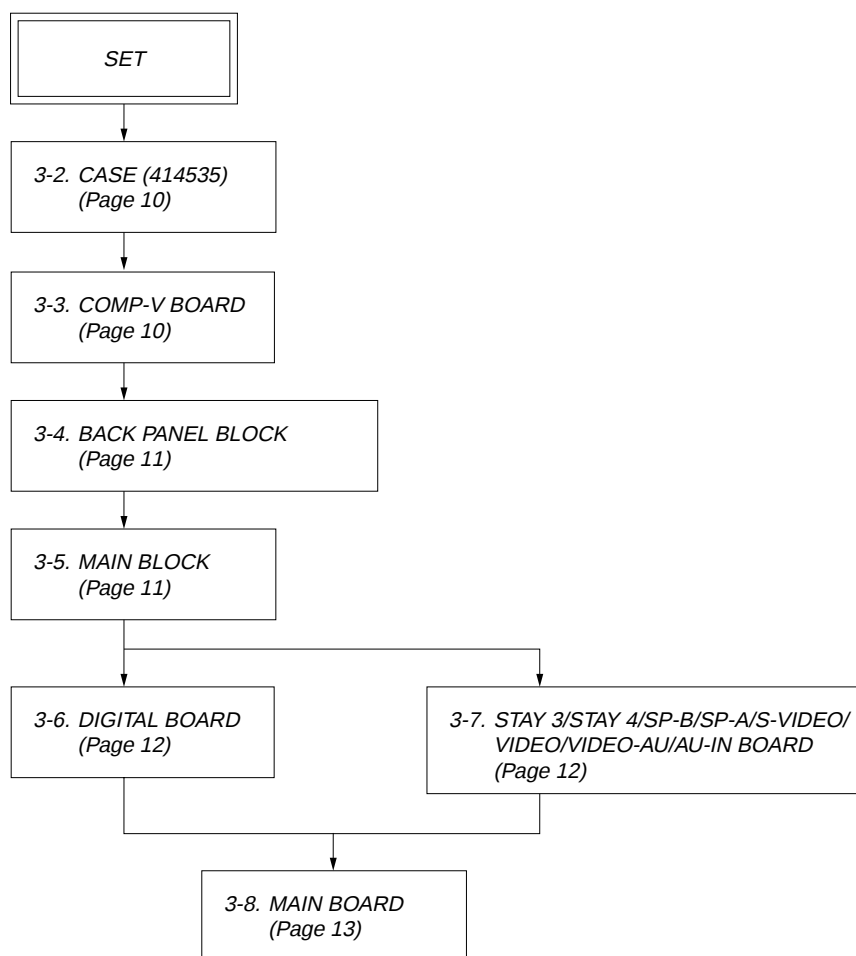
It is necessary to remove cord bushing from back panel.



SECTION 3 DISASSEMBLY

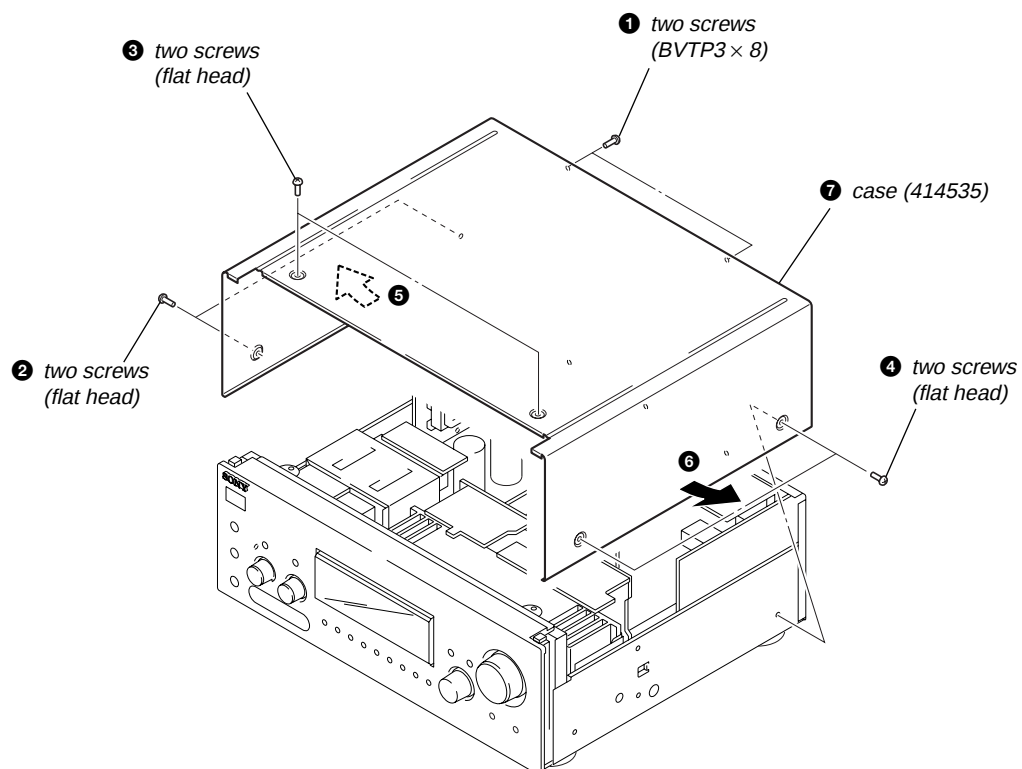
- This set can be disassembled in the order shown below.

