〈R42-172-0〉

# Service Manual

## SPEAKER SYSTEMS

**CS-A770**

〈71K02Y31K〉

PIONEER®

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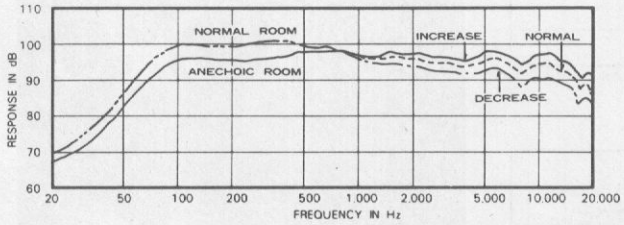
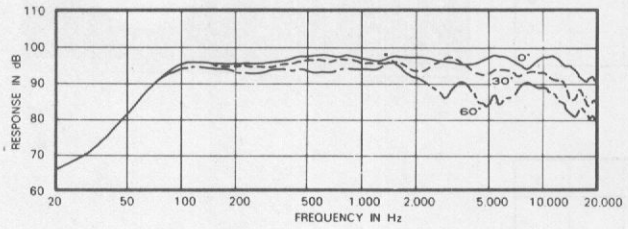
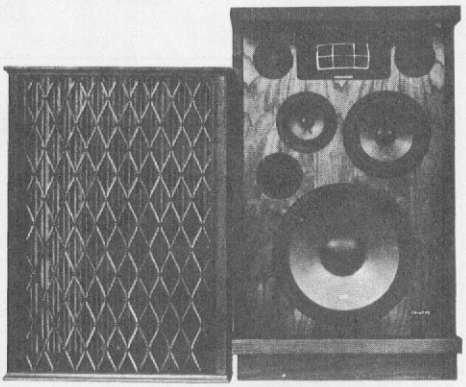
# 2. SPECIFICATIONS OF CS-A770

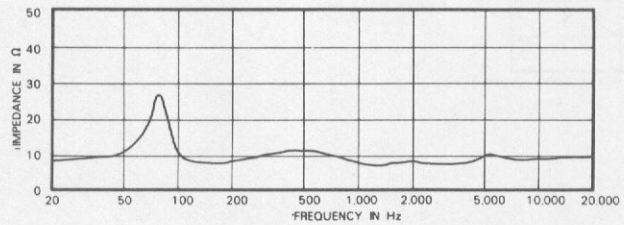
| | |
|---|---|
| Enclosure | Bass-reflex type |
| Speakers | |
| Woofer | 12in. (30cm) cone type |
| Mid-range | 6.5in. (16cm) cone type |
| Higher mid-range | 4in. (10cm) cone type |
| Tweeter | Multi-cellular horn type |
| Input impedance | 8Ω |
| Frequency range | 30 to 20,000Hz |
| Sensitivity | 97dB/W at 1m distance |
| Maximum input power | 80W |
| Crossover frequency | |
| Lows . . . Mid-ranges | 450Hz |
| Mid-ranges . . . Higher mid-ranges | 1,700Hz |
| Higher mid-ranges . . . Highs | 5,000Hz |
| In case multi-way amplifiers are used | |
| 2 way multi amplifiers | |
| Lows . . . Mid-ranges | 500 to 1,000Hz |
| 3 way multi amplifiers | |
| Lows . . . Mid-ranges , Highs | 500 to 1,000Hz |
| Mid-ranges . . . Highs | 4,000 to 6,000Hz |
| External dimensions | 31-1/8(H) x 19-1/8(W) x 15-9/16(D) in. |
| | 790(H) x 485(W) x 395(D) mm |
| Weight | 72 lb (32.5kg) |

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).

