

# TV COLOR CONTROVERSY

FCC hearings in Washington will judge rival systems and try to thaw out television's long freeze

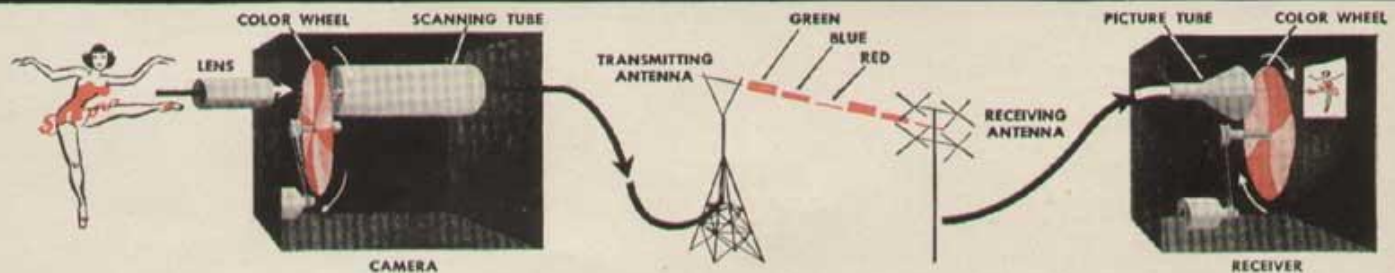
Next week Washington's Federal Communications Commission will resume the stormy hearings which it began last fall and will decide whether color TV is ripe for the U.S. public. As a traffic cop, assigning "channels" for nationwide civilian and military radio communications, the FCC has to set engineering standards for all television including color. Until these related problems of channeling and engineering can be licked, the FCC has declared a freeze on TV and is withholding permits on new stations. Therefore, upon the FCC hearings depends not

only the immediate future of color TV, but the progress of television itself.

Last fall the two big rivals in TV's color rumpus were CBS and RCA. Each had evolved its own individual system. Last month both companies were showing their systems in Washington, where LIFE took the pictures on opposite page. Meanwhile, as a sort of dark horse, a third system of transmission, called Color Television, Inc., has just given its first official demonstration and will also be discussed at the hearings.

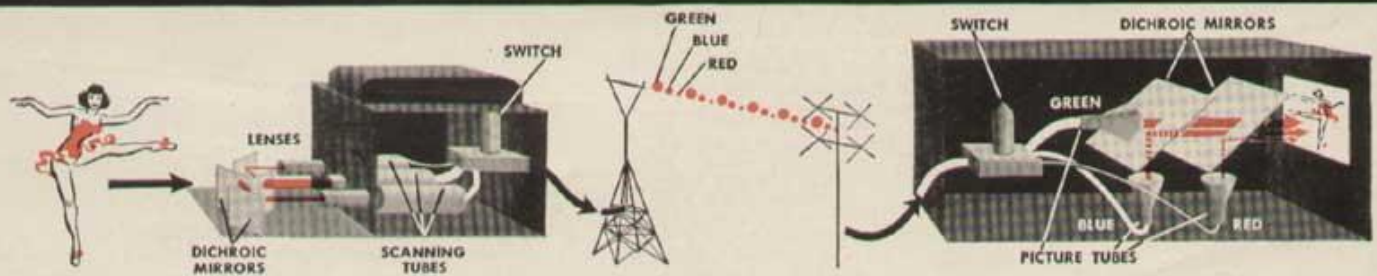
Below are diagrams showing the three main

systems of color television. CBS, which has a workable system now, wants to start telecasting right away. RCA, which insists that its system is potentially more workable than CBS's, could profit by delay. One solution to the color problem, subject to the objection that it may cause TV set owners more expense, is to grant temporary licenses to one or more of the three existing systems. The indications are that this may be FCC's decision. But whatever decision is made, most observers feel FCC should end its freeze so existing TV facilities can be expanded.



