

TANDBERG 3000X

With our unique CROSS-FIELD design



TANDBERG STEREO TAPE RECORDER SERIES 3000X

This dramatic new addition to the Tandberg family of space-age recording instruments takes over where its famous predecessors left off. It offers the unmatched recording capabilities that you expect from Tandberg, plus... the design sophistication that even the most critical will applaud. Specifically, the 3000X has been developed for those who insist on Tandberg quality but who do not require a wealth of extra features. Handsome, easy-to-use, and transistorized, this newest in the new ge-

neration of Tandberg's features the same tape transport mechanism that has made all Tandberg recorders impressive. It operates at three speeds and will, without hesitation, provide a level of high fidelity sound at $3\frac{3}{4}$ and $1\frac{7}{8}$ that many others cannot approach at $7\frac{1}{2}$ ips! There is good reason for this. The four heads employed (record, playback, erase, crossfield) are all Tandberg designed and produced. Each is precision gapped and mumetal screened for trouble free performance. The unique Cross-Field Head design, meanwhile, is directly responsible for the outstanding record/playback frequency response and signal-to-noise ratio exhibited. In addition, a flutter roller

in the tape path is your virtual guarantee of low wow and flutter. There are no pressure pads on the active heads to insure an absolute minimum of headwear. What's more, two tape guides are placed at each side of the four heads, thus assuring professional tracking.

Among its many desirable features, the 3000X offers: Peak reading V.U. meters; horizontal or vertical operation; push-button record controls; cueing; start-stop control; add-a-track; sound-on-sound; AB test; echo effects; mono mixing; and — most important — celebrated Tandberg performance. Judge for yourself. Compare with others priced much higher. Tandberg is obviously the finest.

TANDBERG

The 3000X and YOU

For many years all Tandberg recorders, regardless of electronic sophistication, were created to adhere to a «one-of-a-family look»... identifiable at a glance as a Tandberg recorder — the result of superb engineering and impeccable craftsmanship. Now, in the age of computers and space exploration, the basic aesthetics of Tandberg design have been changed. It has been revitalized and modernized. A clean-lined, sleek look has evolved... one that is descriptive of Tandberg's Norwegian heritage and its position as a world leader for more than 37 years. It is a design to be carried through into new instruments yet unborn. However, the goal for every Tandberg engineer and designer remains unaltered... to achieve **recording perfection** if that is possible! For it is in the record capability that the ultimate in lasting satisfaction and quality can be found. Thus, in the years ahead, as the technology becomes even more refined, our dedicated and talented artisans will continue to seek the broadest dimensions for sound reproduction... and the greatest listening pleasure for you.

TANDBERG Cross-Field Technique

The performing excellence of the 3000X results, in a large measure, from the Tandberg Cross-Field system employed. This design uses a separate bias head that thoroughly magnetizes and reduces the on-tape recording zone as well as wavelength dependability losses in the function. This, in turn, greatly reduces the equalization need for the recorder amplifier and reduces distortion in the final recording. Consequently, record/playback frequency response, signal-to-noise ratio and dynamic range are all unquestionably outstanding. Further, the fact that we design and produce our own heads emphasizes the care and precision which goes into each product. As the world's leading producer of tape recorders we have a responsibility to our customers and to ourselves that must always be fulfilled.

Capabilities and Functions

You will find many ways to use and enjoy this solid state stereo tape recorder. It is available in quarter and half track versions with handsome teak or rosewood cabinets. It will operate in the stereo or monaural modes and may also be used as a stereo preamplifier. It employs our simple, infallible tape transport control, peak reading V.U. meters, four digit counter, mechanical start-stop, push-button record and power controls, stereo headphone socket and separate mike/line inputs. Used in conjunction with a high quality amplifier, speakers, receiver or turntable, the 3000X will be capable of a wide range of recording conveniences and capabilities as well as unrivaled satisfaction.

TECHNICAL SPECIFICATIONS

Power Requirements: Standard version: 230/240/115V, 50 Hz. U.S. version: 115/230/240V, 60 Hz.

Power Consumption: 40 watt.

Motor: Two-pole.

Tape: Maximum reel diameter 7". Low Noise Tape should be used for recording.

Tape Speeds: 7 1/2, 3 3/4 and 1 7/8 ips.

Speed Tolerance: Absolute tolerance: ± 1.5 %.

