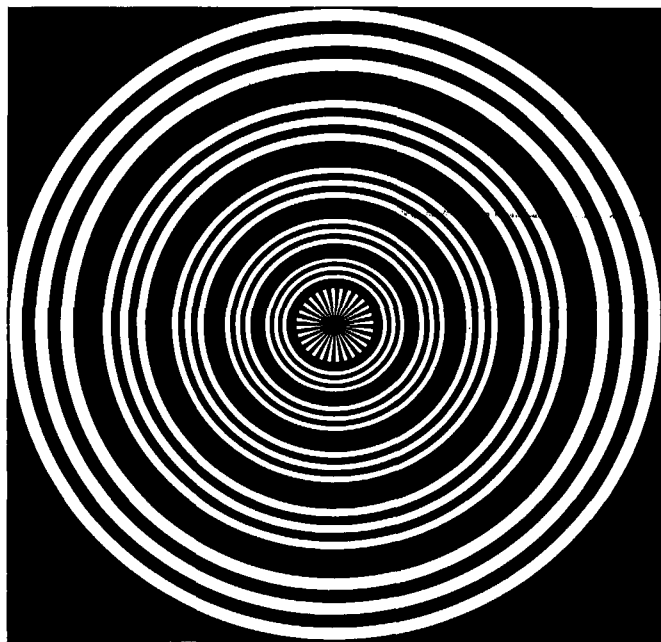


Instructions for SMPTE Reg - 16 — Registration Test Film

THIS FILM was developed to provide in a single test film of high accuracy several quantitative visual tests that have always been difficult to perform. They are as follows:

1. Projector steadiness;
2. Projector aperture alignment;
3. Projector shutter adjustment (travel ghost);
4. Projector framing accommodation;
5. Projector focusing;
6. Optical printer alignment;
7. Optical projector focusing;
8. Contact printer resolution;
9. Contact printer weave;
10. Contact printer double-exposure alignment;
11. Contact printer (step) steadiness;
12. A frame of this film may be used in a camera aperture for aligning a title stand;
13. By laying the scale on this film emulsion to emulsion on a sound record, its location may be measured.

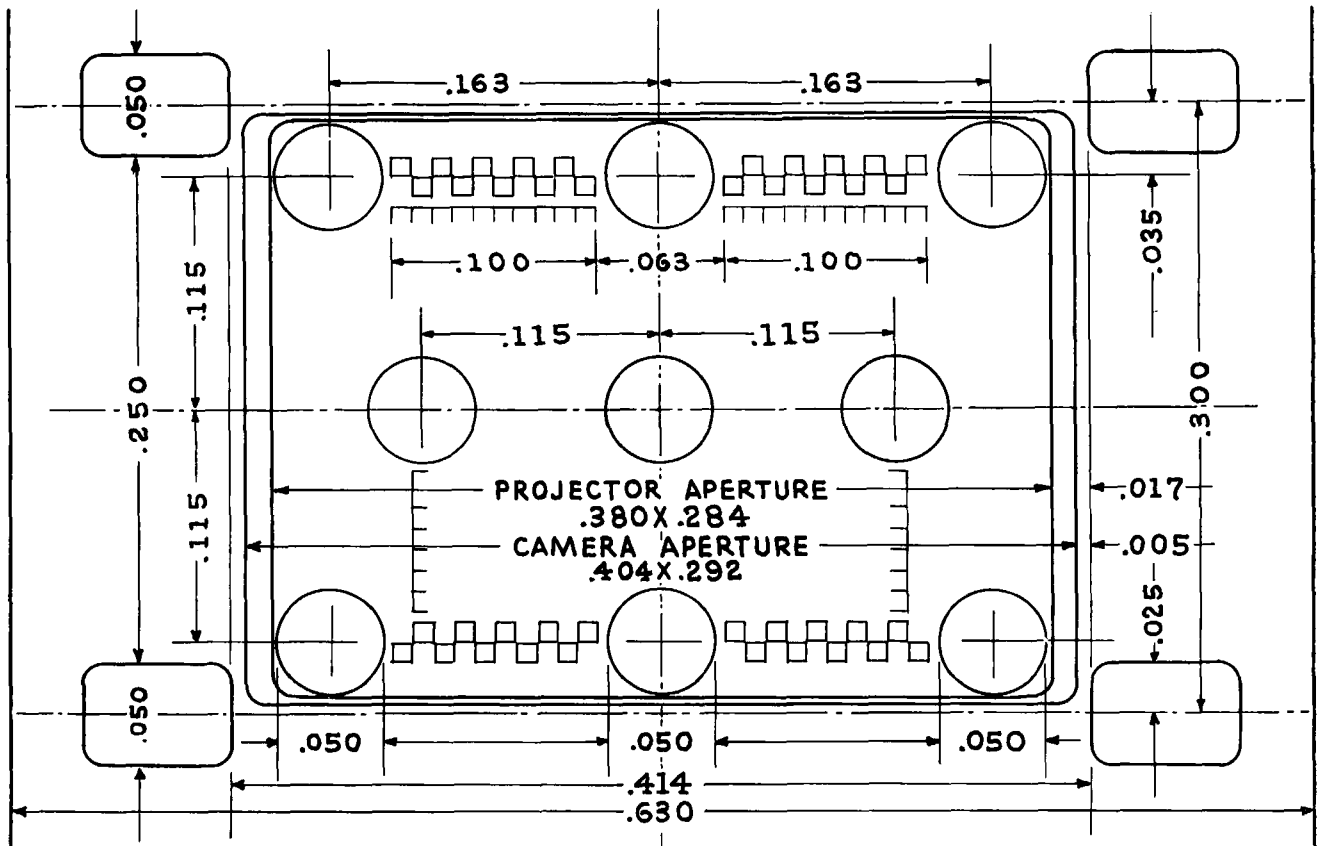
If the film is projected to 30 × 40 in. it will be enlarged 100 times. Since the 1-mil scale is 1/10 of an inch long on the film, it becomes 10 in. long on a picture of 30 × 40 in.



