HiFi ENGINE®

For more Hi-Fi manuals and set-up information
please visit www.hifiengine.com

<R42-172-0>

Service Manual

SPEAKER SYSTEMS

CS-99A

<71K02Y31K>

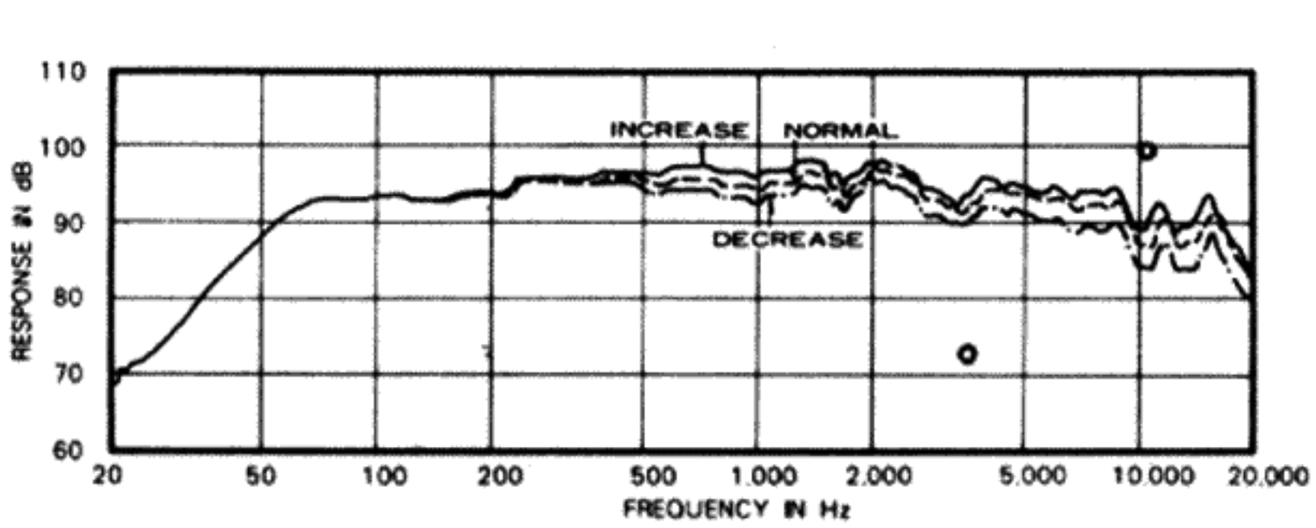
PIONEER®

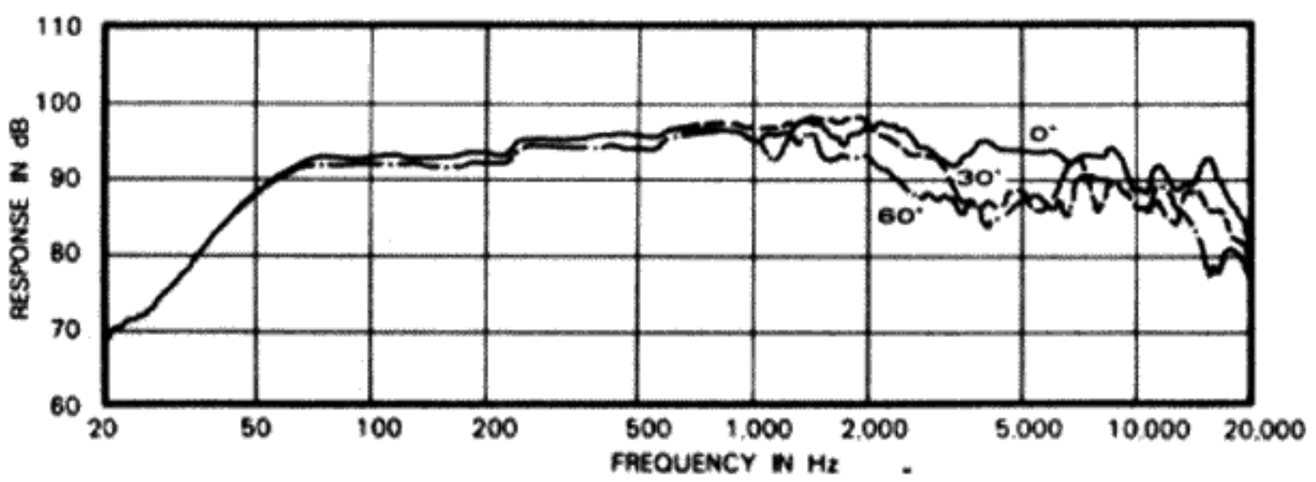
CONTENTS

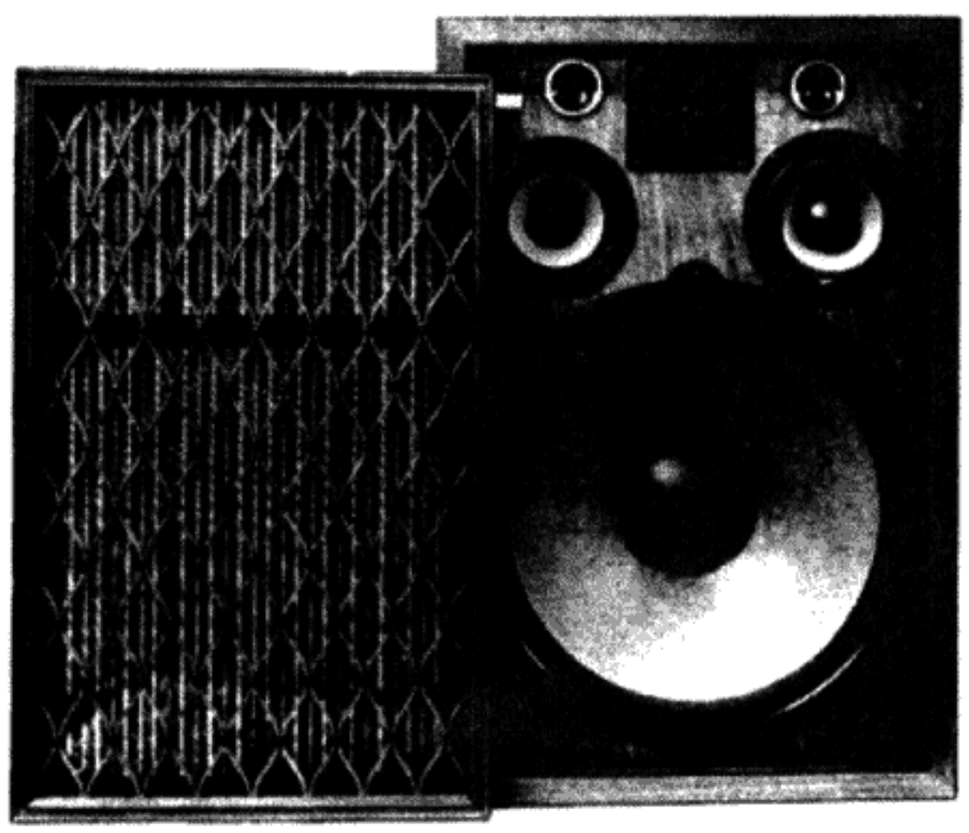
1. SPECIFICATIONS OF CS-99A

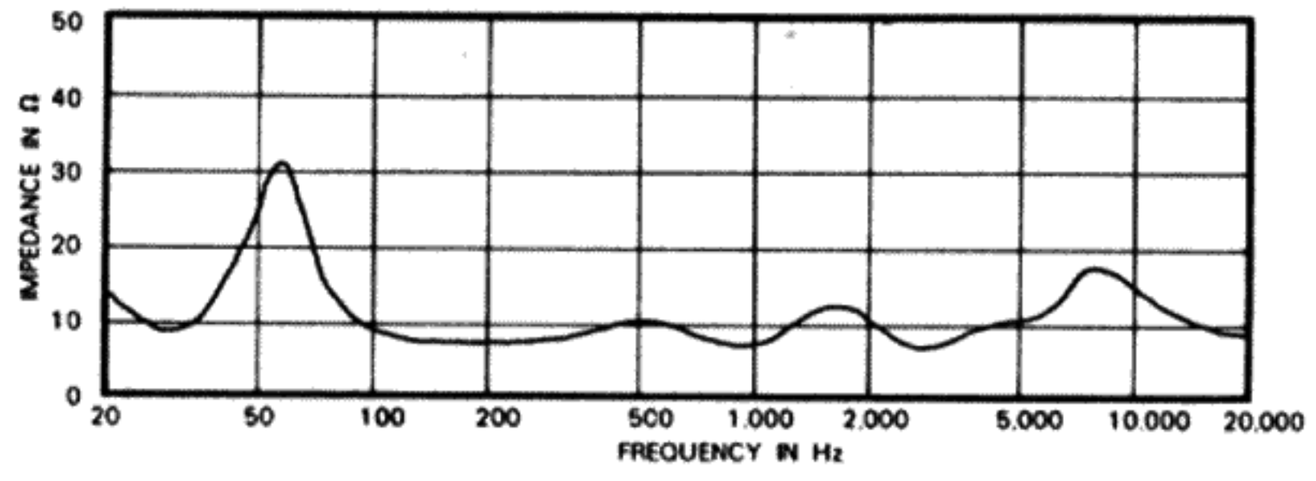
Enclosure	Totally-enclosed type
Speakers	
Woofer	15in. (38cm) cone type
Mid-range	5in. (12cm) cone type
Higher mid-range	4in (10cm) cone type
Tweeter	Multi-cellular horn type
Super tweeter	1/2in. (1.3cm) dome type x 2
