



Add STROBE BARS

to Your Turntable

By Charles L. Hern

Widely spaced bars will show up small speed variations.

STROBE bars on the circumference of your turntable or record changer will give you a much more accurate indication of speed than will a standard strobe disc. Since the bars are farther apart than they are on a small disc, they tend to magnify speed variations. Fortunately, the pilot light on many turntables is located so that it can be used to illuminate the bars.

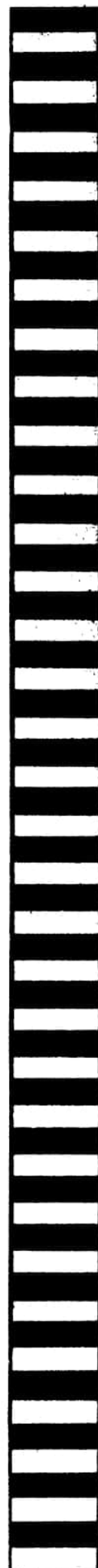
By using a tape called Labelon, which is sold by photo-supply, stationery and radio-parts stores, it is possible to do the job easily and yet give your equipment a professional look. The tape is available with a black, blue or red bottom layer. The top layer is white. When you write on it with a hard pencil or ball-point pen the marks are readily visible.

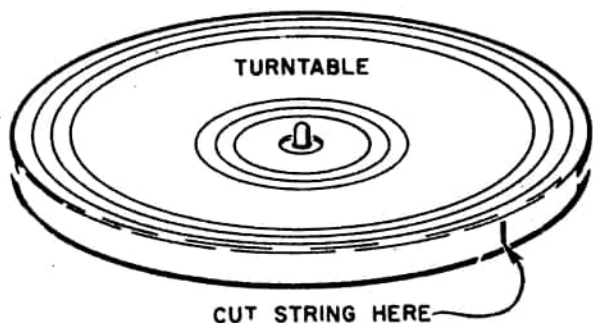
First, count the number of bars on your standard 6-cycle strobe disc for the speed you are interested in. There will be 216 bars for $33\frac{1}{3}$ rpm. Next, wrap a piece of fine, flexible wire, string or thread (that won't stretch) around the turntable. At the point where the string or wire overlaps, cut both strands evenly. You then have a piece exactly equal to the circumference.

On top of a smooth surface, such as a sheet of glass or a highly-finished table, put a piece of the Labelon tape, taking care to make it straight and flat. Cut the tape to the exact length of the string. The ends must be cut at right angles so they fit together without overlap or a gap when the tape is later put on the rim of the turntable.

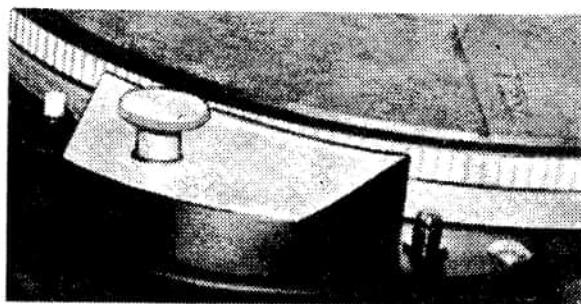
Divide the tape into six parts and draw six partition lines. (Six sections were chosen because 216 can be divided by 6 an even number of times.) Into each of these six sections draw 35 equally-spaced lines using a ball-point pen and a triangle. Take great care not to make a mistake. Once a mark has been put on the tape it can't be removed. For best results, the ball-point pen should be the same color as the tape backing. For better contrast with the white layer, choose a dark-colored tape.

The bars should be about $\frac{3}{16}$ of an inch wide and, of course, at right





Use string to determine circumference, or measure diameter accurately and multiply by 3.141.



For constant indication of turntable speed, connect a neon lamp to AC line, install near rim.

angles to both of the tape's edges.

The first bar should be right on one end of the tape and the last bar should be one space from the other end. Count the bars once more to make sure there are exactly 216.

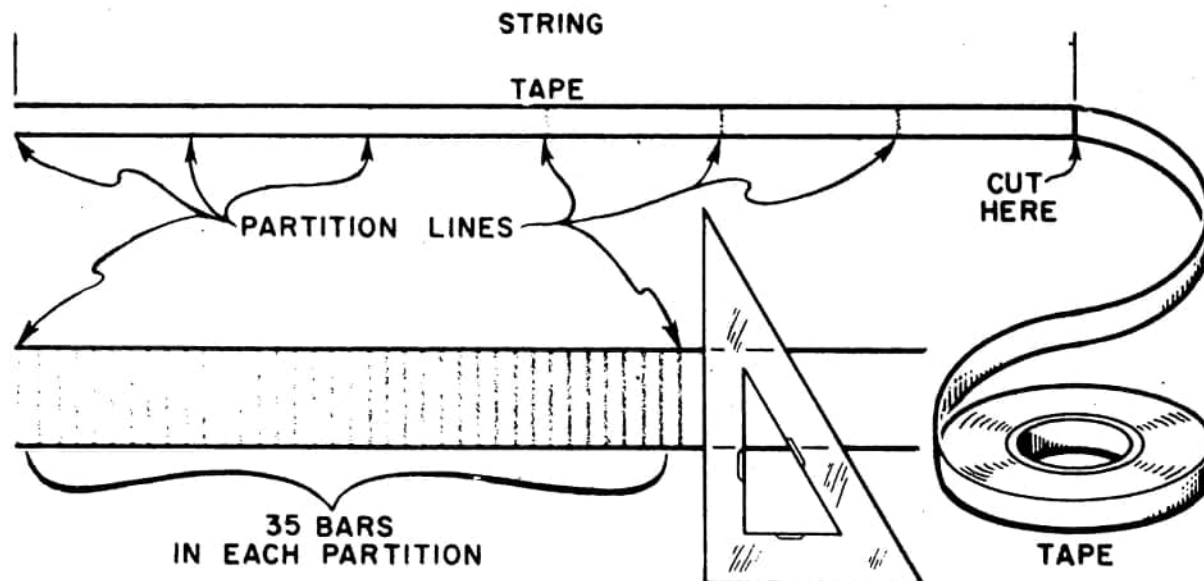
If you have a three-speed turntable or want to make up a set of bars for another speed, use the same procedure. For 45 rpm, there must be 160 bars. Again divide the tape into five partitions, but this time rule 31 lines in each. For 78 rpm, draw four partition lines and rule 22 lines in each. And for the most tedious job of all, $16\frac{2}{3}$ rpm, draw 12 partition lines and rule 35 lines in each.

After all the lines have been drawn, separate the tape from the glass or table top and wrap it carefully around the edge of the turntable. This may require

the help of a friend, since you must handle a rather long piece of tape and a free-wheeling turntable simultaneously. The two ends of the tape must meet exactly and one tape edge must be flush with the turntable edge.

If the turntable speed is correct, the bars will appear to stand still when illuminated by a 60-cycle neon or fluorescent light. If the bars move to the left the speed is too fast. If they move to the right the speed is too slow. The speed control will permit you to adjust for exactly the right rpm.

Exact speed is especially important if you have a sense of absolute pitch. If you play the piano in accompaniment to a recording, a slight error in the turntable's speed will cause a dissonance that might make you place an urgent call for a piano tuner.



For $33\frac{1}{3}$ -rpm speed there must be exactly 35 equally spaced bars in each of the six partitions.