



**RCA VICTOR**  
 RADIO CORPORATION  
 OF AMERICA

WORLD LEADER  
 IN RADIO

FIRST IN  
 TELEVISION

FIRST IN  
 RECORDED MUSIC

Form 3D5511

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Printed in U.S.A.

facts you should

know

about the

**RCA**  
**Compatible**  
**COLOR**

Television System



**BIEVER APPLIANCE**

201 N. FRANKLIN ST.

PORT WASHINGTON,

WIS.



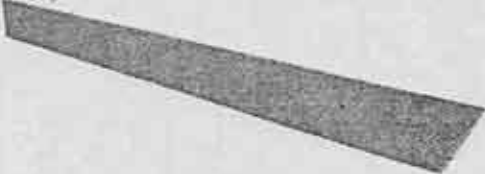
**RCA PIONEERED AND**

**DEVELOPED**



**COMPATIBLE**

**COLOR TELEVISION**



● On December 17, 1953, the Federal Communications Commission approved the standards for *Compatible Color Television* which had been presented to it by RCA, NBC and others. The RCA compatible color television system operates on the color standards approved by the FCC.

**APRIL, 1954**

**1**

**STATEMENT  
ISSUED BY  
BRIG. GENERAL SARNOFF,  
FOLLOWING THE  
ANNOUNCEMENT OF  
FCC APPROVAL  
OF STANDARDS FOR  
COMPATIBLE  
COLOR  
TELEVISION**



"COLOR TELEVISION opens a new era in electronic communications and adds a new dimension to the entertainment arts. It supplies a new power to advertising . . . intensifies television as a social and educational force, and opens the way for a significant advance in service to the public.

"The day on which the FCC approved standards for the commercial broadcasting of compatible color television will be remembered in the annals of communications along with the historic date of April 30, 1939, when RCA and the National Broadcasting Company introduced all-electronic black-and-white television as a new broadcast service to the public . . .

"At that time we added sight to sound. Now we add color to sight.

"RCA is proud of the leadership its scientists and engineers achieved in developing—the all-electronic black-and-white television system—the all-electronic compatible color television system—and the RCA tri-color tube, which made the latter practicable.

"Dedicated to pioneering and steadfast in our purpose to give America preeminence in communications, we shall continue our efforts to advance and to merit the faith and confidence the American people have in 'RCA' as an emblem of quality, dependability and progress."

BRIG. GENERAL DAVID SARNOFF  
*Chairman of the Board*  
RADIO CORPORATION OF AMERICA



## FOREWORD

**B**lack-and-white television has become firmly established in millions of American homes. Although it was first introduced to the general public in 1939, its phenomenal growth occurred for the most part in the eight post-war years.

Now, like a legend come true, color television is a reality, offering television viewers the exciting prospect of seeing their favorite programs in full natural color.

Because of color television's newness and importance to the American public, this booklet has been prepared to answer many of the questions that are being asked.

**RCA  
COMPATIBLE  
COLOR  
TELEVISION...**

**FROM  
LABORATORY MARVEL TO  
HOME REALITY**

**T**HE ORIGINS of RCA compatible color television go back to the 1920's, when television itself was little more than an unusual laboratory experiment. RCA experimental station W2XBS had just been moved, after being located for two years in Van Cortlandt Park, New York City, to a studio atop the New Amsterdam Theatre in the heart of Manhattan. One of the first TV "stars" was Felix the Cat. He was barely recognizable on the small-screen 60-line black-and-white picture.

In achieving this first step, RCA had already accepted an important challenge and set a goal toward which to strive.

COMPATIBLE COLOR TELEVISION

The challenge was two-fold. First, to transmit and receive practical television broadcasts of a quality to win public acceptance. Secondly, to achieve greater reality in television through color. The ultimate goal . . . an all-electronic system of color television.

Less than a decade later, the patient, skilled research of RCA scientists and engineers began to bear fruit. RCA-NBC began the first regular television program schedule in 1939, and a small handful of black-and-white receivers started trickling into American homes. On February 6, 1940, the first all-electronic color television reception (crude by today's high standards) was demonstrated to Government representatives by RCA at its laboratories in Camden, New Jersey.

World War II interrupted the development of television as a service to the public. But the acceleration of progress in electronics for military needs provided the basis for the phenomenal postwar growth of black-and-white television, and the jumping-off point for further developments in color.

By 1949, many technical obstacles

had been overcome in the picking up, transmitting and receiving of color television, within the same channel bandwidth and with the same high definition as black-and-white.

In 1950, RCA unveiled the tri-color tube . . . a marvel, even in an age of electronic wonders.

Color transmitters, studio equipment, color cameras and color receivers were improved steadily by scientists and engineers of RCA and NBC, first in the laboratories, and then in actual experimental broadcasts and field tests. Methods and equipment were developed for putting color programs on the national networks satisfactorily.

