

Fig. 7. Performance curves for the Sherwood S-1000.



Fig. 8. Sherwood "Music Center" amplifier.

SHERWOOD S-1000 "MUSIC CENTER" AMPLIFIER

Every so often a particularly attractive unit of hi-fi equipment comes along, not only from the standpoint of appearance, but also from that of performance. The Sherwood S-1000 "Music Center" amplifier is one of them, and some of the circuit design features are of particular interest to those who are technically interested in audio products.

This amplifier is designed for the user who must have compactness—although there is no reason why it should not be just as effective in an installation where space was not a problem. Shown in Fig. 8, it is housed in a metal cabinet which is adequately ventilated, and available in black and gold stippled lacquer, or leatherette in mahogany, black, or white. The control panel is framed by a gold-finished bezel, and the panel itself is leatherette in a contrasting color. There are five knobs, four push buttons, and two slide switches on the panel—with a pilot light to indicate when power is turned on.

The four pushbuttons at the left control the phono equalization, and are marked LP, LON, AES/RIAA and EUR, providing the curves shown in the top section of Fig. 7. The left knob is the selector switch, with a high-gain PHONO position and four low-gain positions marked A, B, C, and TAPE. The next knob is the bass tone control and the next is the treble control, both of the Baxendall type, and both marked for boost or cut in db. A loudness control is next, with a "normal" point marked on the panel as "0" and the relative levels shown on the panel in db above and below normal. The remaining knob works over three positions—in the counterclockwise position the power is off; in the center power is on and the loudness control is operating normally; in the clockwise position power is on and the equalization is removed from the loudness control so that it operates as an uncompensated volume control. The slide switches control the phono scratch filter and the rumble filter—the latter being operative on all inputs to the amplifier.

The first three tubes are mounted on a sub-chassis which is accessible from the

bottom of the cabinet; located on the same chassis are a phono level-set control, tape recorder output jack, and the damping factor switch—about which more later. The remaining four tubes are accessible from the rear. The five inputs are on the rear panel, and the speaker connections are located on the output transformer shell so as to be reached readily from the back of the unit. Even the auxiliary power receptacle is so mounted as to be out of the way of the output and rectifier tubes. On the whole, the physical and electronic engineering is straightforward and efficient, both internally and externally.

The phono preamp is a low-noise Z729 pentode feeding one half of a 12AX7, with equalization networks connected between the two plates, and with the phono level-set control following. The selector switch grounds all unused outputs, and feeds the second half of the 12AX7 which serves as a cathode follower to drive the Baxendall tone-control circuit, which feeds the first half of another 12AX7, and this is followed by the loudness control and the second half of the tube. The rumble filter is located between this tube and the 12AU7 split-load phase splitter which drives the two 6L6GB output tubes in an Ultra-Linear circuit. Performance data are shown in the three sections of Fig. 7, and the complete schematic is shown in Fig. 9.

The Damping Factor control is provided in the form of a switch that has three positions—the center position being normal, while the other two select positive or negative current feedback, with resulting increase or decrease in the damping factor. In the normal position the internal impedance on the 16 ohm tap is 2.3 ohms, or a damping factor of 7. In the "+2" position, the output appears as a negative 8 ohms with resulting increase in the damping. With well damped speaker systems the user may prefer to use the "+2" position, with considerably below-normal damping. In use—to the ear, that is—there is an appreciable difference in output quality when the switch is indiscriminately changed from one position to another, but this is largely due to level change. When the volume is compensated, the difference is more subtle but still there. With small and bass-resonant speakers, the negative position is the best sounding, provided the bass loss from this arrangement is made up with the tone control. In the positive position, the resonant point is magnified, although with a top-quality speaker it is only slightly apparent. With this variety of choice, however, any user should find one position that particularly suited him.

While many amplifiers are designed to be mountable in a cabinet, the method of doing so with the S-1000 is somewhat unusual in that the entire metal housing still serves as protection for the amplifier, as well as shielding. The front panel and the ornamental bezel are removed from the metal case and installed permanently in the wooden cabinet and the amplifier is "plugged in" from the back. Suitable support members are required to sustain the weight of the amplifier, but a minimum of changes is required in order to make it into a unit which looks as though it were installed by a professional, even though the woodworking ability of the builder may not be topnotch.

The S-1000 is physically small, but it performs all the needed functions of a "music center" and has most of the features considered desirable by those who know what they want and who know enough about their requirements to make a valid decision.

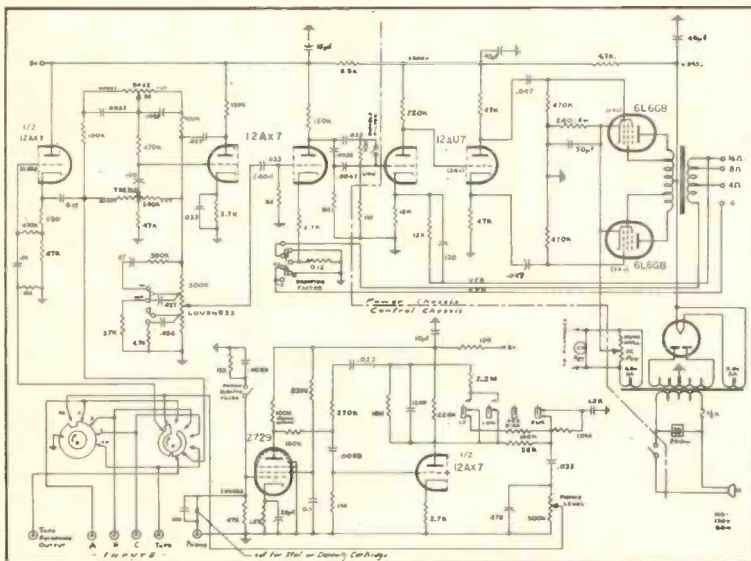


Fig. 9. Schematic of the Sherwood S-1000 "Music Center" amplifier.