

CINE Talking Shop

Arrowfoto Strobe-o-disc

APART from the tight, automatic synchronization of tape recorder and projector provided by the commercial sound couplers, it is possible to achieve very satisfactory results from the point of view of synchronization and at much less cost by the use of stroboscopic discs. This is no new idea; indeed the reviewer was using and has described such a method pre-war, linking the projector (strobe on sprocket shaft) to a twin-turntable gramophone unit (usual strobes on the turntables). This lark (the right word!) has, of course, been completely superseded by the continuous tape although, again, the same system can and has been used.

Recently, however, a rather neater and more elegant derivation of this basic system has been applied in which a strobe, driven by the tape (or mounted on a tape spindle) is illuminated not by the usual 50 cycle A.C. but by spill light from the projector beam, which is alternating at the rate of 48 interruptions per second (3 blade shutter at 16 f.p.s.; 2 blade at 24 f.p.s.), and the Strobe-o-disc is an example of this.

The outfit consists of a metal bracket, nicely finished in black crackle, which supports a spindle on which slides an adjustable collar. The stroboscopic disc is placed on this spindle and adjusted to the height of the tape deck by the collar; it is suggested that the bracket be screwed to a wooden block to obtain the correct height but in our case we did not find this necessary and simply pushed the foot under the recorder and wedged it into position. The stroboscopic disc itself is virtually a (quite heavy) large pulley around which the tape is led, between feed spool and dress cover. It rotates very freely (the bearing is silicone lubricated) and has no effect on the tape progression, as can be checked. On one side there are two test strobes, giving $3\frac{3}{4}$ and $7\frac{1}{2}$ i.p.s. respectively when illuminated by 50 cycle A.C. The other side has the synchro-strobes proper, again for $3\frac{3}{4}$ and $7\frac{1}{2}$ i.p.s. when illuminated in the manner previously described.

With the equipment set up, a check is first made on the actual speed of the tape recorder; ours, a Playtime Plus now some years old, was very nearly exactly on its one speed of $3\frac{3}{4}$ i.p.s. In fact it does not matter if the tape speed is not quite correct (though major variations ought to be attended

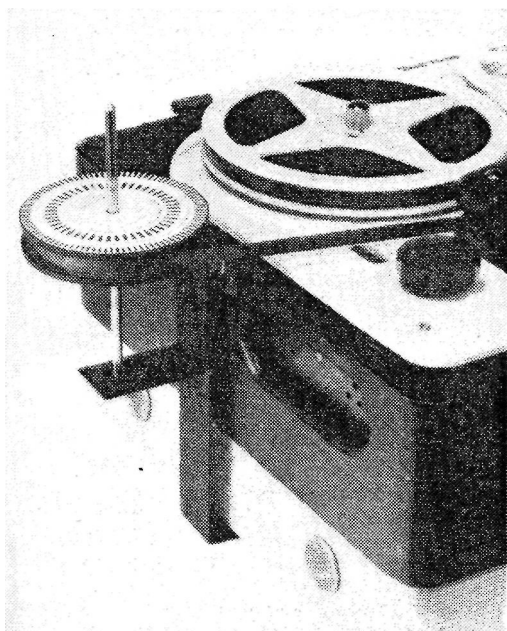
to) and we cannot quite see the point of the makers' suggestion that if so "you will not be able to satisfactorily interchange film with other amateurs or clubs using different tape recorders and projectors" for surely variations in projector speed could compensate.

To record, the tape is laced up and a start mark made by fixing a self-adhesive Arrowtab (supplied) to the shiny side of the tape—say between dress cover and take-up spool. Two 8 mm numbered leaders are supplied with the kit and one of these is attached to the film concerned, next to the opening title. Both projector and tape recorder should be allowed to warm up first, of course. With film laced, the projector is then started and when the last number flashes on to the screen, the tape recorder is started. They are then kept in step by observing the strobe disc—the bars on which must of course appear to be steady—control being effected by varying the projector speed. This means, of course, that the projector must have some means of varying its speed. Having made the recording, replay is achieved in precisely the same manner.

For our tests, in conjunction with the Playtime Plus we used a G.B.-Bell & Howell Moviemaster which is particularly suitable because it has a constant speed induction motor which is, however, variable around 16 f.p.s. by mechanical means (belt on two cones). We recorded (single-handed, incidentally) a commentary to a 50 ft. 8 mm travelogue type of film, keying remarks to specific actions, and found that on repeated playback exact synchronization was achieved assuming, of course, that the tape recorder was started at precisely the right moment. In fact, if this is done, little variation of projector speed is needed, at least with the model concerned. We feel sure that synchronization sufficient for normal amateur purposes (documentary, effects and music) would equally be achieved up to a full reel.

The Strobe-o-disc, which can, of course, be used with a projector for any gauge of film, costs 35s. 6d. complete as indicated. Extra numbered leaders are 2 for 3s. 6d. 8 mm; 3s. 6d. each, 16 mm.

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By
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The Strobe-o-disc attached to a typical tape recorder.