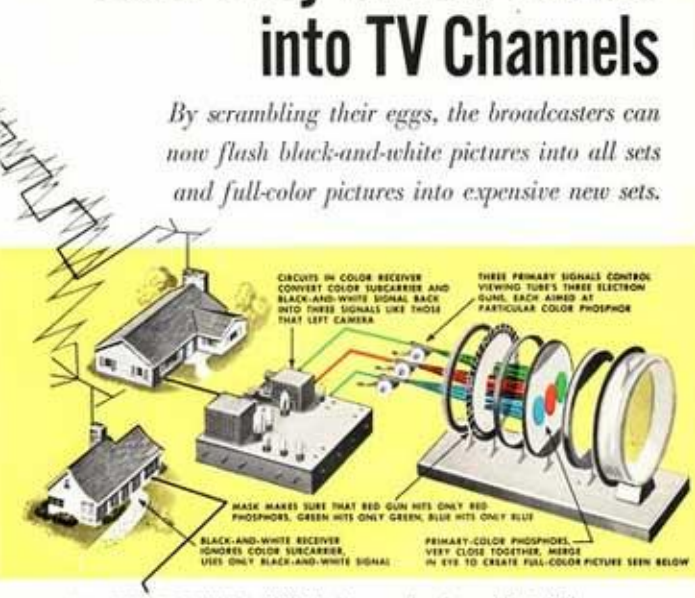
How They Crowd Colors into TV Channels

By scrambling their eggs, the broadcasters can now flash black-and-white pictures into all sets and full-color pictures into expensive new sets.



IT LOOKS like the hard way, but scrambling colors and then unscrambling them makes possible the new color TV that at last satisfies everybody.

The big color-TV cameras take three pictures, one for each primary color. These are mixed to give a black-and-white picture signal and a separate "subcarrier" of color signals. Color receivers use the subcarrier to convert the black-and-white signal back into the three primary-color pictures, which overlap on the color screen and are fused by the eye into full, natural color. Regular receivers ignore the color subcarrier and display the picture in ordinary monochrome.

Recent discoveries in science led to this compatible color inside a regular TV channel. Eye researchers found that a natural picture needed only a little color if fine detail appeared in black-and-white. Communications theorists found room for bursts of color information in the crowded TV channel.

Color receivers should be available by Easter. Cost: $800 up. Worth it? Well, look at the unretouched full-color photos on these pages—one shot in the studio, the other off the screen of a color receiver.—*Martin Mann.*

COLOR QUALITY IS REVEALED in PSM's «simultaneous» color photos of Marie McNamara, NBC's Miss Color TV. Facing page shows studio scene; shot at right records image on a color-TV screen. Below is what you would see on a black-and-white receiver.

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Courtesy of Wallace Dickson