Winding Times: 1,200 ft. of tape: 1 3/4 min.
1,800 ft. of tape: 2 1/2 min.

Heads: Erase head, record head, playback head, and bias head, (Tandberg Cross-Field).

Erase- and Bias Frequency: 85.5 kHz. Distortion less than 0.5 %.

Indicator: Moving coil meter. Optimum recording level: Deflection up to 0 dB at 3 % distortion.

Inputs: Each channel has the following inputs:

1. Microphone input for dynamic, low impedance microphone. Impedance: 200–700 ohm. Sensitivity at 400 Hz: 0.1 mV. Maximum input level: 25 mV.
2. Line input (LINE INPUT) for high impedance connection. Impedance: 1 Mohm. Sensitivity at 400 Hz: 100 mV. Maximum input level: 20 V. Phono socket.
3. Line input (RADIO) for low impedance connection. Impedance: 57 kohm. Sensitivity at 400 Hz: 5 mV. Maximum input level: 1V. DIN-socket pin 1 and 4.

Outputs: Emitter follower outputs. Minimum load impedance: 100 ohm on each channel. Output level: A tape recorded at 0 dB level with 400 Hz will at playback give approx. 0.75V. DIN-socket RADIO pin 3 and 5.

HEADPHONES, stereo jack for connection of stereo headphones. Stereo jack is connected in parallel with DIN-socket RADIO pin 3 and 5.

Distortion: A 400 Hz signal recorded at 0 dB level will at playback give 3–5 % tape distortion.

Frequency Response: At 400 Hz:

7 1/2 ips: 40–20,000 Hz ± 2 dB

3 3/4 ips: 50–16,000 Hz ± 2 dB

1 7/8 ips: 50–9,000 Hz ± 2 dB

Measured according to DIN 45511:

7 1/2 ips: 40–22,000 Hz

3 3/4 ips: 40–18,000 Hz

1 7/8 ips: 40–10,000 Hz

Amplifier position: 50–18,000 Hz ± 3 dB

Wow, max: DIN 45511, peak R.M.S.

7 1/2 ips: Less than 0.1 % 0.07 %

3 3/4 ips: Less than 0.2 % 0.14 %

1 7/8 ips: Less than 0.4 % 0.28 %

Signal/Tape Noise at 7 1/2 ips:

	4-track	2-track
IEC, A-curve	62 dB	64 dB
R.M.S., unweighted	57 dB	57 dB
DIN 45511, unweighted	51 dB	51 dB
DIN 45511, weighted	54 dB	56 dB

Crosstalk Suppression: Crosstalk suppression at 1,000 Hz according to DIN 45511:

Mono > 60 dB. Stereo > 50 dB.