Input impedance	8Ω
Frequency range	25 to 22,000Hz
Sensitivity	97dB/W at 1m distance
Maximum input power	100W
Crossover frequency	
Lows . . . Mid-ranges	800Hz
Mid-ranges . . . Higher mid-ranges	2,000Hz
Higher mid-ranges . . . Highs	5,000Hz
Highs . . . Super Highs	10,000Hz
External dimensions	24-13/16(H) x 16-1/2(W) x 11-13/32(D) in. 630(H) x 419(W) x 290(D) mm.
Weight	51 lb 11oz (23.5 kg)

NOTE: Specifications and the design subject to possible modification without notice due to improvements.









3. REPLACEMENT OF SPEAKER UNIT

3-1. SPEAKER REPLACEMENT

1. Remove front grille.
   Be careful not to lose fastening pins.
2. Remove speaker fastening screws.
   Speaker can now be taken out.
3. Disconnect lugs from speaker terminals, taking care not to lose terminals. Fig. 1.
4. Install new speaker unit, connect as follows:
   Model CS-99A
   To connect lead wires to new speaker unit, refer to circuit diagram shown on page 7.
   Model CS-A770
   To connect lead wires to new speaker unit, refer to circuit diagram shown on page 9.
5. Fasten speakers firmly in place by applying even stress to screws. (Fig. 2).