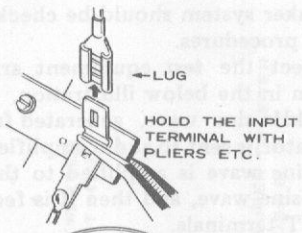



Fig. 1

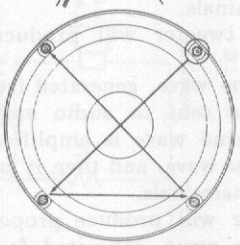


Fig. 2

## 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.

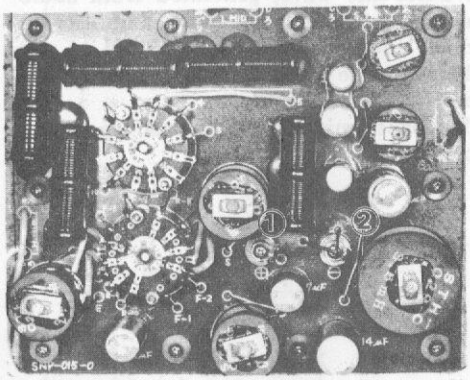


Photo 1

## 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.

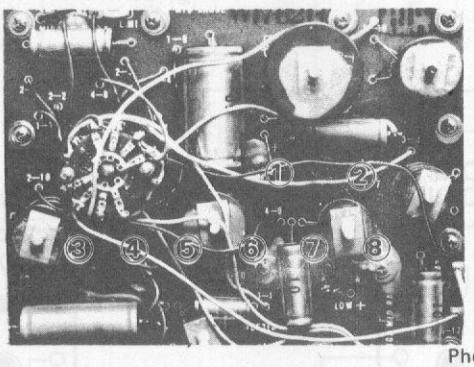


Photo 2

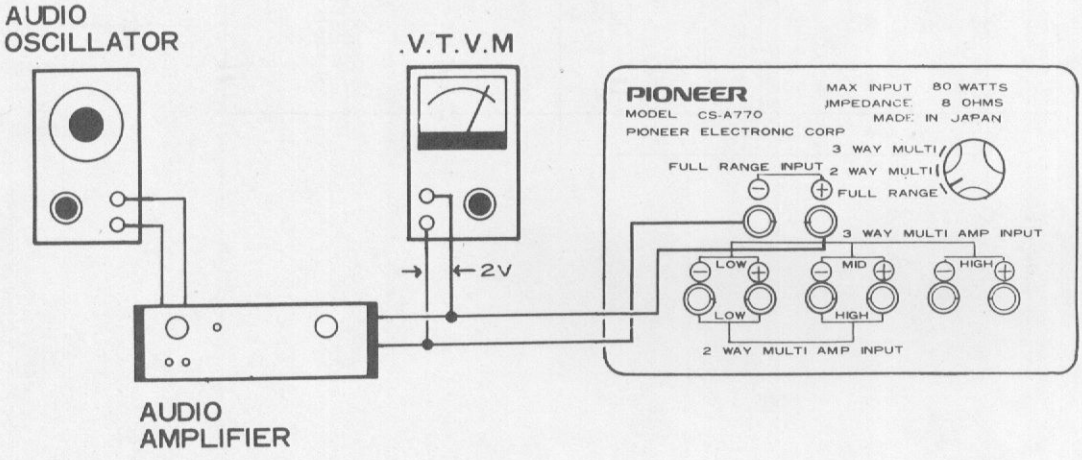
## 3-4. REPLACEMENT OF LEVEL CONTROLS (Model CS-A770 only)

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.