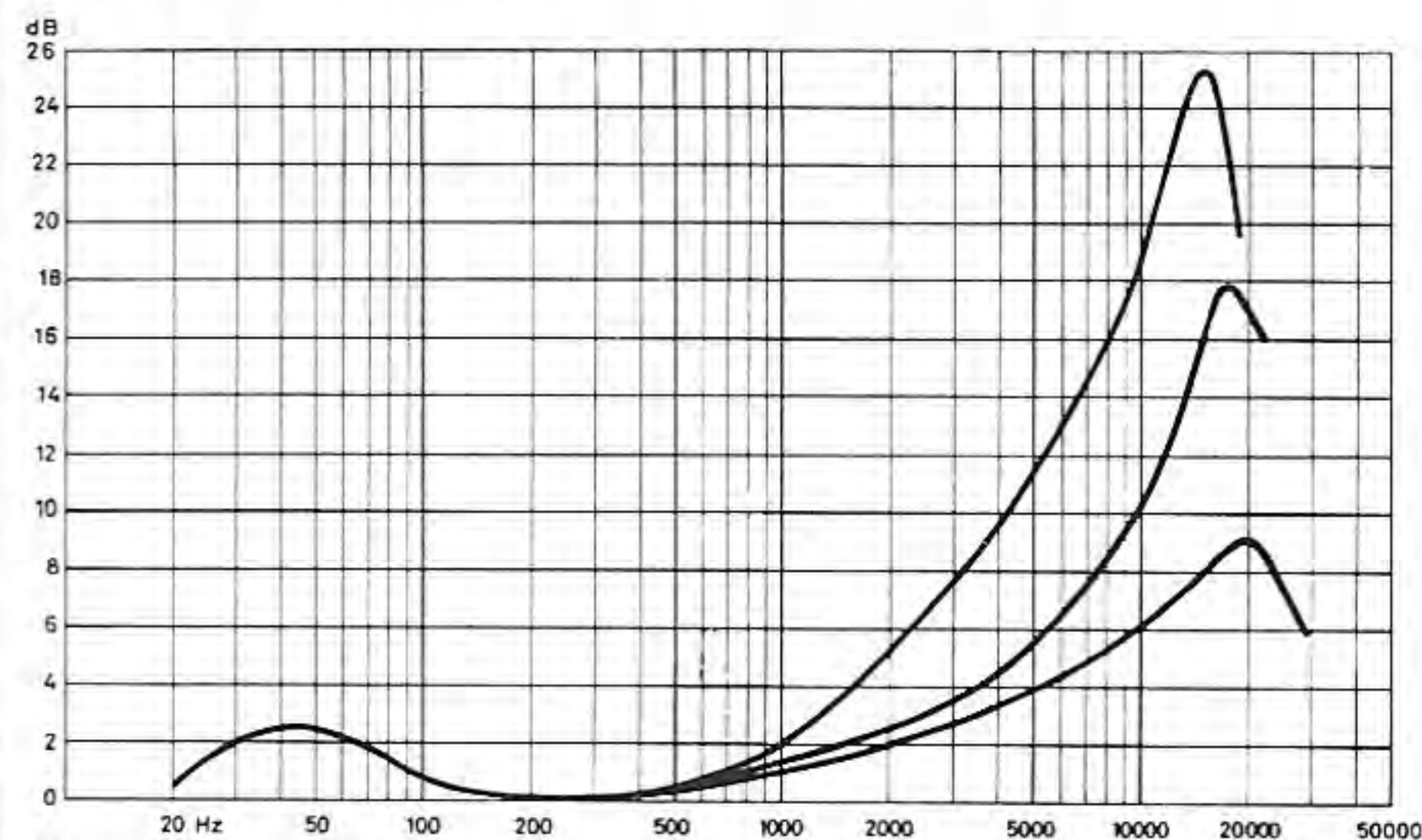
Dimensions: Length: 15 1/2" (39.4 cm).

Height: 6 1/2" (16.5 cm). Depth: 12 3/8" (31.6 cm).

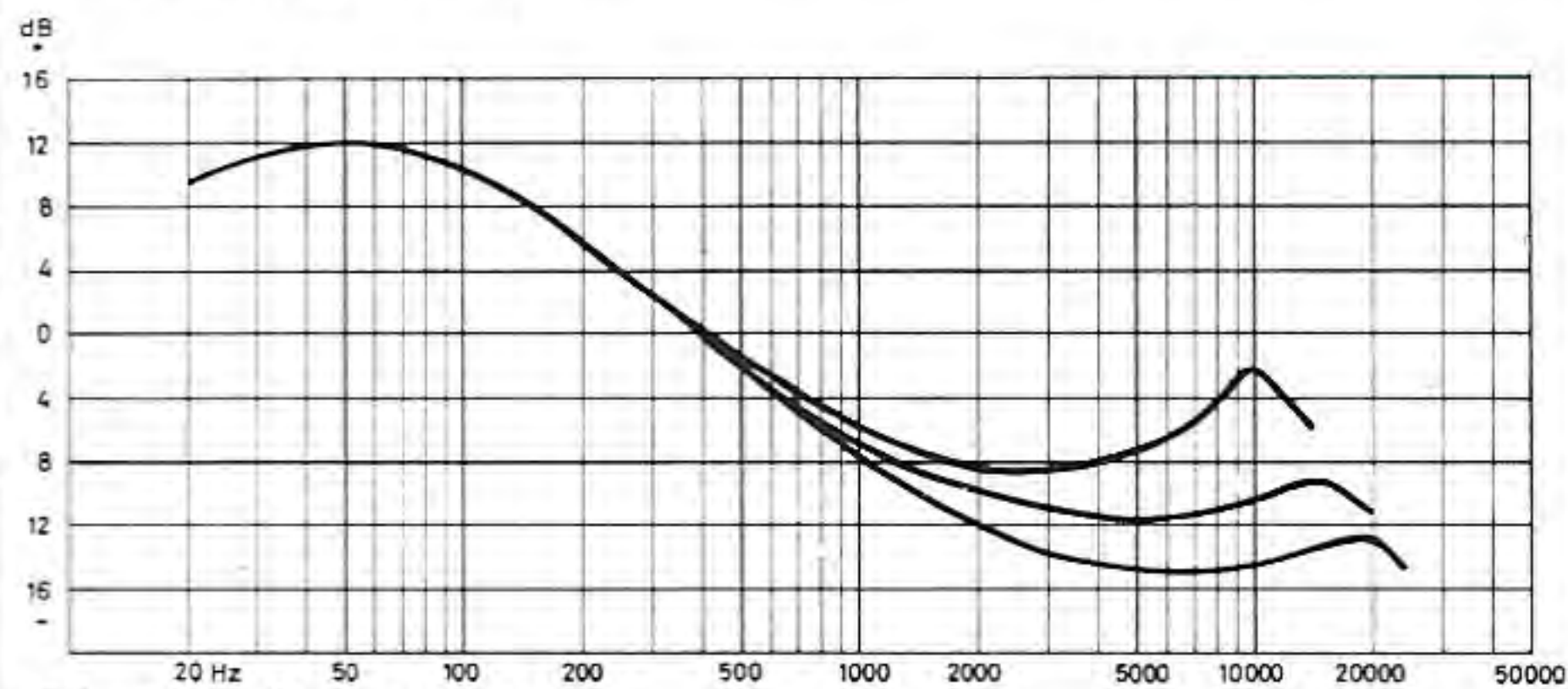
Weight: 20 lbs (9.1 kg).