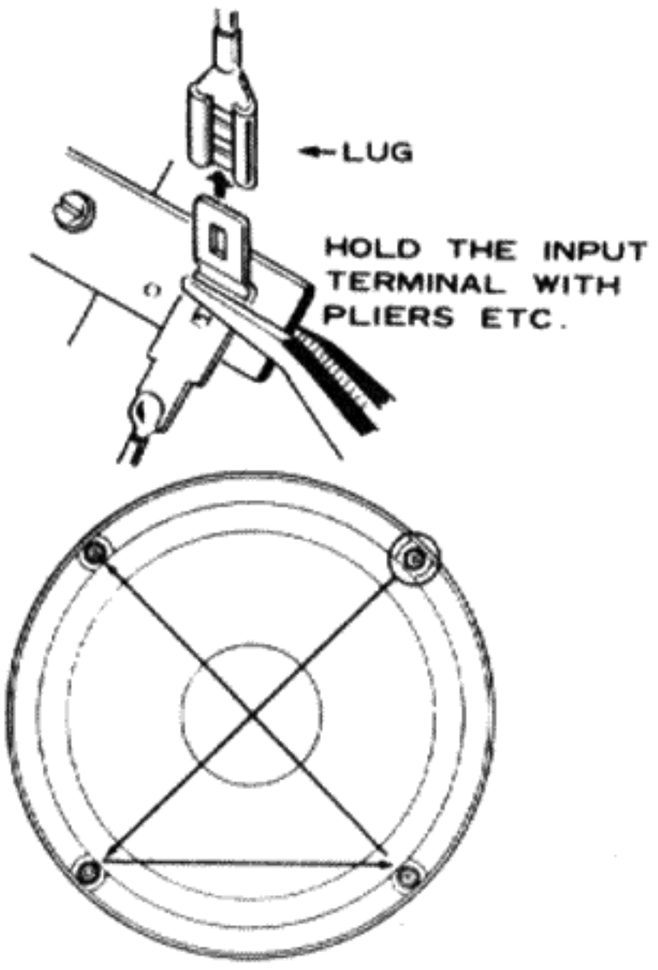


Fig. 1

Fig. 2

3-2. NETWORK REPLACEMENT

1. Remove rear enclosure panel.
2. Take off all lead wires from network.
   Mark lead wires with tags, etc. to assure correct re-connection afterwards.
3. The network is held in place by four self-tapping screws and by adhesive.
   Remove screws, carefully break adhesive to remove network.
4. Affix new network with adhesive and screws.
   Secure firmly to prevent vibrations.
5. Connect again lead wires to network, observing marking made in step 2. above.

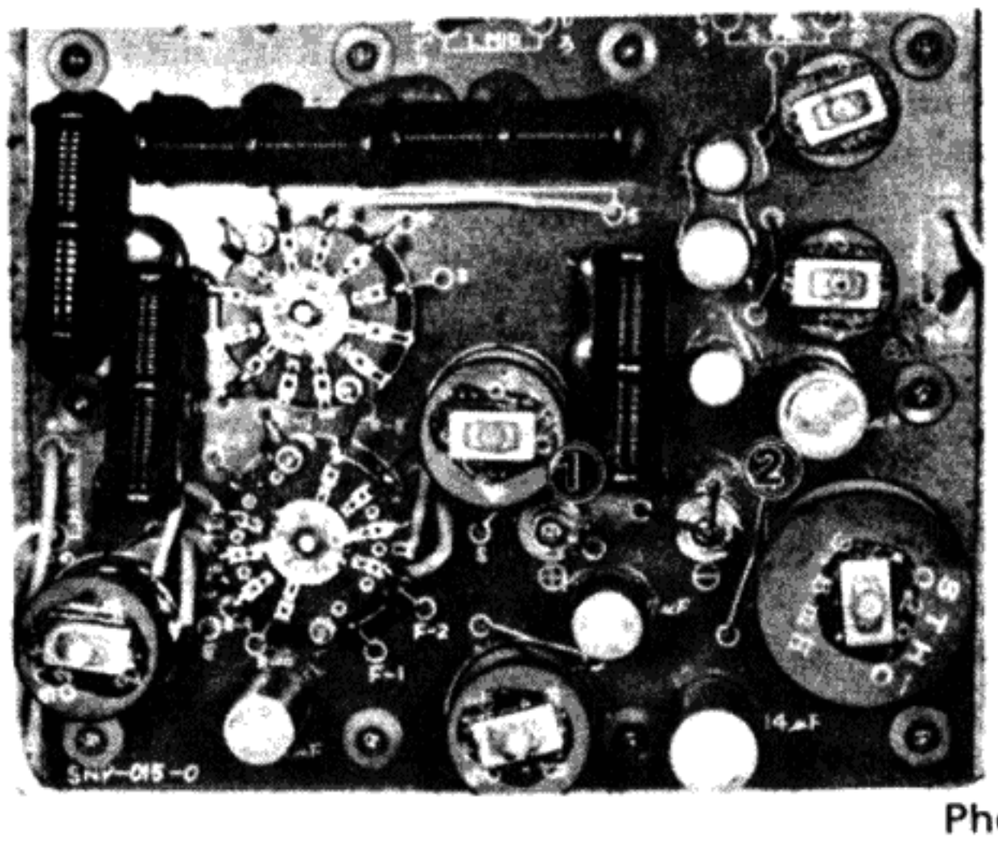


Photo 1

3-3. REPLACEMENT OF INPUT TERMINALS

Remove rear enclosure panel.
Model CS-99A
1. Remove and replace terminals by removing screws 1 and 2 in photo 1.
   Screw No. 1 is for blue terminal, 2 is for white terminal.
2. Re-install network and terminals, fastening them firmly in place.

Model CS-A770
1. Remove and replace terminals by removing screws No. 1 to 8 in photo 2.
   Screw No. 1 is for blue } Full range terminals
   No. 2 is for white
   No. 3 is for red } Multi way terminals
   No. 4 is for white
   No. 5 is for green
   No. 6 is for white
   No. 7 is for blue
   No. 8 is for white
2. Re-install network and terminals, fastening them firmly in place.

