

GENERAL ADJUSTMENTS

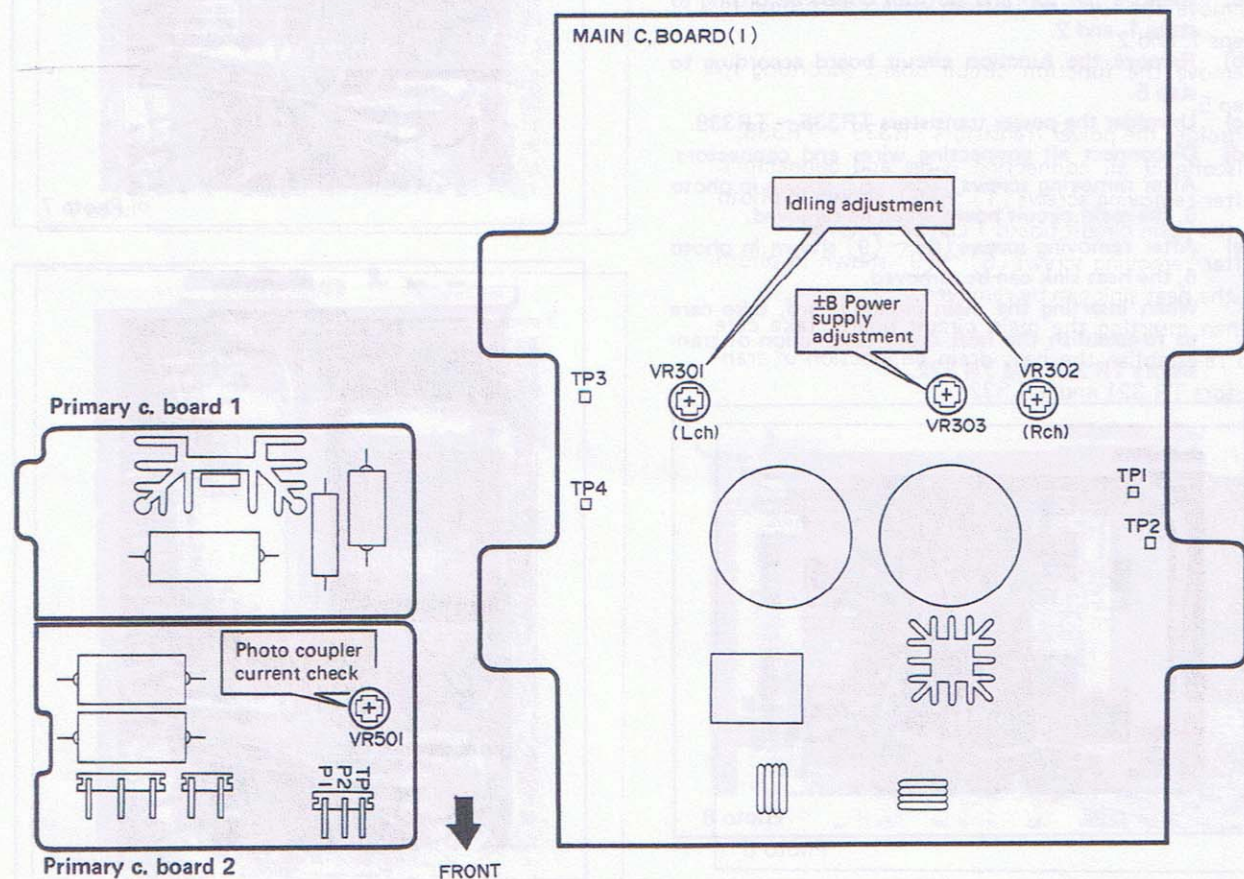
Before adjustment

- Make sure that the AC line is $\pm 10\%$
- Wait 5 minutes after power-on to stabilize amplifier operation

Step	Adjustment	Conditions	Location	Test Point	Value	Test Equipment
1	Main B+, B- voltage adjustment	No load	Main board 1 VR303	Between chassis ground and P1 terminal of primary board	$55.7 \pm 0.3V$ ($53.3 \pm 0.3V$ G model only)	Digital Voltmeter (tester)
2	Photo coupler current check	Minimum volume, no load	Between P1 and TP3 of the primary board (if out of range, turn VR501 and VR303 around and adjust B+, B- and P-TP3 for rated voltages)		$1.2V \pm 0.1V$	same as above
3	Idling adjustment	Minimum volume	Main board 1, VR301 (L ch), VR302 (R ch)	TP3 - TP4 (L), TP1 - TP2 (R)	$9 \pm 3 mV$	same as above
4	Output offset check	Minimum volume		Speaker terminals	L, R within $0 \pm 30 mV$	same as above

* It is not necessary to check the photo-coupler current of step 2 except when replacing the photo-coupler. Also, perform steps 1 and 2 simultaneously (with two digital voltmeters).

ADJUSTMENT LOCATION DIAGRAM



ADJUSTMENTS

Before commencing

1. First turn the power on about 5 minutes to ensure that the amplifier is properly warmed up before commencing any adjustments.
2. Use two digital voltmeters in steps 3 and 4 in order to adjust both channels simultaneously.

Step	Adjustment	Adjustment Conditions	Adjustment Points	Test Points	Rating	Measuring Equipment
1	Idling current	Set VOLUME control to minimum position	Main c. board 1 • VR303 (Lch) • VR304 (Rch)	• TP1 – TP2 (Lch) • TP3 – TP4 (Rch)	10 ± 3 mV	Digital voltmeter (multimeter)
2	Offset voltage	Set VOLUME control to minimum position	Main c. board 1 • VR301 (Lch) • VR302 (Rch)	• Between the TP2 and Ground (Chassis). (Lch) • Between the TP4 and Ground (Chassis). (Rch)	0 ± 10 mV	Digital voltmeter or oscilloscope
3	$\pm B$ power line voltages	No load	Main c. board 1 VR306	• Between the TR331 collector and ground (L). • Between the TR332 collector and ground (R).	DC+54.7 ± 0.2 V (U,C,A,B,R) DC+54.0 ± 0.2 V (G)	Digital voltmeter (multimeter)
				• Between the TR333 collector and ground (L). • Between the TR334 collector and ground (R).	DC-54.7 ± 0.2 V (U,C,A,B,R) DC-54.0 ± 0.2 V (G)	
4	Photocoupler voltage check	• Set VOLUME control to minimum position. • No load.	Control c. board 2 VR501 (*)	TP3 – P1	1.2 ± 0.1 V(*)	Digital voltmeter (multimeter)
5	Tone control section frequency response	• MAIN DIRECT OFF • BASS and TREBLE DEFEAT • Filter switches OFF	Tone control c. board 3 • VR207 (Lch) • VR208 (Rch)	1. Apply a 1kHz sine wave to the TUNER terminals, and adjust to obtain a +10dBm output level at the speaker terminals (with 8 ohm load). 2. Change the frequency to 50Hz, and adjust VR207 and 208 to obtain an output level of $+10 \pm 0.1$ dBm.		Oscillator and level meter

* If the rated specification is not satisfied, adjust the control c. board VR501 and the main c. board VR306 alternately to obtain the rated $\pm B$ and voltage across TP3 – P1.

* The step 4 voltage check is only required if the photocoupler is exchanged.

Note, U.....U.S.A. model B.....British model
 C.....Canadian model R.....General model
 A.....Austrian model G.....North European model