3-1. DISASSEMBLY FLOW

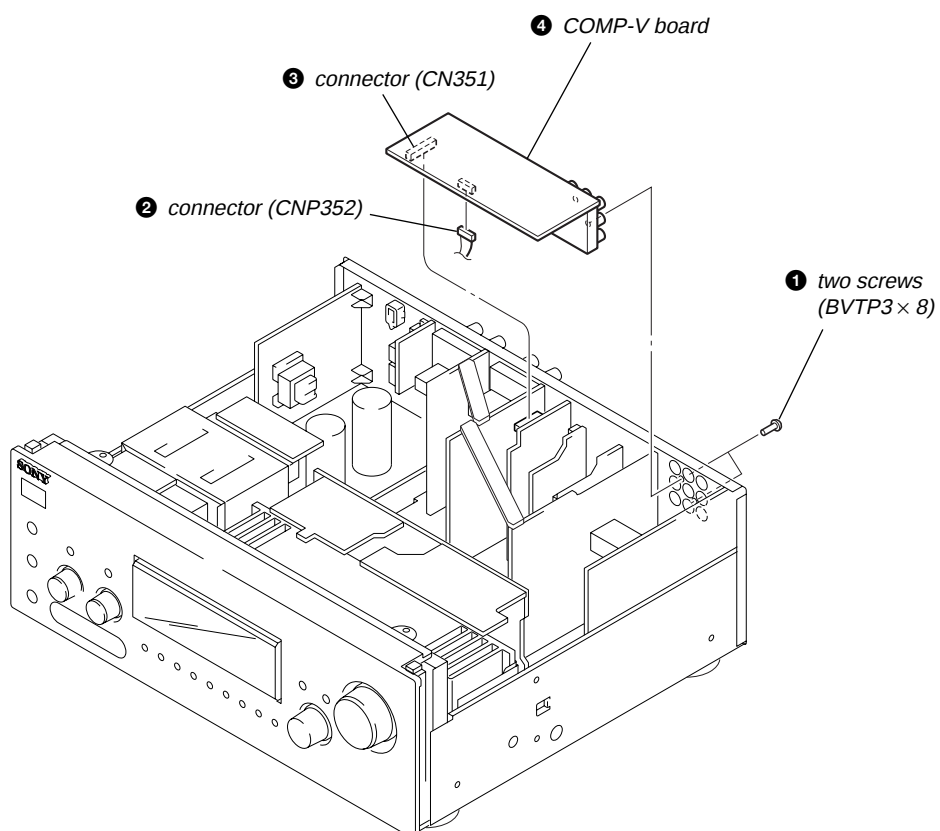


Note: Follow the disassembly procedure in the numerical order given.

