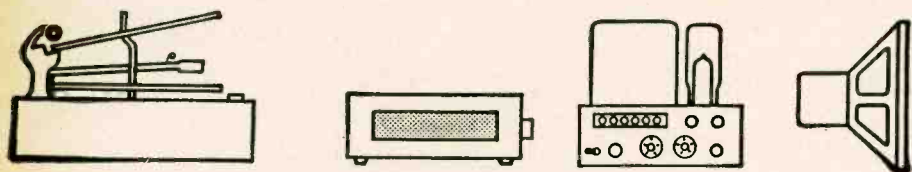


# EQUIPMENT



# PROFILE

## SONY/SUPERSCOPE MODEL 250A STEREO TAPE RECORDER

Precision of construction and attractiveness of design have been hallmarks of the Sony line of tape recorders ever since the first one was introduced here in 1959—the 555 series. During the succeeding years, the line has broadened widely until it now encompasses the entire range of types from the simpler monophonic machines up to the sub-professional models. There are, of course, a number of sophisticated professional models, including a few video tape recorders, but these do not generally appear on the "hi-fi" market, and only a few hobbyists that are well endowed with the coin of the realm are likely to have them in their homes. The newest addition—the home video recorder—will change that, however.

But that does not keep the rest of us from wanting a number of professional features in the machines we can afford, and the 250A certainly falls in this category—we used the term "sub-professional." Unfortunately, "professional" has been applied to too many products in the past

years, just as many products are called "high fidelity" when their only claim to the term is the printing on the shipping carton or a decal on the front panel.

The Sony 250A appears to us to be an ideal machine for the hobbyist who wants to build it into his system, since it does not have its own loudspeakers, has no playback volume control, and is a relatively simple machine. It would be a perfect second machine for use in dubbing, for instance, since its low price, \$139.50, does not present any great hardship.

The unit is entirely transistorized, and is arranged so as to record on either left or right channels independently, as well as on stereo. Operation is quite simple, with tape motion controlled entirely by one knob. This control has five positions—from the stop position the tape is placed in the forward mode, for either play or record, by a clockwise movement to the first position. The next step is pause, which moves the idler away from the capstan, providing an instant stop. The final clockwise position is fast forward. Thus when turning back from fast forward, the control must first go through pause before engaging the for-

ward mode, which effectively prevents broken tape. Rewind is provided by turning the control one step counter-clockwise. In some machines, when the control is moved from fast to forward, thereby causing the idler to contact the capstan, the quick stopping of the tape often breaks it. With the 250A, however, it does not seem possible to cause this. Furthermore, the machine is "fail-safe" that is, in case of power failure it simply stops, without any tape spillage. A microswitch actuated by the tape when in the proper position across the heads controls the power, so that run-out or tape breakage shuts off the power.

Because there are no playback controls on the recorder, the external amplifier's controls select which channel is being played, or controls the level of the two channels in stereo.

In front of the two level-indicating meters is a lift-up cover at the left front of the panel. Under this cover are, two record-level controls, and a record push-button, and two microphone mini-jacks. At the extreme counterclockwise position of the record-level controls is a switch which cuts off the bias and erase for its related channel. When the record button is depressed, the meters are illuminated by red light. A.c. power for the entire machine is controlled by a push-on-push-off button at the right front of the panel. This button is illuminated when power is on. Auxiliary (high-level) input phono jacks and playback output phono jacks are located on a small recessed panel on the rear of the wood base. A digital counter is located just above the plastic cover for the recording controls.

The head assembly has two removable plastic covers which slip over split metal pins. The rear section of the cover provides access to the heads for cleaning, and with both removed one has access to the front of the heads for editing. Two heads are employed, the erase head, and the combined record-play-head—the latter being well shielded. In the record or play mode, hinged covers provide a completely closed shielding. Since there is no power amplifier in the 250A, monitoring can be obtained from the associated amplifier to which the unit is connected, as the input signal appears on the playback jacks (line output) during recording.

Each channel consists of four stages, with a total of eight transistors in the audio circuitry. Two more are used in the bias oscillator.

Measuring only 14½ in. deep by 11½ in. deep and 6½ in. high, the 250A is compact. It may be removed from its wood base and installed in the user's cabinet either vertically or horizontally, making it completely flexible in application.