In developing to a practical reality a high quality, fully compatible color television system, RCA invested over \$25 million, and plans to invest another \$15 million in color television's "introductory" year.

To ensure the introduction of color TV on the widest possible basis, RCA is repeating the same industry-wide assistance it gave in 1947 which led to the phenomenal success of black-and-white television. It invited com-

peting tube and receiver manufacturers to a series of meetings, and made available to them its technical data, samples of the tri-color tube and kits of color set components.

In addition, RCA and NBC scientists and engineers worked with specialists from virtually the entire industry in the standardization of the technical signal specifications for color TV, while RCA equipment and NBC compatible color broadcasts were made available to other manufacturers for their own research, development and field tests.

NBC's experimental color telecasts of special programs, along with color clinics for sponsors and advertising agency personnel, imparted valuable "know-how" to every phase of putting a color program on the air.

The RCA Service Company trained a corps of color specialists in aligning, testing and installing color receivers, and began installing special color test and servicing equipment in its key branches in areas where initial color programs went on the air.

Pending commercial production of this necessary equipment, a color test

equipment service is being made available at RCA Factory Service branches to dealers and independent service organizations. To help train dealers and service technicians, the RCA Service Company is holding clinics on color TV receivers in nearly a hundred cities, and has published a textbook on practical color television servicing. A home study course in color TV is also available through RCA Institutes, Inc.

On December 17, 1953, the Federal Communications Commission, in approving standards for compatible color television, officially opened the new world of color to the nation's TV viewers. To the more than 27 million owners of existing sets, the RCA compatible system now brings color telecasts which they receive in black-and-white without any change or alteration to their sets. To the new owners of color receivers in the months and years ahead, the RCA compatible system will bring the added enjoyment of the breathtaking beauty and realism of natural color broadcasts . . . a wonderful new dimension for exciting new home entertainment.

RCA PIONEERED AND DEVELOPED COMPATIBLE COLOR TELEVISION



**BASIC FACTS**

**ABOUT**

**COLOR**

**TELEVISION**

**Q** *What is color television?*

**A** Color television is television transmitted and received in full color. With an RCA Victor Color Television receiver, pictures transmitted in color will be *received* in all their natural color, just as the eye would see them at the scene of transmission.

**Q** *What is a "monochrome" television set?*

**A** "Monochrome" television is the technical name used by the television industry for a black-and-white set.

**Q** *Is it possible to see color telecasts in color on a black-and-white receiver?*

**A** No. Reception of pictures *in color* on an existing black-and-white receiver is impossible. Even though the telecast may be in color, it will be received on the black-and-white set in *black and white* only. Color pictures can be seen *only* on a color television set.

**Q** *Can a black-and-white set be converted to receive color?*

**A** It is technically possible, but not recommended. The cost of parts and labor for converting your black-and-white set to color may represent a substantial part of the cost of a new color television set.

**Q** *Why is the RCA system of color television called "compatible"?*

**A** Because it permits stations to broadcast color programs which can be received in color on color receivers and in black and white on black-and-white television receivers.

**Q** *What are the advantages of a compatible system of color television?*

**A** Without compatibility, for which RCA has fought and worked long and hard, black-and-white sets would be completely "blind" to color broadcasts. With the "compatibility" of the RCA system of color, a black-and-white set will continue to bring you *every* program on the air (in black and white).

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**Q** Does a color set receive black-and-white programs as well as color telecasts?

**A** Yes. Your color set will receive black-and-white telecasts in black-and-white pictures on your screen. *Only* programs transmitted in color will be received in color.

**Q** Does a color set look different from a black-and-white set?

**A** No. In overall appearance they are similar. However, the size of the color set will be slightly larger to provide space for the bigger and more complex chassis of the color set.

**Q** How good are the color pictures seen on an RCA Victor color set?

**A** Most experts consider them even better in quality than color photography. Colors are amazingly true and life-like.

**Q** Is a black-and-white television set still a good investment?

**A** Yes. More than a million dollars is spent every twenty-four hours in providing the American public with top entertainment on television. Black-and-white sets have never been such a tremendous value, and 21-inch RCA Victor television sets are at their lowest price in history. Remember . . . you can get *all* the shows on a black-and-white set.

**Q** What size screens will the new color sets have?

**A** At first, most of the color sets will have pictures equivalent to those of 14-inch black-and-white sets.

**Q** Will color sets with bigger screens be introduced later on?

**A** Yes. Work on the development of larger tri-color tubes is in continuous progress and RCA research laboratories have already made substantial progress on larger tri-color tubes.

**Q** What will a color set cost?

**A** Latest industry estimates for the cost of a color set now range from \$700 to \$1200 or more. But as production techniques improve and advances in design are worked out, substantial price reductions are anticipated.