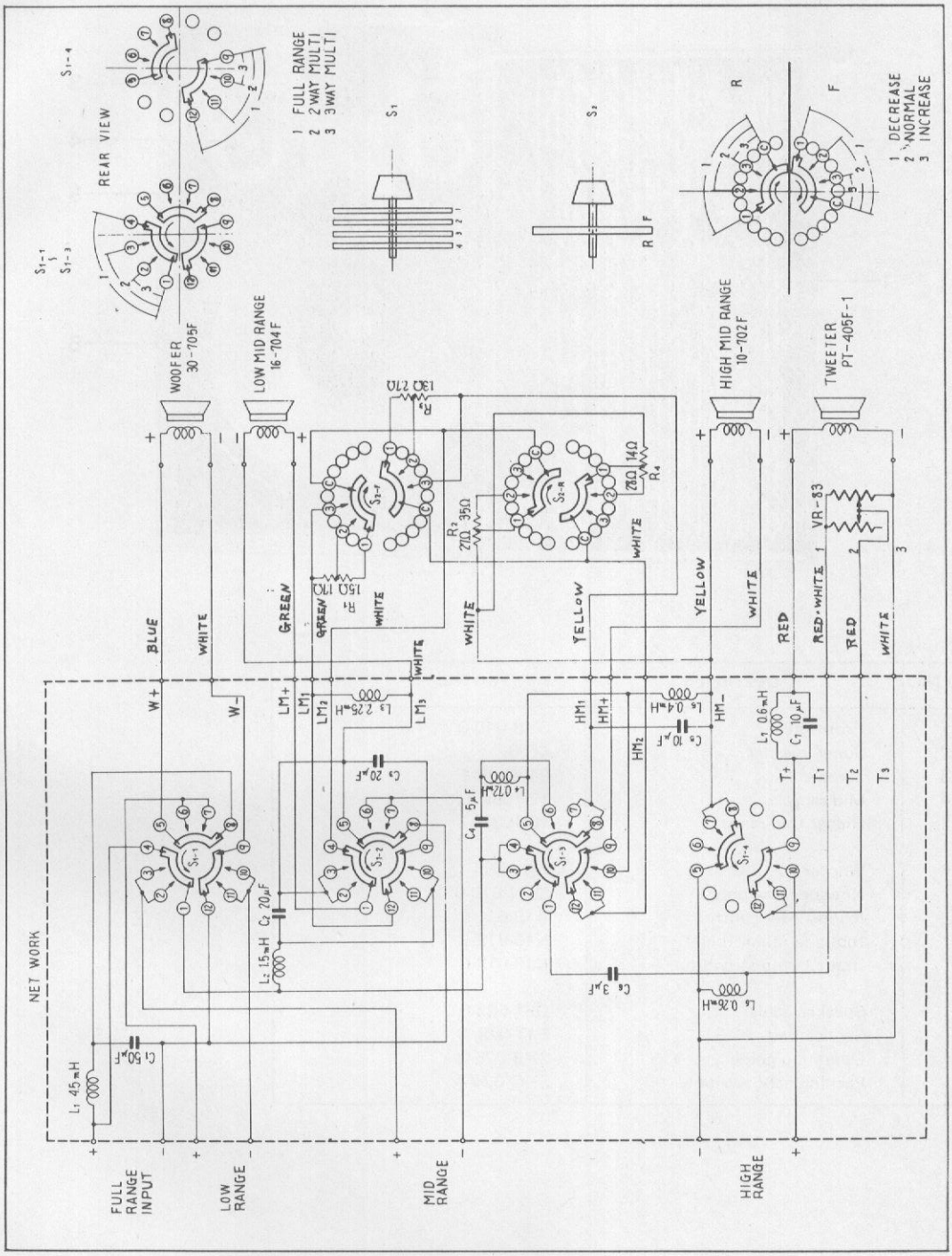
# 6. OPERATIONAL CHECKS OF CS-A770

Your speaker system should be checked by the following procedures.

