

THE CONSUMER'S GUIDE **new equipment**  
TO HIGH FIDELITY EQUIPMENT **reports**



## Sony/Superscope's Top Cassette Deck

**The Equipment:** Sony TC-161SD, a stereo cassette deck with built-in Dolby noise reduction circuitry, in wood case. Dimensions: 15 $\frac{3}{4}$  by 5 by 10 $\frac{7}{8}$  inches. Price: \$299.95. Manufacturer: Sony Corp., Japan; U.S. distributor: Superscope, Inc., 8150 Vineland Ave., Sun Valley, Calif. 91352.

**Comment:** Sony/Superscope's top home cassette model is, as you might expect, one of the more impressive decks now on the market. The speed accuracy, for example, was measured at CBS Labs as absolute at all three line voltages used in this test—the first time such a "perfect" rating has shown up in our tests of this type of equipment.

At first glance the 161 doesn't seem particularly unusual. The meters—which appear to be of conventional (nonpeak-reading) type with better than average needle movement—are on an angled panel at the back with the tape counter and memory rewind on/off switch to their left. (The memory rewind, a feature that should be familiar to regular readers by now, stops rewind at a spot on the tape that previously had been "marked" by resetting the tape counter to 000 when the tape was at that point.) The cassette well, which has a removable lid for maintenance, contains a dual-capstan drive system: a type of drive originally found only in instrumentation recorders and mastering equipment but showing up more and more in the better consumer units because of

the stability with which it draws the tape across the heads. When you press the motion-control keys you really become aware that this is not a garden-variety recorder. Their switching action has a "feel" comparable to that of a semipro open-reel deck and is quite different from the usual mechanical-interlock-plus-electrical-switch setup. The stop bar is separate from the other press-keys; the play/record key is oversized; the pause is a separate button. This differentiation helps in quick, positive identification of the right key to press. One unusual feature that we found took some getting used to: The pause automatically releases when you press the stop bar, altering the required sequence of activation in some processes.

At the right of the cassette well are switches for Dolby action (on/off), tape matching (chromium dioxide/"standard"), limiter (on/off), and AC power, plus dual sliders to control recording levels. (There are no play-back level controls for the feed to an external stereo system.) At the front right are miniature phone jacks for left and right microphone inputs, a stereo phone jack for headphone monitoring, and a two-position level switch for the headphone output. On the back panel are regular pin-type jack pairs for line input and line output, plus a DIN input/output jack. One minor point, perhaps, is the omission of a readily accessible user adjustment of Dolby levels for fine tuning to the owner's tape.

Except as otherwise noted, the lab data were derived

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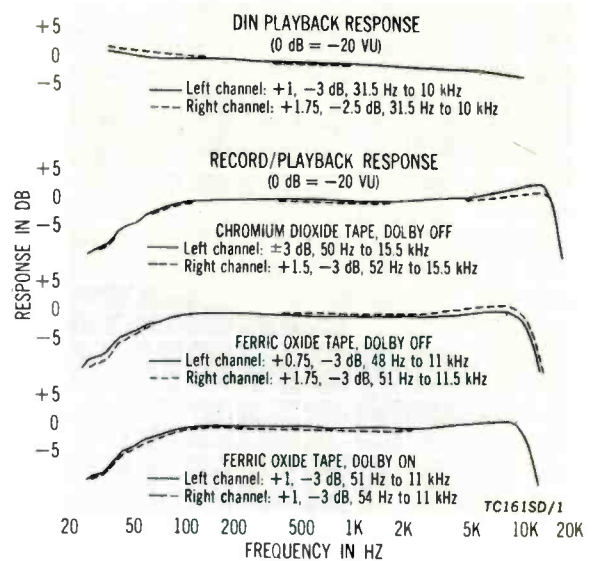
using ferric oxide tape. With chromium dioxide the high-frequency response is noticeably improved, and we used that tape in copying from the best commercially available sources we could find: Ampex Dolby-B open-reel tapes. After adjusting levels carefully to avoid any hint of overload even in the most heavily modulated passages, we could hear no difference between original and copy except for a slight increase in background noise. (Hiss level in the unrecorded portion at the end of the Ampex tape, however, is markedly below that in the cassette copy—proving both that the TC-161SD/Crolyn combination is not ultimately a true match for good open-reel equipment and that there is still room for improvement in the Ampex tape duplication process.) The hiss levels involved are not high enough to be audible at moderate listening levels; we had to drive our speakers to near concert-hall level to hear the distinctions noted here.

We also recorded some of the same passages (from *Petrushka*, which varies from full orchestra to almost chamber-music textures and includes plenty of sudden percussives) through the limiter, which proves unusually fine. It responds quickly to even the most violent outbursts, preventing audible distortion on the transients. If used with discretion its presence is difficult or impossible to detect. Even when used with the recording level all the way up (which produced horrendous overmodulation with the limiter switched off) the action often is difficult to spot, though the sound does take on a subtly "squashed" quality and in quiet passages the background noise can be heard sneaking back in. The best procedure is to set the gain for good levels with average signals and rely on the limiter only to tame unexpected peaks.

Particularly in making stop-start recordings from short selections on disc we found the TC-161SD to be unusually noise-free. The final copy plays back seamlessly, without the little noises and transients that usually betray the mechanics of the copying process. This nicety alone more than offsets one mechanical annoyance we encountered: a tendency to eject the cassette with enough vigor for us to recommend you have one hand ready to catch it.

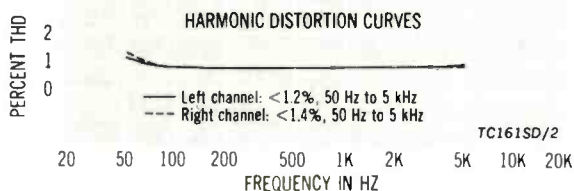
All of the lab measurements represent average or better performance for a top cassette deck. In addition to the speed accuracy, examples of better-than-average readings would be those for harmonic distortion and intermodulation, the latter being, at 4 per cent, the best yet measured. (Several cassette units have come in at about 5 per cent.) All told, then, the TC-161SD is an excellent unit, either for the usual tasks to which a home cassette deck is put or for live home recordings or conference taping—undertakings in which many users (particularly those unaccomplished at riding gain) may find the excellent limiter virtually indispensable.

CIRCLE 144 ON READER-SERVICE CARD



### Sony/Superscope TC-161SD Additional Data

Speed accuracy	exact at 105, 120, and 127 VAC	
Wow and flutter	playback: 0.10% record/playback: 0.13%	
Rewind time, C-60 cassette	1 min. 11 sec.	
Fast-forward time, same cassette	1 min. 8 sec.	
S/N ratio (ref. DIN 0 VU, Dolby off)		
playback	L ch: 55 dB	R ch: 56.5 dB
record/playback	L ch: 52.5 dB	R ch: 53.5 dB
Erasure (400 Hz at normal level)	55 dB	
Crosstalk (at 400 Hz)		
record left, playback right	38.5 dB	
record right, playback left	38 dB	
Sensitivity (for 0-VU recording level)		
line input	L ch: 66 mV	R ch: 66 mV
mike input	L ch: 0.21 mV	R ch: 0.21 mV
Meter action		
ref. DIN 0 VU	L ch: 3 dB high	R ch: 3.25 dB high
ref. Dolby level	L ch: 2 dB high	R ch: 2 dB high
IM distortion (record/play, -10 VU)	4.0%	
Maximum output (line, 0 VU)		
	L ch: 1.1 V	R ch: 1.0 V



### REPORTS IN PROGRESS

June—once again an all-speaker issue—will place special emphasis on new ideas in speaker-system designs.