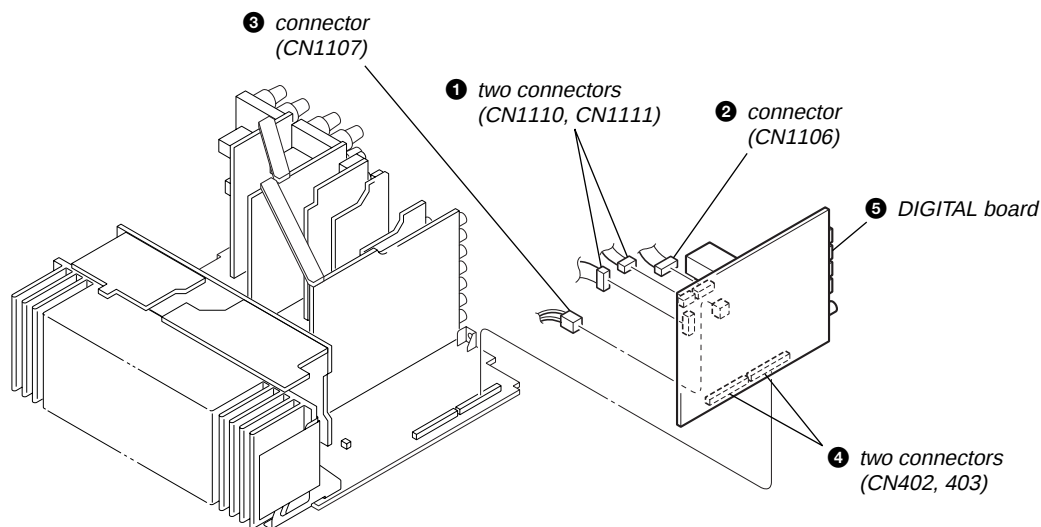
3-2. CASE (414535)