### Performance

Rewind and fast-forward time measured at 2 min 35 sec for a 1200-foot reel. Wow and flutter measured less than 0.18 per cent at 7½ ips, and just under 0.22 per cent at 3½ ips.

Using a standard frequency tape, response measured -1 db at 50 Hz, +1.5 db at 15,000 at the 7½ ips speed; -0.8 db at 50 Hz, +0.8 db at 7500 Hz at 3½ ips.



Fig. 1. Sony 250A Tape Recorder.



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the owner with a reference point against which to adjust the mid and high ranges. The reference point is a tone lying well within the range of the woofer. Tones are presented in rapid order for first the mid-range against woofer and then the tweeter against mid-range; finally all three tones. With this tool, a high degree of accuracy is achieved, through purely audible means, in balancing the speaker against both its surroundings and its feeding components.

We tried the speakers in two rooms. In both cases the record resulted in a balance that we felt was completely musical. What proved more interesting was that several associates that used the record to balance the speakers in the same rooms came up with virtually identical settings. From these tests we conclude that this is indeed a useful tool. Limited tests indicate that the manufacturer's claim that this record is suitable with most any three-way system is probably accurate.

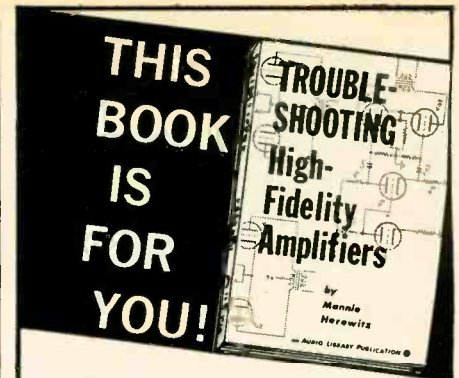
Measurement of the woofer, under outdoor conditions, showed smooth response down from the crossover point. There is a 3-db rise at 400 Hz but otherwise the curve showed a smooth decreasing line that indicated that there is good usable response to about 38 Hz. Measurement of the top end proved more elusive since on-axis measurements of the drivers had no relationship to the dispersion characteristics of the way they are used. Therefore we relied on our ears to tell us that over-all response is smooth, flat, and extends well beyond audibility.

Musical sound with these reproducers is quite neutral. This is neither a forward-sounding nor a rear-hall sounding product, though these qualities could be adjusted quite a bit one way or the other with the mid-range control. Bass response is good, too. It is certainly not a boom-box; quite the contrary the over-all bass response is perhaps just a bit *too* modest. Strangely though, the speaker does not sound thin. A tympani sounds much the way it does in a hall—full and vibrant, but not hollow.

We were curious to see just what musical effect the 360-deg. dispersion would provide. The results are more than interesting; they are, we believe, responsible for lifting this speaker into the forefront of reproducers.

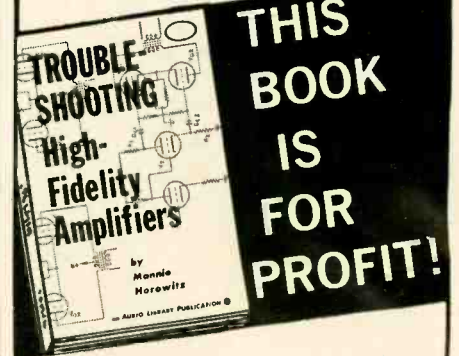
For the first time we could shut our eyes and really feel as if there was an orchestra deployed against the end of our room. Sound did not come from the speakers; it was lifted above and behind the units. The total effect of this characteristic defies description—it should be heard!

We are of the opinion that no speaker can be, or will be, definitive. There is no standard against which to judge them. Unless you can call one's own memory of live sound a standard. Still, this speaker does not drive us into frenzies of dissatisfaction when it is played directly after a return from Lincoln Center's Philharmonic Hall. This, to us, is the mark of a really good transducer. The KSC-3 is in such a category. Perhaps it is outpointed by some others in ultimate bass response or in other characteristics, but taken as a whole, it is a *music* reproducer that belongs on anyone's listening itinerary when contemplating speaker purchases. The \$195 price tag is one point in its favor. Circle 212



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