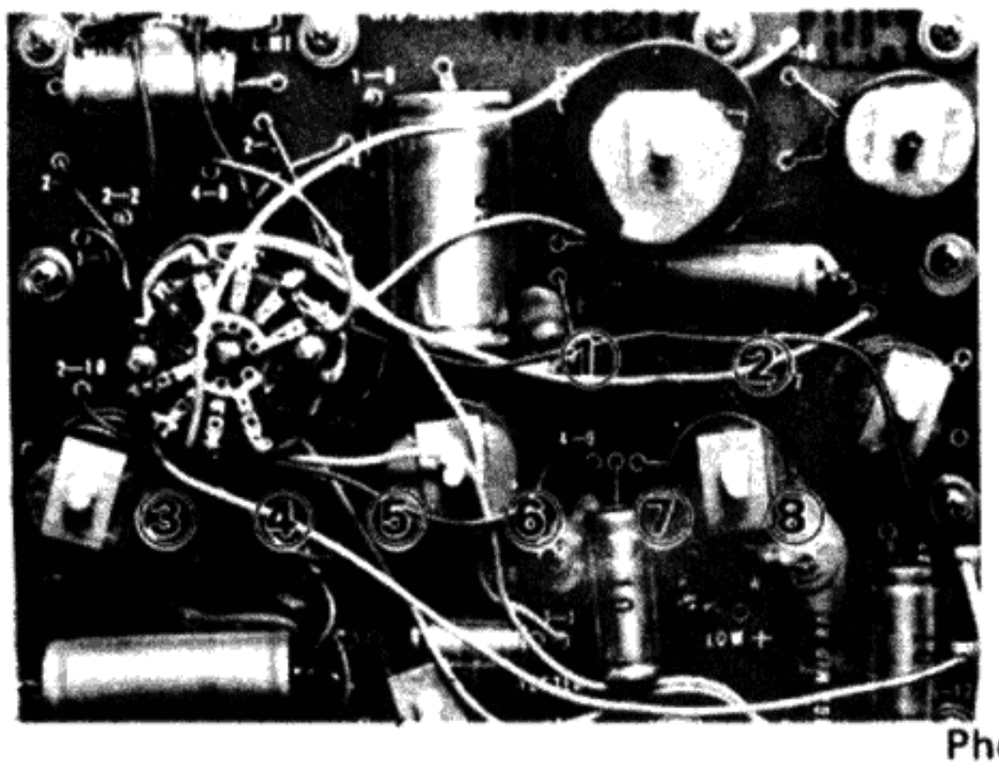


Photo 2

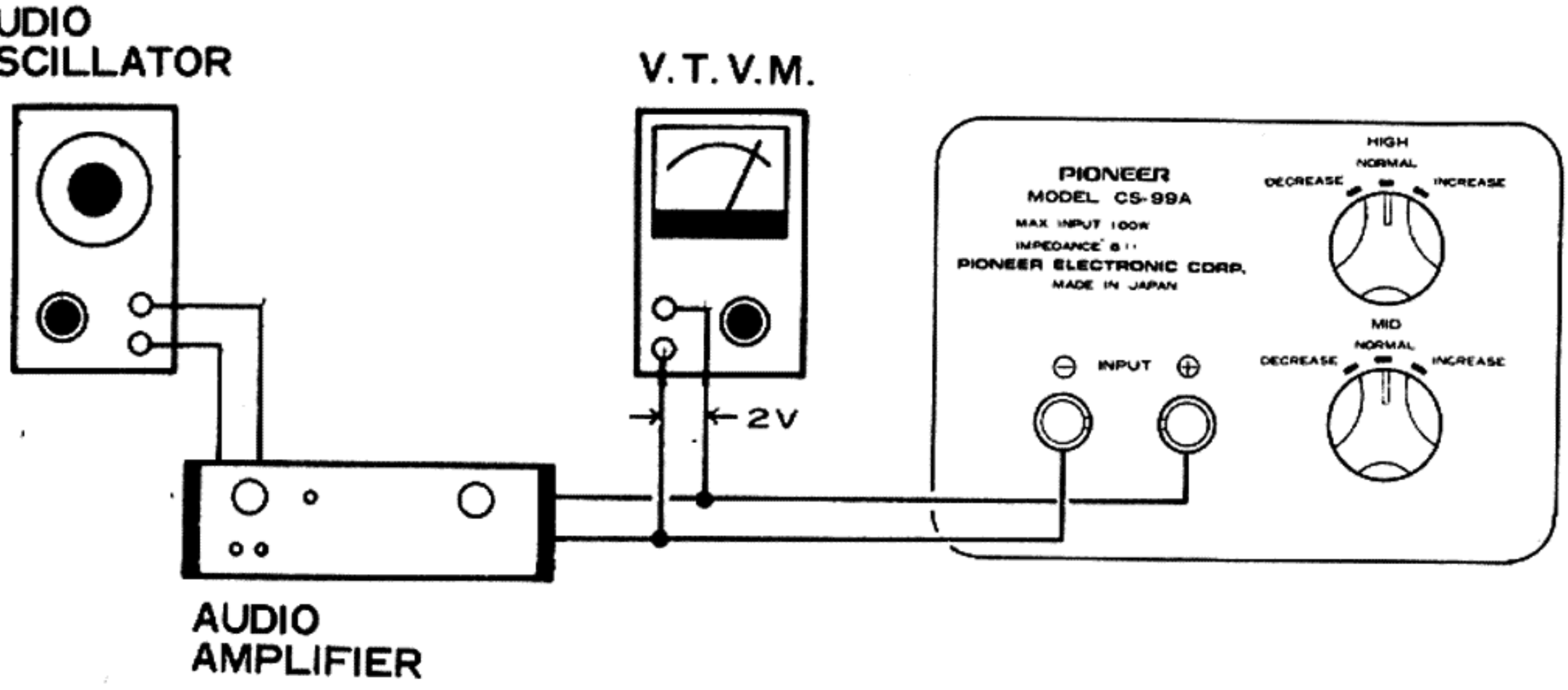
3-4. REPLACEMENT OF LEVEL CONTROLS (Model CS-A770 only)

1. Remove front grille.
2. Remove fastening screws from level control knobs.
3. Unsolder lead wires from level controls.
   To ensure correct re-connection afterwards, mark lead wires with tags, etc.
4. Solder lead wires to new level controls, observing the markings made in step 3.
5. Install new level controls firmly.

