

proportionately harder as bias frequency increases, which raises the problem of distortion in the bias waveform and attendant noise. Hence 75,000 cps or so is a practical maximum for the bias frequency. A frequency much below 60,000 cps is open to serious question as to its compatibility with high-fidelity performance.

#### A-B Switching

In a machine having separate record and playback heads, it is highly desirable that there be an A-B switching facility, as illustrated in Fig. 17, to permit comparison between the incoming signal and the signal recorded on the tape. Specifically, the output jack of the tape machine and the monitor jack should be switched between the incoming signal and the playback signal. Comparison between the two signals can then be made by earphones connected to the monitor jack or by means of a sound system fed from the output jack.

#### Record Interlock

One of the catastrophes that occasionally befalls the tape recordist is that of inadvertently erasing part or all of a valued tape because the machine is accidentally set in the record instead of playback mode. To minimize this danger, most tape machines provide a safety interlock that prevents putting the machine into record position unless one simultaneously actuates a special record button or lever. This button or lever should automatically disengage when the machine is put into any other mode of operation. To further minimize the danger of accidental erasure, some tape recorders have a warning light that goes on when the machine is in the record mode.

#### Automatic Equalization Change

It is desirable that the record equalization, and if necessary the playback equalization, be automatically changed when going from one tape speed to another.

#### Number of Motors

The transport has three basic mechanical functions so far as the record and playback modes are concerned: (1)

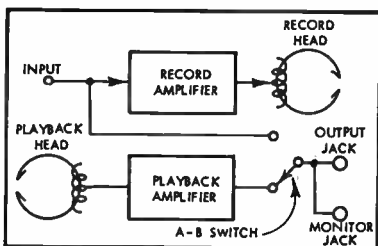
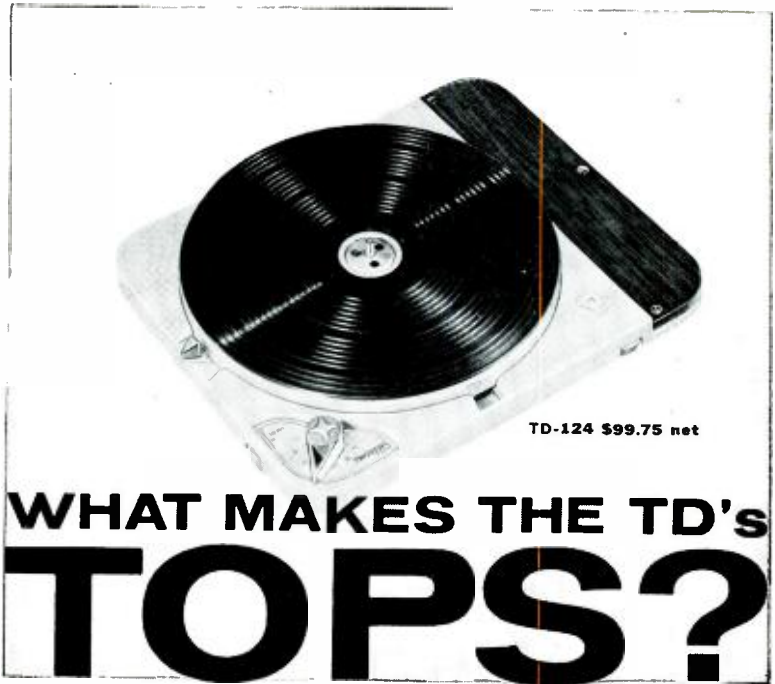


Fig. 17. A-B switching arrangement.



...finer for stereo...finer for mono

If you move in circles where component hi-fi is a by-word, you've no doubt heard about the Thorens TD-124 transcription turntable and its fabulous performance. But for late-comers we'd like to point up just a few of the really big features (non-technical readers may skip remarks in parentheses): • Extra heavy table for constant speed (10 lb rim-concentrated table insures low wow and flutter; higher moment of inertia than any similar table). • Exact speed ( $\pm 3\%$  adjustment on all speeds— $16\frac{2}{3}$ ,  $33\frac{1}{3}$ , 45, 78—with built-in illuminated strobe for setting after stylus is on record). • Easy on records (unique two-table design permits starts

after you've placed stylus, permits  $\frac{2}{3}$  rev. starts, makes cueing easy). • Extremely low rumble (mirror-finish main-bearing, nylon-seated ball-thrust-bearing reduce both vertical and horizontal rumble to a new low, so important for stereo). • 2-way motor rumble reduction (both an extra-large idler and an ultra-compliant belt-drive keep motor vibration and speed variations from table). Driving parts electronically balanced. No costly base necessary (only \$9.00). 50/60 cycles, 100/250 volt operation.

These are just a few of the TD-124's features. Ask your dealer to tell you the whole story on the fabulous TD-124.

#### Now two budget-priced TD turntables



These 4-speed turntables have same basic adjustable-speed precision-drive as famous TD-124 but you save two ways: (1) they come already equipped with stereo-wired professional arm without overhang making them ideal changer replacements. (2) Some TD features have been eliminated to save you money. But they still top the performance of every similar turntable and player on the market. TD-184 has semi-automatic operation. TD-134 is manually operated. Precision metal stroboscope (50/60 cycles) furnished with each unit. 100/250 volt operation. Wooden base only \$6.00.



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