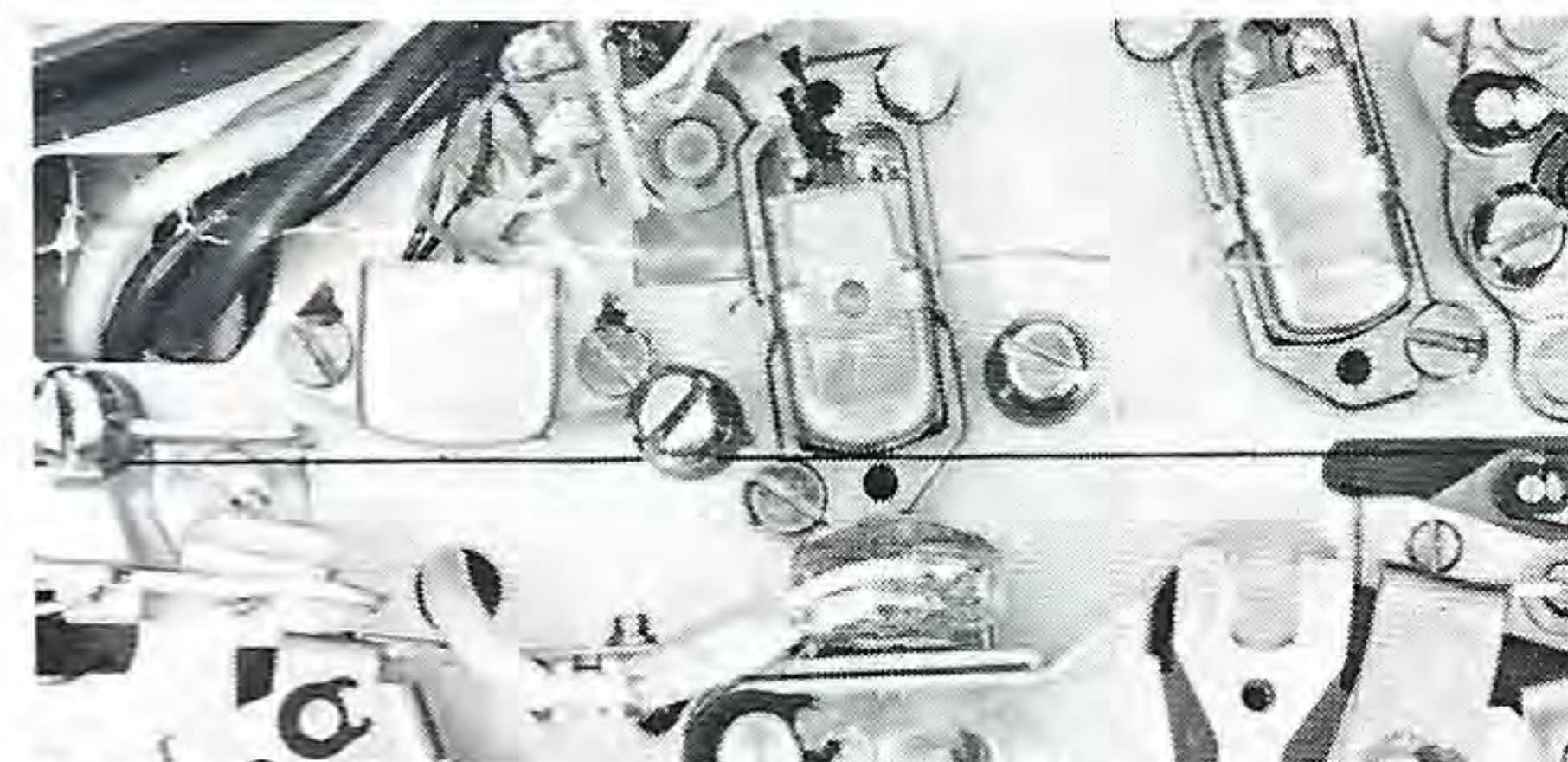
Series 3000X Stereo can be operated both in horizontal and vertical position. All connections except microphone connections and headphone output socket are placed on the rear side of the tape recorder.



