RCA and NBC Petition FCC to Adopt Standards for Commercial Broadcasting of Compatible Color Television

Radio Corporation of America and the National Broadcasting Company, on June 25, petitioned the Federal Communications Commission to adopt compatible technical standards permitting the commercial broadcasting of color television. It was announced by Bing Crosby, David Sarnoff, Chairman of the Board of RCA.

The 697-page petition states that the color standards proposed by RCA and NBC are the signal specifications approved by the industry's National Television System Committee, that the RCA system which operares on these standards meets all criteria established by the FCC for a satisfactory color television system, and that, because of its compatibility, color programs broadcast on the RCA system can be received in black-and-white on the millions of sets now in use without any adjustments or additions.

"Our position as a pioneer imposes upon us the responsibility to do our best to bring about the early introduction and orderly development of compatible color television in the interests of the viewing public, our sponsors, and the independent stations affiliated with our network," General Sarnoff said. "RCA and NBC are prepared to spend as much as $35 million during color television's introductory year to establish this new service on a solid foundation. This would be in addition to the $36 million RCA will have spent by the end of 1953 in preparing research and development of compatible color television."

When the FCC adopts the proposed color standards, the petition states, RCA and NBC will:

1. Establish production of color receivers, color tubes, and broadcasting and studio equipment for sale to the public, to television manufacturers and to broadcasters. (It is estimated that the first sets produced will sell for $460 to $600, and when mass production is achieved prices will be substantially reduced.)
2. Commence broadcasting compatible color television programs which NBC will offer to commercial sponsors and its affiliated stations throughout the United States. (Already, 40 independent stations affiliated with NBC have agreed to premiere such broadcasting network color programs and others are planning to do the same.)

"RCA and NBC have the know-how to broadcast color programs, so both equipment for color broadcasting and complete sets that will receive these color programs," the petition asserts. "In addition, RCA and NBC have a nucleus of trained personnel ready to do the job."

General Sumoff pointed out that in the development of any great new service to the American public, someone must always take the lead and incur the initial capital risk. "For example," he said, "RCA and NBC raised $60 million in developing and introducing black-and-white television before getting a cent in return. We are now spending $40 million in creating this new industry of color television. This is an expenditure that must precede the achievement of mass production in manufacturing and substantial broadcasting of color programs.

"The new task is to translate the achievements of our scientists and engineers into color programs on the air and color sets in the nation's homes. This calls for a broad-scale effort by the entire radio-television industry."

General Sumoff said there are approximately 210 set manufacturers and 70 tube manufacturers in the radio-television industry, and approximately 190 television stations now on the air. "It is my great hope," he said, "that all of them will participate in the effort to take the color television 'baby' out of the cradle and teach it to walk."

RCA Ventures Available to Entire Industry

"RCA is following the same policy in introducing color as it did in black-and-white television, making its inventions available to the entire industry. In addition, we will manufacture and sell component parts, including the in-color tubes for competing manufacturers who will make and sell broadcasting equipment to any station, regardless of whether or not it is affiliated with NBC. The radio-television industry can avail itself of the scientific knowledge and technical know-how that are the fruits of RCA's color television investment, without incurring any of the initial capital risks. This means that it is economically practical for other members of the highly competitive industry to get into the color selection field quickly.

"I am confident that these members of the industry, who help to advance color television in its early stages, will be proud of the part they play in the development of this new service. Once black-and-white television was still in its infancy, some of those who heard and opposed it today, soon became television's most enthusiastic supporters. We can expect the same thing to happen in the case of color television."

General Sumoff said that the standards proposed to the FCC were sufficiently high to leave ample room for future developments. "Like the railroad and the automobile," he continued, "these standards provide color television with a gauge for a high-quality right-of-way. Like railroad cars, color television receivers can be changed and improved in the future, and still operate on the same standards or tracks."

"Color television is a major step forward in the science and art of seeing by radio. It will be revolutionary in its effect upon communications. Color greatly enhances the beauty and attractiveness of objects and scenes. It gives more information and increases our powers of memory and identification. It is a powerful tool for advertising. It is a new dimension that will increase the sales of products of all kinds and speeds the growth of new products."

