

control of the individual control unit. Saturable reactors are connected in the neutral of the circuit so that the lighting circuits are protected at all times in case of a ground.

Line booster transformers are installed to increase the voltage supply and to compensate for voltage drop in the reactor at full load. The voltage output of the booster transformer is 10 per cent of the normal line voltage, which limits the no-load voltage of each circuit to 110 per cent of normal line voltage. Due to the automatic regulation of each circuit, the maximum voltage for connected loads between 25 and 100 per cent of the reactor rating will not exceed the normal voltage.

REFERENCE

¹ MANHEIMER, J. R., AND JOSEPH, T. H.: "Electronic Tube Control for Theater Lighting," *J. Soc. Mot. Pict. Eng.*, **XXIV** (March, 1935), No. 3, p. 221.

FOTO FADE, A CHEMICAL AND DYE MIXTURE FOR POSITIVE FADES*

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Since the beginning of the motion picture industry there has been a need for a simple process for making positive fades on film being edited. Such a dye mixture is available in Foto Fade which easily produces dye fades on positive film.

There has been constant research for this type of material, but without much success; but a material is now available which on test by most of the larger studios and laboratories in Hollywood appears to produce the desired result. The fade produced is quite neutral in color from the light to the dark end, and is more uniform in its change than the fade obtained by diaphragm manipulation in the camera.

Two hundred grams of Foto Fade is dissolved in twenty gallons of water, care being taken to assure complete solution of the dye in the chemical mixture. The dye solution may be kept practically indefinitely in deep wood, glass, or rubber tank. The film, weighted at the lower end, is slowly immersed frame by frame until the complete length desired is covered by the solution. The film should be rinsed before squeegeeing with damp chamois cloth before drying. The maximal density of dye is attained in about one minute.

Although the use of Foto Fade has been restricted mostly to the professional field up to the present, it is equally applicable to substandard films. Since few amateur cameras are equipped with variable shutter mechanisms, a material for the easy production of positive fades should be particularly interesting to the amateur.

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