**Q** Why is color television more expensive than a black-and-white set?

**A** Because color sets have many more parts and require more man-hours of labor to build them. The color set functions as a black-and-white set; it also receives color broadcast signals and "translates" them into color pictures. In addition, the tri-color picture tube, a vital part of the color set, is more complicated than the black-and-white picture tube. This adds substantially to the cost of the color television set.

**Q** Will pictures on a color set remain as steady and clear as present black-and-white reception?

**A** Yes. Tests indicate color reception is just as clear and steady as black-and-white reception.

RCA PIONEERED AND DEVELOPED COMPATIBLE COLOR TELEVISION

## COLOR TELEVISION

### INSTALLATION

### AND

### OPERATION

**Q** *Is installation of a color set in the home more difficult than installing a black-and-white set?*

**A** Only slightly. A properly trained service man will install a color set in the home almost as easily as a black-and-white set. There are, however, more adjustments for him to make on a color set than on a black-and-white set, and these adjustments take longer.

**Q** *How much will it cost to have a color set installed in a home?*

**A** The cost will be somewhat higher than installation of a black-and-white set . . . in approximately the same proportion as the price of a color set to a black-and-white set.

**Q** *Can an antenna that was used for black-and-white reception also be used for color set reception?*

**A** Yes. Tests have shown that antennas for black-and-white sets may usually be used for color sets.

**Q** *Will color sets receive just as well in UHF areas as in VHF?*

**A** Yes. Wherever a black-and-white set receives a picture, UHF or VHF, a color set will function just as well.

**Q** *Are there any extra controls on a color television set?*

**A** Yes, there are four. One control on the front lets the viewer adjust the intensity of color to his own taste. Another front control permits an actual alteration of the colors to achieve greatest realism. By making some familiar part of the picture life-like in hue, such as the flesh-tone, the rest of the picture automatically adjusts itself to the proper color balance. Two other controls, less often used, will sharpen focus, and minimize any "color fringe" that may appear in black-and-white picture reception.

**Q** *Are the extra controls on a color set easy to operate?*

**A** Yes. Their usage is no more difficult than the controls on a black-and-white set. Your eye will tell you when you have the set properly adjusted.

**Q** *Is a color picture tube different from a black-and-white picture tube?*

**A** Yes, very different. The tri-color picture tube developed by RCA engineers is the "heart" of RCA's all-electronic color television receiver. The tube uses three electron beams to produce three basic colors, red, blue and green, "painting" the pictures electronically on the tube face. It is capable of reproducing any mixture and intensity of colors throughout the entire visible color spectrum.

RCA PIONEERED AND DEVELOPED COMPATIBLE COLOR TELEVISION



## COLOR TELEVISION

### MAINTENANCE

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### AND SERVICE



- Q** *Will I be able to obtain an RCA Victor Service Contract for an RCA Victor Color Television set when I buy one?*
- A** Yes. There are RCA Victor Service Contracts for color, just as for black-and-white TV sets. They are available in principal TV markets throughout the country, and only to RCA Victor TV owners. With an RCA Victor Service Contract, you can be sure of efficient service by RCA's own expert technicians. Your local dealer will explain the types of contracts available. Ask him for details.
- Q** *Is RCA making information available to the television service industry on the installation, maintenance and servicing of color television?*
- A** Yes. By the time color sets reach the public in substantial quantities, RCA will have made its technical information on the installation, maintenance and service of color sets available to the entire industry.

- Q** *Is it more expensive to service a color set than a black-and-white set?*
- A** The cost will be somewhat higher . . . in approximately the same proportion as the price of the color set to the black-and-white receiver.



## COLOR

## BROADCASTING

- Q** *How many color programs are being scheduled by the broadcast networks for the coming months?*
- A** The National Broadcasting Company is planning to continue a limited number of color telecasts each week. Another network is also producing color broadcasts in limited numbers.
- Q** *Will color programs eventually replace black-and-white programs?*
- A** Present indications are that black-and-white telecasts will comprise a large part of all television broadcasts for several years to come.
- Q** *Can a local station carry network color television shows?*
- A** Yes; but some additional equipment is needed. RCA and other manufacturers are already filling orders for this necessary color equipment.

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COMPATIBLE COLOR TELEVISION

**Q** Will any local station be able to telecast local shows in color?

**A** Yes, provided it installs the necessary added color broadcast equipment.

**Q** Is it just as easy for a station to produce a program for color as for a black-and-white broadcast?

**A** Some new techniques are required for color productions. For instance, lighting is a highly important factor. In general, about three times as much light is now needed for color productions as for black-and-white telecasts. Wardrobes must be chosen with care. Harmony of colors becomes an important item. Scenery, backdrops and stage effects must be carefully blended, and makeup must be applied with more precision.