Color cameras, microphones, boom and spot lights are set up for a color TV program in NBC's Colonial Theater, New York.
increase the public's enjoyment of news events, entertainment and education."

Pilot Production of Color Sets Possible by Spring of 1954

Dr. G. H. Jodoff, Vice President and Technical Director of RCA, announced, in a statement included in the RCA petition, that if the FCC approves the proposed new standards by the end of the summer of 1953, a pilot production of color receivers can start during the Spring of 1954.

In addition, Dr. Jodoff said, to facilitate the introduction of commercial color television broadcasting, the RCA's initial plans are to produce appropriate broadcast equipment on a custom basis. "This will enable broadcast engineers," he stated, "to proceed with color television early in 1954."

RCA System is Compatible

The RCA color system is compatible with the present black-and-white television, the petition continues, and programs broadcast using the RCA system can be received in natural color on color receivers and in high definition black-and-white on the more than 24,000,000 black-and-white receivers already in the hands of the American public without changing them or adding to taxes in any way.

The petition states the belief that the present field sequential color television standards based upon an incompatible color television system are "arbitrary and that their continuance is not in the public interest."

It is pointed out in the petition that the black-and-white receivers now in use, "representing an investment of billions of dollars, would be blind to compatible color broadcasts." The petition also points out that RCA and NBC know of no one who plans to manufacture or broadcast incompatible color television.

Regarding the proposed new standards for compatible color television, the petition states that they are "technical signals specifications approved February 2, 1953, by outstanding engineers and scientists of the radio and television industry, including members of the National Television System Committee." Petitioner knows of no responsible engineer or scientist in the radio and television field who proposes adoption of any other color standards.

For testing the RCA color television system and the proposed new standards, RCA and NBC offered to "make their laboratory, studios, transmitter, test equipment and other facilities freely available to the FCC and members of its staff."

RCA System Meets FCC Criteria

The petition states that extensive field tests, including thousands of hours of color transmissions, and public reaction studies show that the RCA system satisfied all the criteria previously specified in the Color Act of 1941 for color television. These criteria include color.
Price of Color Receivers

Dr. Jaliff, in a statement released by RCA, said that the retail price of the first RCA color television receivers will be between $600 and $1000. The picture size of the first color television receivers will be equal to a 14-inch black-and-white tube.

For comparison, Dr. Jaliff pointed out that the average retail price of a 14-inch black-and-white television set introduced in 1953 was approximately $400. However, he said, taking into account the change in price levels—based on the Bureau of Labor Statistics Price Index—that 1953 price would be approximately $8,000 in terms of 1956 dollars.

Price Reductions Foreseen

"A major item in the price of a color television receiver is the new color tube," he continued. "The price and size history of black-and-white kinescopes will be followed in color kinescopes. Prices will be reduced and sizes and quality increased as output production is increased by manufacturers of kinescopes.

"If standards for commercial broadcasting of compatible color television are adopted by the Commission, then enabling compatible color receivers to be manufactured on a mass production basis, expenses and competition will inevitably result in bringing about substantial reductions in the price of color receivers."

Dr. Jaliff said that the cost of station apparatus for the RCA color television system successfully meets the FCC criterion that it should not be "too high as to require the class of persons who are able to afford it."

A television station does not need to equip color studios in order to broadcast network color programs," Dr. Jaliff said. "The station can take color programs from the network by making relatively minor expenditures for equipment and minor technical changes. The station operator may expand his operations by adding a color slide camera, color film equipment and color cameras if he desires. The technical and cash costs of such equipment will depend on the kind and extent of local color programs required by the broadcast station owner who desires to provide color programs.

"The present prices are preliminary estimates based on existing conditions, present equipment designs and limited production. Provided other conditions remain the same, it is anticipated that substantial price reductions will be made when commercial product designs are finalized and the production of color equipment increased."

Tricolor TV kineoscopes are inspected during a pilot-production run at RCA's tube plant, Lancaster, Pennsylvania.
RCA's Manufacturing Plans

Dr. Jacoby said that RCA has established a pilot plant for the production of RCA color kinescopes within its tube plant at Easton, Pennsylvania. Within a few months, he continued, this pilot operation will achieve a production rate of 2,000 tubes per month.