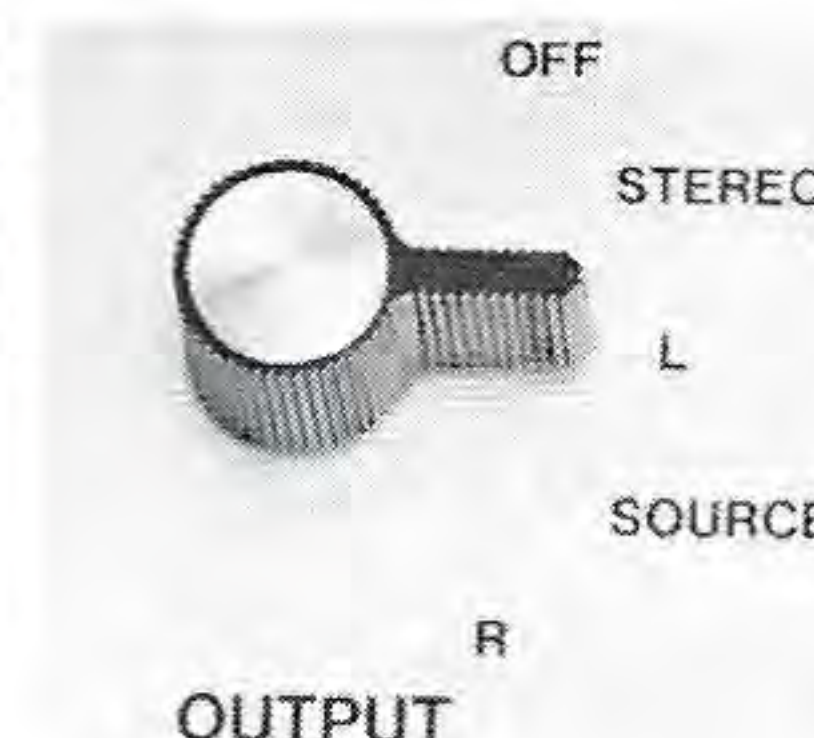
Recording curves.



Playback curves.



The Tandberg Cross-Field technique has been incorporated even in Series 3000X Stereo. This means that there is a separate bias head in front of the record-head, thus giving sensationally good frequency response and signal-to-noise ratio. The Cross-Field technique considerably improves the sound quality for excellent recording even at the low speed of 3 3/4 ips.



Series 3000X Stereo is equipped with «cueing», which makes it possible to listen to the L (Left) and tape during fast winding.

Series 3000X Stereo has output knob with 5 positions: OFF, STEREO, L (Left), SOURCE and R (Right).



L → R
NORMAL
R → R

Instantaneous start/stop knob for record and playback.

On the rear side of the tape recorder there is a switch with 3 positions: L-R (Left to Right), NORMAL and R-R (Right to Right). This switch makes possible «Sound-on-Sound» and echo without use of external cable.

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