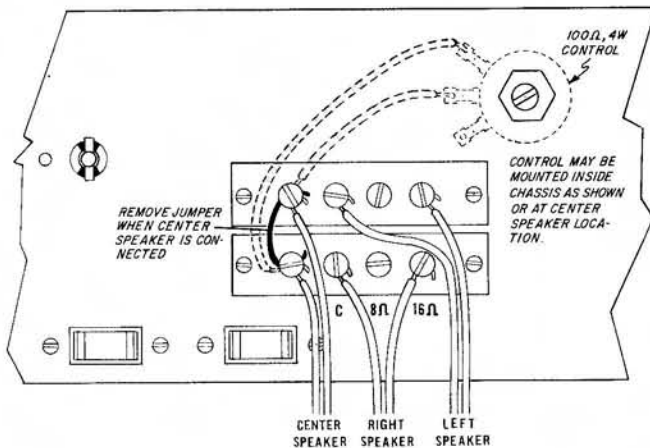


USING HEADPHONES WITH THE SCA-35

Connection of the center speaker is accomplished by removing the wire link, or jumper, which connects the left-most screws on the two loudspeaker terminal strips and connecting the two wires from the extra speaker to these two screws. The diagram below also shows how a volume, or level setting, control can be optionally added to control the level of the center speaker. The control itself is a 4 watt, wirewound, potentiometer or rheostat. They are available at all radio parts supply stores.

The control for the center speaker can be connected on the back panel of the SCA using the hole which is available, or it can be connected at the loudspeaker location — this is particularly convenient for a remote speaker.



It is best that all the speakers should be identical types when using this arrangement. If this is done, the sound level at the center speaker will be comparable with that of the stereo speakers. The volume control will reduce the level of the extra speaker. It can be used to reduce the level of this speaker to zero, and then the stereo speakers will function in their normal way.

If the control is not added, and it is desired to cut out the center speaker to restore normal stereo operation, this can be done by re-installing the jumper on the back panel. This can also be done by adding a switch to connect together the two leads to the center loudspeaker. This switch can be located any place which is convenient — at the speaker location, or at the amplifier. When the switch is closed, there will be no sound from the center speaker, and normal stereo reproduction will be obtained.

The center speaker should be phased properly. This can be done by listening to the smoothness of transition of sound between speakers while moving back and forth between them. If there are sudden jumps in localization of the sound, the two wires to the center speaker should be interchanged. Correct phasing should provide a smooth change in location of sound from side speakers to center speaker. If the center speaker is used remotely, phasing is not important.

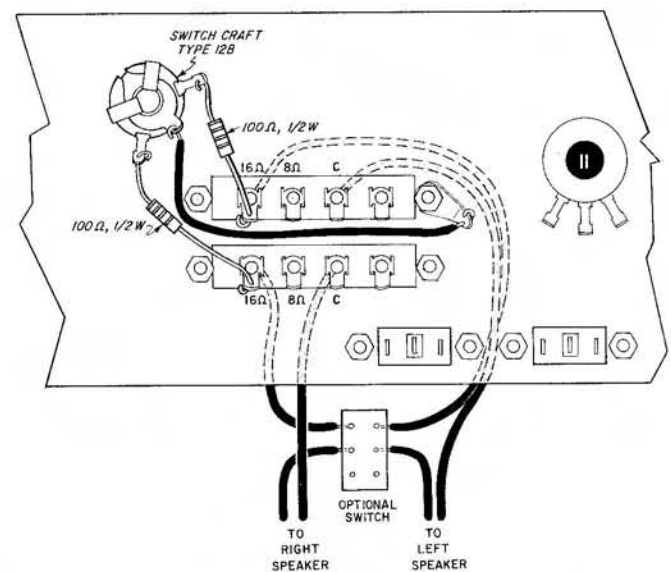
NOTE: At any time that the center speaker is removed, the jumper between the screw terminals *must* be reinstated. If neither the jumper nor center speaker is connected, the resulting sound will have no monophonic components. There will be no sound with monophonic sources and unrealistic effects with stereo sources.

Headphones made for high fidelity usage are generally of the low impedance type, designed to be connected to the loudspeaker terminals of the amplifier. These can, of course, be used directly with the SCA-35 in accordance with the instructions of the headphone manufacturer.

In addition, for ease of headphone connection and use, a hole for a headphone jack is available on the back panel of the SCA-35. A jack of the Switchcraft type 12B, or equivalent, can be mounted in this hole. A type 290 plug, or equivalent, should be used with the 12B jack. If the headphones are supplied with a different type of plug, the proper jack should be obtained for the plug used.

The diagram below shows the best method of connection to the headphone jack. The 100 ohm, $\frac{1}{2}$ watt, resistors drop the signal to the level which is required for headphones. If there is inadequate level after installation, these resistors can be reduced to 47 ohms, or to any specific value recommended by the manufacturer of the headphones. Some headphones have the resistors built in. Then it is not necessary to install them, and straight wires (insulated to avoid short circuits) should be connected in place of the resistors shown.

If it is desired to cut out the loudspeakers completely for headphone listening, the pictorial diagram shows how a double pole switch can be used to eliminate sound from the loudspeakers during headphone use. This switch can be mounted any place along the loudspeaker wires so that it can be kept in a convenient place if switching is required frequently.



If, after the headphones are installed, it is found that the right and left sides are incorrect and the phones are not of a construction which can be reversed on the head, this can be most simply corrected by disconnecting the resistors from the two jack lugs and interchanging the connections.