"To respond to demand for more color kinescopes than can be produced in the pilot production unit," he pointed out, "operations can be expanded into existing black-and-white kinescope production facilities with suitable modification of such facilities and the addition of the specialized items needed for mass color kinescope production.

Facility space for producing RCA color television receivers is available and necessary test equipment has been determined. Manufacturing personnel has examined the engineering samples of model RCA color television receivers and are agreed that no unusual manufacturing problems are involved.

While a substantially increased number of component parts are required for a color television receiver as compared with a black-and-white receiver, and circuits require a greater degree of testing and adjustment, manufacturing techniques will be basically the same as for black-and-white television receivers.

Dr. Jacoby said that the proposed technical signal specifications made provision for future improvements in equipment at both transmitter and receiver without requiring a change in standards or obsolescing receivers in the public's hands.

NBD Color Telecasting Plans and Policies

The National Broadcasting Company's color television programming plans and policies are outlined in the picture. Highlights of these plans and policies are:

- The first immediate proposal of NBC consists of starting "an experimental year," in the course of which all the engineering and programming groups of NBC will have a chance to get direct experience in color-television it was said, because they will produce their present black-and-white television shows in color presentations.

- The picture shows:
  - We have now worked out a rough schedule of color events from the Colosseum Theatre in New York, and 945 in our Radio City studios, which are the two present color-equipped studios of the National Broadcasting Company. We expect to average about a week's work from the Colosseum, and the two shows will average an hour together. All will be reserved for occasionan technical experiment.

  - "We will schedule the color presentations, out of the facade of Colosseum Theatre, New York, originating point of the majority of color TV programs broadcast experimentally by RCA and NBC.

Colonial Theatre, on a national basis of all our black-and-white attractions so that each show is seen in color at least once, in a specially-designed color show, which will still be shot in black and white, but we hope to use some in color. We will include the NBC opera in English, Tristan and Isolde, Great Commissions, and other occasional as well as regular shows.

"When the great shows and the regular shows of NBC are offered in their color premises at the average rate of two a week from the Colosseum, the advertiser will offer his advertising in color with the show. In the case of multiple sponsors, we hope to offer all advertisers the same opportunity.

Local events and exhibits and celebrations can all be covered in color. When important enough, we would hope to use our remote equipment to bring the scene on a special event pick-up basis."

The picture points up the fact, noted that a practical

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The demonstration for the House Committee also included outdoor pickup of color television pictures with the NBC mobile color television van. RCA Laboratories Division research men showed in operating experimental models of an improved color television projection receiver, a face-mask reticle receiving tube and a color camera that functions with one camera tube instead of the three in present-day equipment. The demonstration was held in the Colonial Theater color television studio in New York.

Similar demonstrations were held on April 26, for members of the NTSC, on May 13, for members of the FCC and staff, on May 21, for RCA licensees, and on May 26, for NBC network affiliates. On June 22, the Committee on Interstate and Foreign Commerce of the U.S. Senate witnessed a color program originating in the Colonial Theater and learned to Washington over microwave facilities.

Samoff Receives Honorary Degrees

Two honorary degrees were conferred during June upon Brig. Gen. David Samoff, Board Chairman of RCA, by educational institutions in New Jersey and Pennsylvania. On June 2, he received an honorary degree of Doctor of Laws from Drexel Institute of Technology.

Twelve years ago we decided that we wanted to move away from black-and-white television, RCA and NBC met a heavy schedule of color television field tests and broadcast demonstrations. On April 14, members of the Committee on Interstate and Foreign Commerce of the House of Representatives witnessed RCA color television on receivers at the Drexel Institute Research Center, Philadelphia, Pa. On May 13, a twenty-minute program, featuring a variety of entertainment, was broadcast over Channel 4 in New York City using experimental license KUCY. These were recent examples. RCA had told the Committee in Washington that RCA and NBC were ready to use color television broadcasting and recommended that the FCC immediately authorize commercial broadcasts of compatible color television signals.