TELEVISION
COLOR AND BIG-SCREEN IMAGES OPEN NEW HORIZONS

During this last summer, two years since television made its fanfare
studio debut, the biggest television news was made, as before, in
the laboratory. In the laboratory, it now appears, television will stay
for the duration of the emergency. At the bottom of any priorities list,
television's audience will continue to be limited by the insignificant
number of sets sold and selling. Television's promoters, however, are
satisfied that their Federal Communications Commission commercial
franchise, their 22 stations and audience of 6,000 receiver sets are a
nucleus on which television will survive and be ready to expand when
the war ends. Meanwhile they are cheered by two recent milestones in
television's technical progress: large-screen projection of television im-
ages (at left) and color television (opposite page).

Large-screen television, which was developed by NBC engineers and
has successfully demonstrated its power to project television programs
on a full-sized movie screen, opens up a new horizon for practical
application of the television art. Color television is the invention of
CBS's engineers, headed by young Dr. Peter C. Goldmark. It employs
a simple principle first applied to color movies, explained on the op-
posite page. As compared with the 30-to-1 contrast range of black-and-
white television, CBS's color system has demonstrated an almost un-
limited reproduction range for all colors, hues and shades in the spec-
trum. Though its resolution of detail is weaker than black-and-white
television, CBS's color television system transmits much more infor-
mation, in clear and brilliant images. There is every reason to believe
that all television programs in the future will be transmitted in color.
IN CBS TELEVISION STUDIO TWO CAMERAS (CENTER BACKGROUND) GET TWO ANGLES ON PERFORMER. DIRECTORS WATCH IMAGES ON RECIIVER SCREENS, EDIT TRANSMISSION
Pale delicate colors of bowl of flowers provide an exacting test for the CBS color television system. All colors will be reproduced at receiver by mixture of the primary colors, red, green and blue, which are represented in the filters of the color drum and disc (above).

Flowers televised appear with their colors accurately reproduced. Kodachrome reproduction of color television image does not do entire justice to it. In particular, horizontal lines on image picked up by camera at close range are not apparent to the eye at normal viewing distance.
In the television studio, Victor Moore, Vera Zorina and William Gaxton perform for color television camera (left). Color television can handle hundreds of thousands of different shades and hues of all colors as against 30 shades of gray for black-and-white television.

Performers televised show program possibilities of color television. Exaggerated in reproduction, loss of image detail is compensated by colors, which convey information lost in black-and-white transmission. Color image resists room illumination much better than black-and-white.