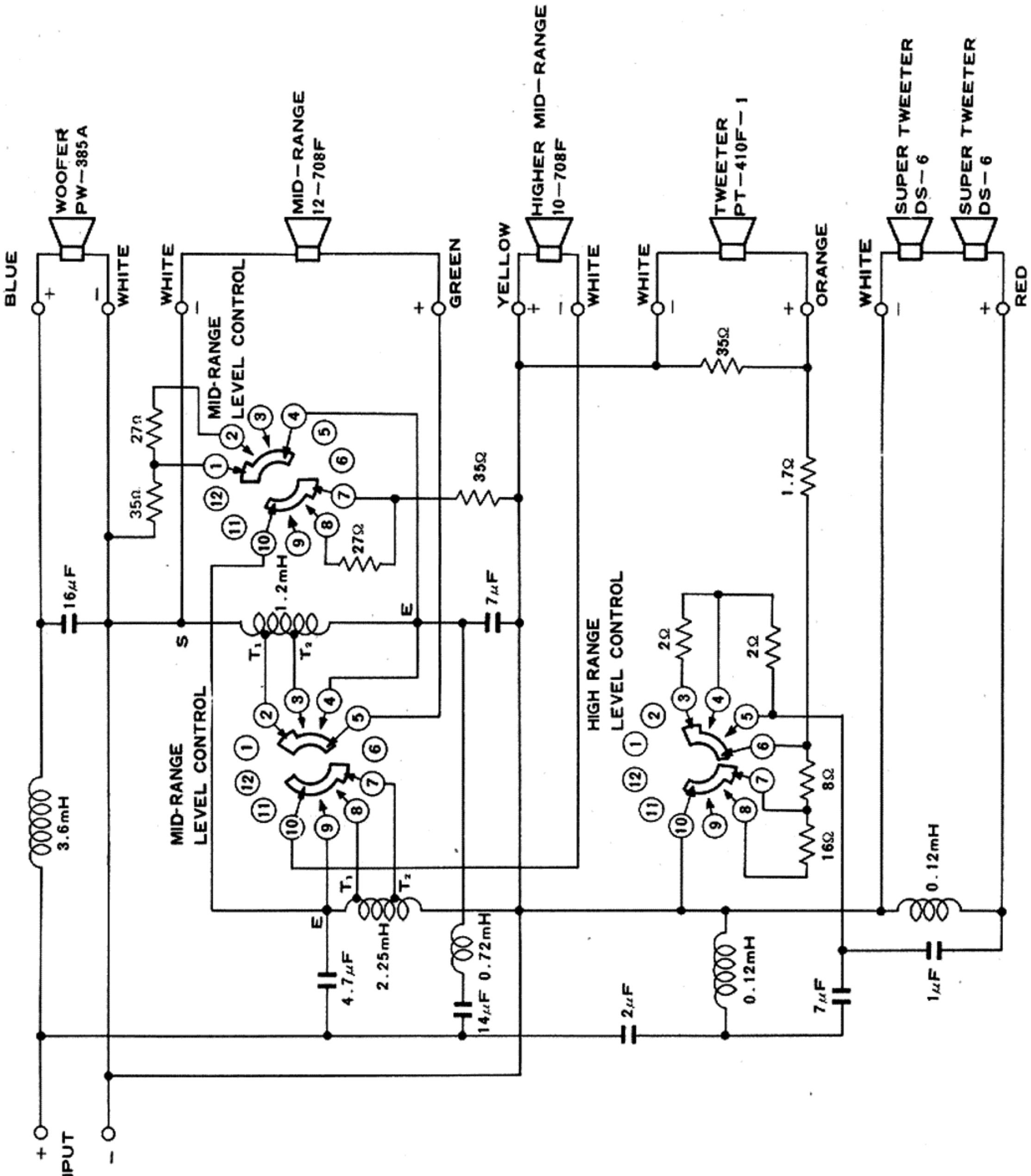
4. OPERATIONAL CHECKS OF CS-99A

Your speaker system should be checked by the following procedures.