Detail of the frame content.



CORRECTION: The above shows the content of a frame of the REG-16 Test Film which is a positive print having a black background — contrary to the illustration published on p. 436 of the August 1956 Journal.



Dimensions of REG-16 — Registration Test Film. Aperture dimensions are in accordance with PH22.7 and PH22.8.

(1) The test film is a positive print having a black background with all copy white or transparent. The film stock used has high resolution and has been accurately perforated both edges one frame interval at a time so that the steadiness of each frame will be in respect to its perforation.

(2) The dimensions were obtained from present standards and adjusted to units of 1 mil and either represent the ideal condition or an average one in practice. For instance, the outside rectangle represents the camera aperture and the rectangle just inside, the projector aperture. The inside line should project on the screen in all projectors if designed according to SMPTE standards. If the camera aperture line should show in projection it would present an extremely large projector aperture.

(3) Resolution targets are spaced one in the center, four equidistant from the center and one in each of the four corners. The outside diameter of target on the film is 50 mils and will fill the area covered by an average microscope using a 10× objective. The original drawing of the target was laid out to an accuracy of 1 mil at 200 times size, i.e., 20 in. on the drawing reduces to 50 mils on the film.

(4) The white blocks are 10 mils square and will quickly indicate travel ghost caused by incorrect shutter adjustment. They also provide a quick check on the ability to frame above and below center position.

(5) The vertical rows of numbers 20, 30, etc., refer to lines per millimeter in the concentric rings of the resolution targets and also provide title size copy for rough focusing.

(6) The scales provide detailed copy on the chart and represent thousandths of an inch. These are helpful when film is double exposed in a printer to check registration.

(7) The copy on either side of the center target provides more fine detail and explains resolution targets.

(8) The lines adjacent to the sprocket-hole outline provide a means for accurately adjusting the image of the master chart to the film while being photographed.

(9) The triangular areas in the centers of the vertical and horizontal frame lines provide a means for measuring the amount of jump and weave and as a gauge for centering the film in the aperture laterally. Each line is 1 mil thick and spaced 1 mil. Count the white lines as 1 mil and the space between as 1 mil. Two white lines and a space total 3 mils or 0.003 in.