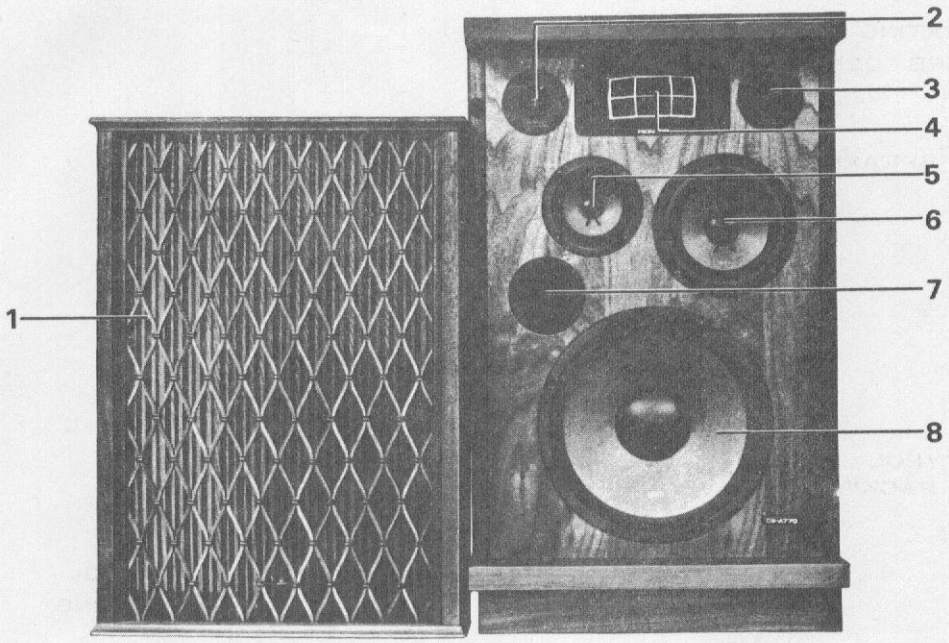
1. Connect the test equipment arranged as shown in the below illustration.
2. Set the INPUT SELECTOR switch to FULL RANGE.
3. A 10kHz-sine wave, generated from audio oscillator, is sent to audio amplifier in which the sine wave is amplified to the 10kHz/2V-sine wave, and then it is fed into the INPUT terminals.
   The tweeter will produce proper sound.
4. A 2kHz-sine wave, generated from audio oscillator, is sent to audio amplifier in which the sine wave is amplified to the 2kHz/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 (tweeter, higher mid-range, mid-range and woofer) produces well-balanced sound when the INPUT terminals are fed, in a range from 30 to 20,000Hz, with each of waves which is generated from audio oscillator and amplified by audio amplifier.
8. In checking Items 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 keeps sounding well-balanced while the level control for the MID-RANGE is being gradually turned.
10. Set the INPUT SELECTOR switch to 2-way MULTI.
11. Transmit an output from the test equipment into HIGH RANGE.
12. Check Items 3, 4, 5, 7 and 8.
13. Transmit an output from test equipment into LOW RANGE.
14. Check Item 6.
15. Set the INPUT SELECTOR switch to 3-way MULTI.
16. Transmit a sine wave into HIGH RANGE to check Item 3.
17. Transmit a sine wave into MID-RANGE to check Item 4 and 5.
18. Transmit a sine wave into LOW RANGE to check Item 6.



# 7. CIRCUIT DIAGRAM OF CS-A770



# 9. SERVICE PARTS LIST OF CS-A770




| Key No. | Description | Part No. | |
|---|---|---|---|
| 1 | Front grille | SXB-039-0 | |
| 2 | Level control (mid-range) | SWX-005-0 | |
| 3 | Level control (high range) | SWX-006-0 | |
| 4 | Tweeter | PT-405F-3 | |
| 5 | Higher mid-range | 10-702F-1 | |
| 6 | Mid-range | 16-704F-1 | |
| 7 | Duct cover | M62-660-0 | |
| 8 | Woofer | 30-705F-2 | |
| | Network assembly | SWN-016-0 | |
| | Input terminal (blue) | K15-612-B | |
| | Input terminal (white) | K15-612-C | |
| | Input terminal (red) | K15-612-D | |
| | Input terminal (green) | K15-612-E | |
| | Knob (level control) | A12-632-0 | |
| | Knob (network) | A19-621-0 | |
| | Speaker cable (blue, white) | D51-603-0 | |
| | Speaker cable (red, white) | D51-604-0 | |
| | Speaker cable (green, white) | D51-605-0 | |
| | Operating guide | SRB-023-0 | |
| | Packing case assembly | SHK-025-0 | |

# 11. PACKING METHOD OF CS-A770