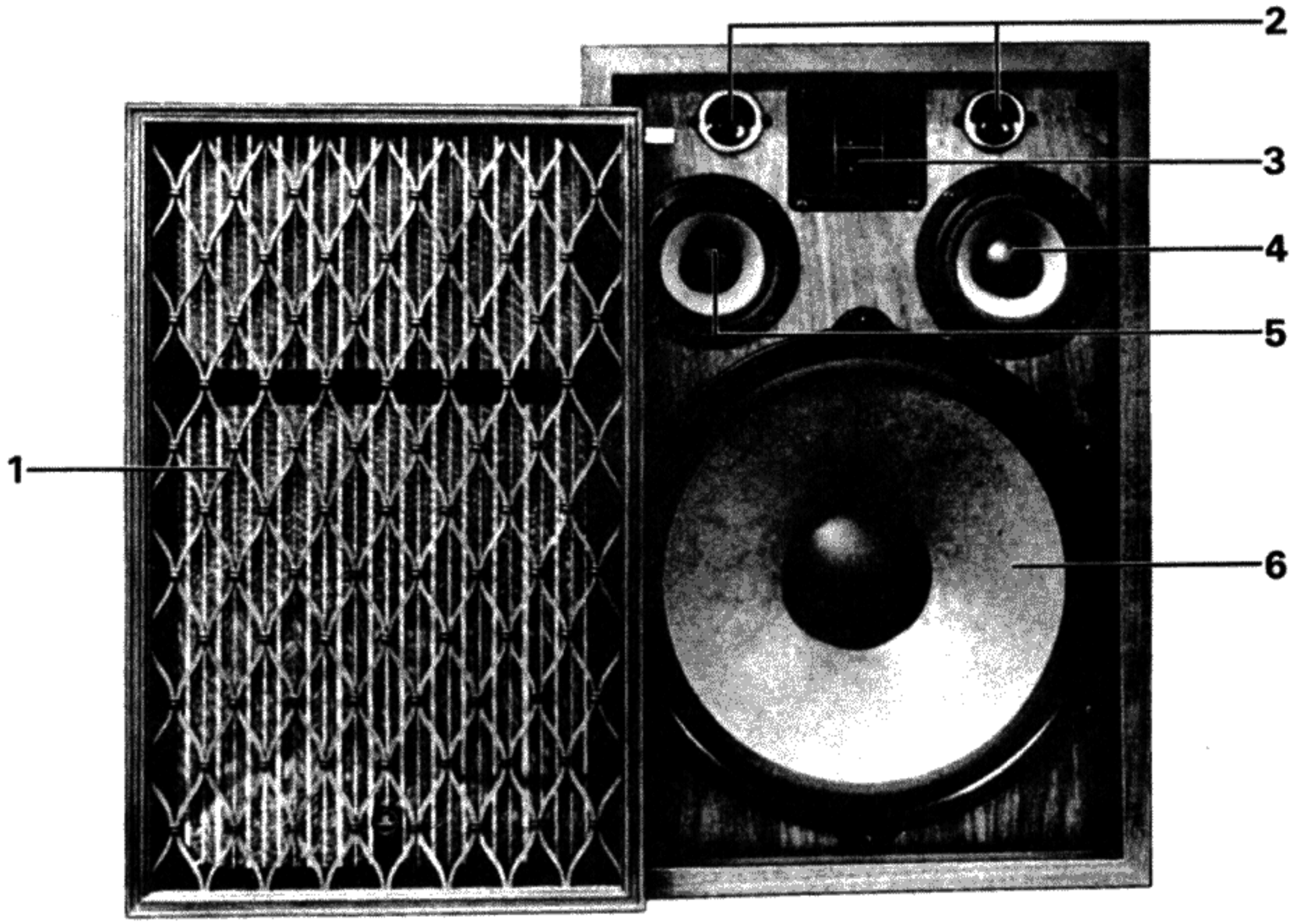
1. Connect the test equipment arranged as shown in the below illustration.
2. A 12kHz-sine wave, generated from audio oscillator, is sent to audio amplifier in which the sine wave is amplified to the 12kHz/0.5V-sine wave, and then it is fed into the INPUT terminals.
   The super tweeter will produce proper sound.
3. An 8kHz-sine wave, generated from audio oscillator, is sent to audio amplifier in which the sine wave is amplified to the 8kHz/2V-sine wave, and then it is fed into the INPUT terminals.
   The tweeter will produce proper sound.
4. A 3kHz-sine wave, generated from audio oscillator, is sent to audio amplifier in which the sine wave is amplified to the 3kHz/2V-sine wave, and then it is fed into the INPUT terminals.
   The higher mid-range will produce proper sound.
5. A 1kHz-sine wave, generated from audio oscillator, is sent to audio amplifier in which the sine wave is amplified to the 1kHz/2V-sine wave, and then it is fed into the INPUT terminals.
   The mid-range will produce proper sound.
6. A 400Hz-sine wave, generated from audio oscillator, is sent to audio amplifier in which the sine wave is amplified to the 400Hz/2V-sine wave, and then it is fed into the INPUT terminals.
   The woofer will produce proper sound.
7. Be sure that each of speakers (super tweeter, tweeter, higher mid-range, mid-range and woofer) produces well-balanced sound when the INPUT terminals are fed, in a range from 25 to 22,000Hz, with each of sine waves which is generated from audio oscillator and amplifier.
8. In checking Items 2, 3 and 7, be sure that HIGHS keep sounding well-balanced while the level control for HIGHS is being gradually turned.
9. In checking Items 4, 5 and 7, be sure that MID-RANGE keep sounding will-balanced while the level control for MID-RANGE is being gradually turned.



5. CIRCUIT DIAGRAM OF CS-99A



8. SERVICE PARTS LIST OF CS-99A



Key No.	Description	Part No.	
1	Front grille	SXB-040-0	
2	Super tweeter	DS-6	
3	Tweeter	PT-410F-1	
4	Mid-range	12-708F	
5	Higher mid-range	10-708F	
6	Woofer	PW-385A	
	Network assembly	SWN-018-0	
	Knob (level control)	A19-621-0	
	Input terminal (blue)	K15-612-B	
	Input terminal (white)	K15-612-C	
	Speaker cable	D51-603-0	
	Service pad	E11-048-A	
	Operating guide	SRB-025-0	
	Packing case assembly	SHG-024-A	

10. PACKING METHOD OF CS-99A