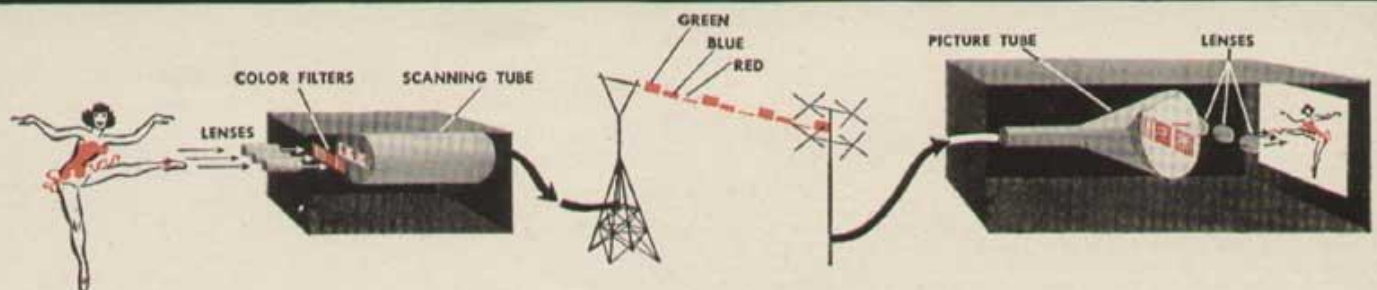
**CBS EQUIPMENT** employs wheel which rotates behind camera lens and separates the three basic colors of the image. Wheel's red, green and blue segments filter the light from subject so the colors pass through in succession. As in all TV, scanning tube changes lens image into electric signals which are broadcast. In

receiver, picture tube forms images in black and white, but a second color wheel synchronized with the first transforms images back to their original color (as "green" image is formed, green segment of wheel passes over tube, etc.). Succession of images seen through wheel appears to the eye as a single color picture.



**RCA EQUIPMENT** directs red, green and blue light from the subject into separate lenses by means of a series of "dichroic" mirrors, each of which reflects only one color into the lens of the camera. Individual scanning tubes then translate the three lens images into broadcast signals. An electronic switching device allows

the tubes to send their signals in rotation. In the RCA receiver these signals are sorted by a second switching device and sent in the proper order to red, green and blue picture tubes. The resulting colored images are reflected by more dichroic mirrors into the same viewing plane to produce the final full-color picture.



**CTI EQUIPMENT** has three camera lenses focused on the subject. Behind the lenses are mounted three color filters which produce red, green and blue images side by side on a single scanning tube. This triple image is transmitted over the air as a single picture. In CTI receiver this three-in-one composite image is re-

ceived on three separate areas on the face of the picture tube. These areas are treated with different phosphorescent compounds which glow in red, green or blue. Lenses between the tube and the viewing screen project the single color images onto the same spot, focusing them into one single multicolored picture.



### CBS COLOR TELEVISION

The picture above, showing Actress Faye Emerson standing before an old master at Washington's National Gallery, was taken by LIFE as it flashed on a CBS color television screen. At left, for comparison, is a photograph of the actual scene, taken under same lighting conditions with ordinary color film. CBS color televising equipment is reasonably portable, can be moved easily into museums, hospitals, theaters or sports arenas. No CBS color telecasts can be received on the public's existing sets, but with relatively minor additions the sets will receive either color or black and white.



### RCA COLOR TELEVISION

The picture above, of a magician doing card tricks for a pretty onlooker, was photographed from an RCA television screen during the recent TV color tests held privately in Washington, D.C. At left are the same performers taken by LIFE's photographer in the TV studio. RCA color pictures at present are more blurry and variable than CBS's, but RCA engineers say their system is still under development and that these defects can be corrected. RCA color telecasts can be received in black and white on existing sets. Bulky converters would be required for color reception.

Color TV CONTINUED

## KILLY GETS COLOR TV FOR 30¢



**HOMEMADE COLOR TV** was achieved by Forrest Killy of Roselle, N.J., who built wheel with segments of red, green and blue cellophane based on CBS's designs. With phonograph motor, he rigged up wheel to spin. Total cost: 30¢.



**CBS COLOR TELECAST** is received in black and white on an adapted television set. But it appears in full color when seen through Killy's spinning wheel. Says Killy, "Anyone can do it." CBS says it proves advantage of its system.



"**REMEMBER, KIDDIES,** there's a TV color converter on every package of Crispy, Crackly Breakfast Munchies!" Cartoon from *Broadcasting-Televasting* spoofs Killy's wheel, which has now been built by many home inventors.