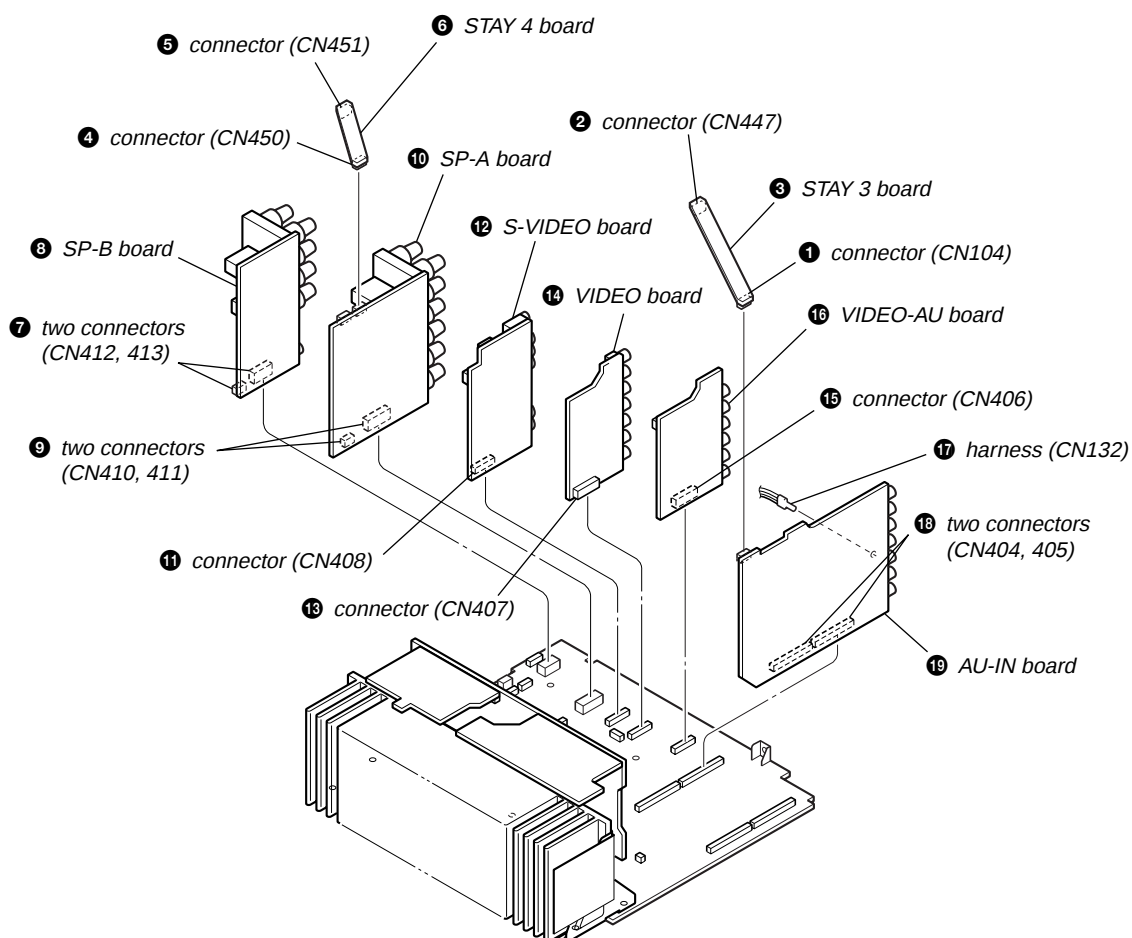
3-3. COMP-V BOARD

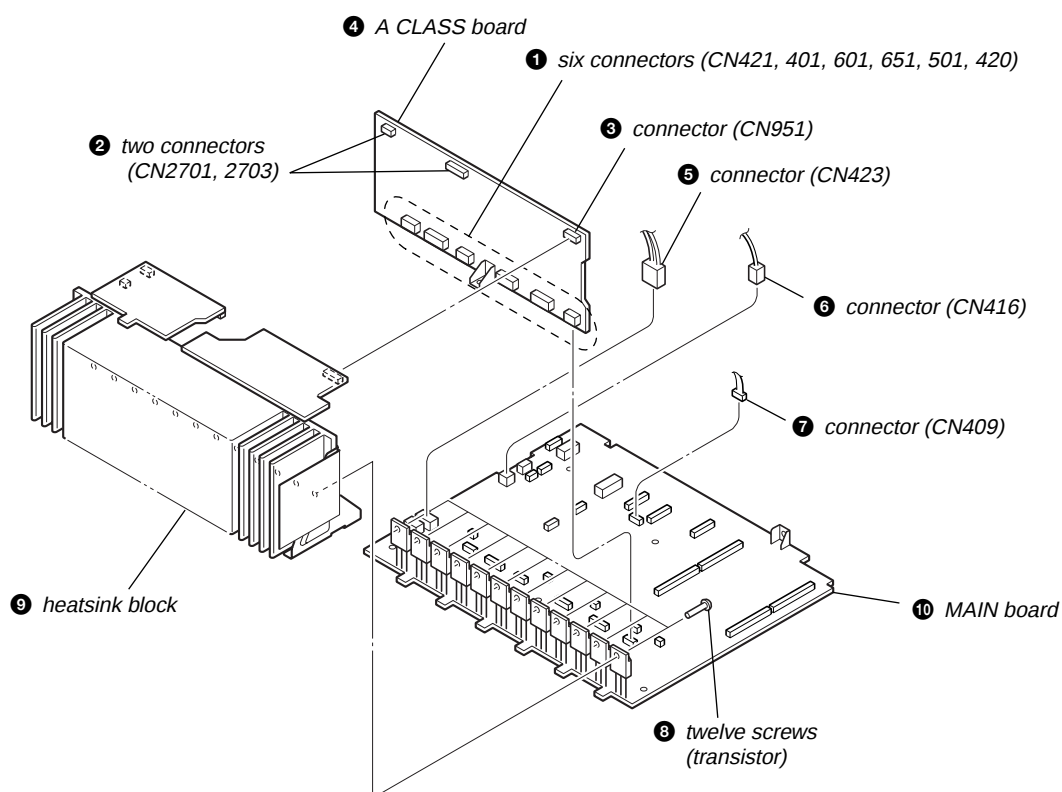


3-6. DIGITAL BOARD



3-7. STAY 3/STAY 4/SP-B/SP-A/S-VIDEO/VIDEO/VIDEO-AU/AU-IN BOARD



3-8. MAIN BOARD

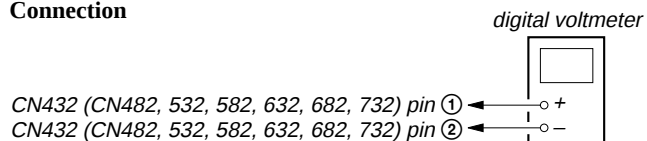
SECTION 5 ELECTRICAL ADJUSTMENTS

BIAS ADJUSTMENT

Condition:

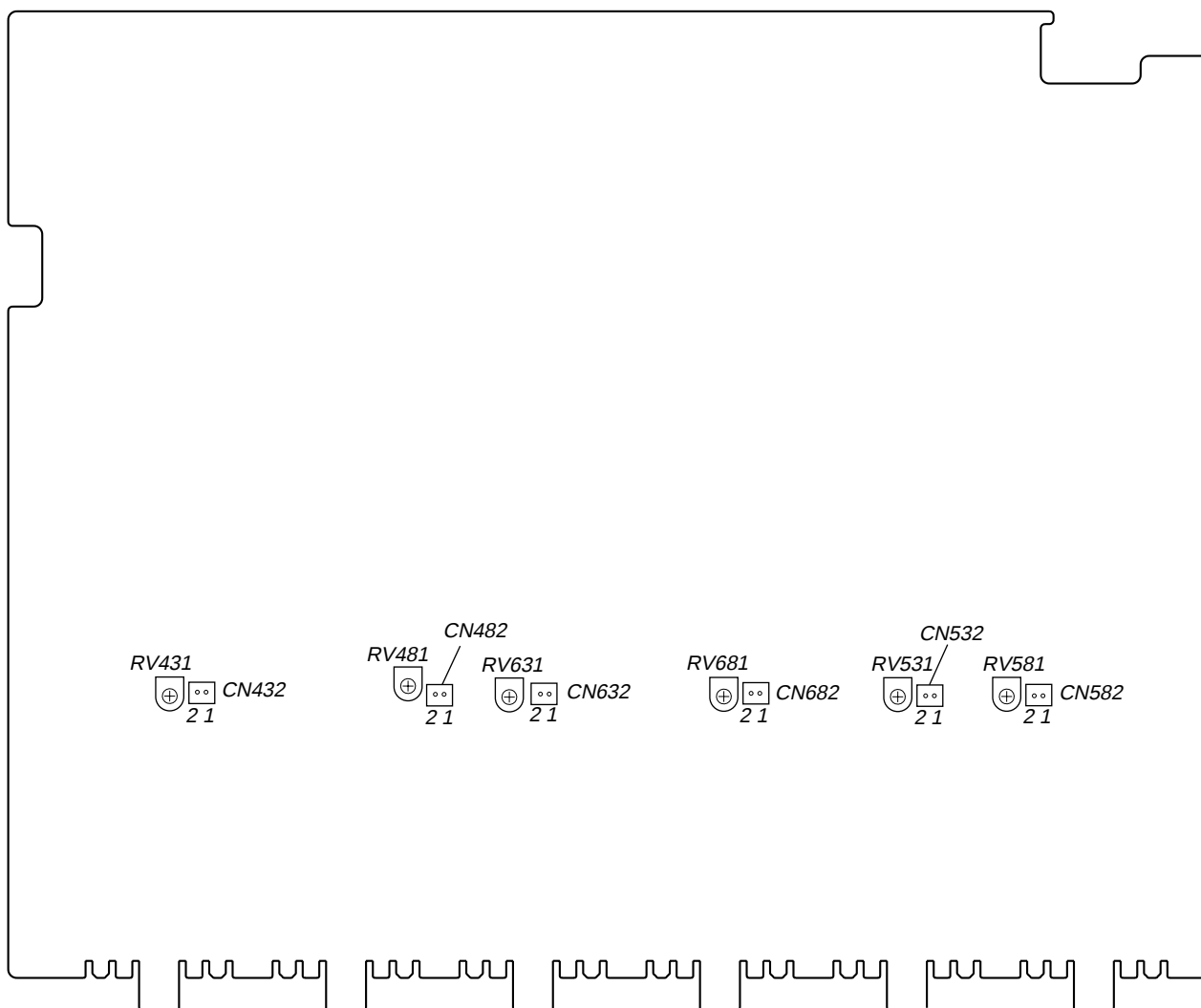
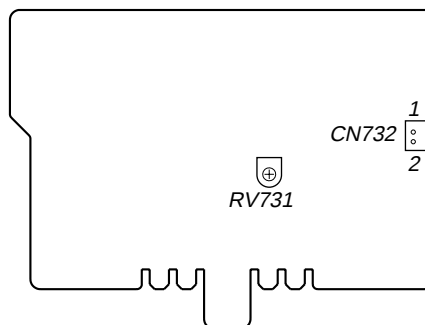
input signal: no signal (no load)

volume: minimum

Connection

Procedure:

1. Connect a digital voltmeter to the CN432 (CN482, CN532, CN582, CN632, CN682) on the MAIN board or CN732 on the SBL board.
2. Press the  button to turn on the main power.
3. Adjust the RV431 (RV481, RV531, RV581, RV631, RV681) on the MAIN board or RV731 on the SBL board so that the digital voltmeter reading is 15 ± 2 mV.

Note: When the adjusting voltage is higher than 15 ± 2 mV, adjust the voltage to the minimum voltage.

Adjustment and Connection Location:
– MAIN BOARD (Component Side) –

– SBL BOARD (Component Side) –


MEMO

