



Radio-TV and Electronics in 1953-1954



The "Master 21"—RCA Victor television receiver—popular in price and attractively styled in ebony

Review... and a Preview

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PROGRESS in development of color television, approval by the Federal Communications Commission of signal standards using the RCA compatible color television system, and preparation by stations for colorcasting, set the stage for 1954 to be the "Introductory Year" of color television.

Color television holds great potential for future expansion of the industry. Other branches of electronics also advanced on many fronts throughout 1953. Major advances during the year included:

1. Great strides in development of electronic weapons and instruments for national defense.
2. Expanded and improved television broadcasting service, including progress

in the use of ultra high frequencies.

3. Development of magnetic tape recording for television in both color and black-and-white, ushering in a new era of "electronic photography".

4. Further development and application of transistors, promising simplification and miniaturization of electronic equipment.

5. Further clarification of radio's enduring position as a vital broadcasting service to the American public.

6. Inauguration of the world's most powerful radio transmitter by the U. S. Navy, marking a historic milestone in world-wide communications.

7. New levels of popularity for recorded music, sparked by progress in high fidelity records and phonographs.

8. Progress in industrial electronics, including push-button controls, electronic computers, food sterilization, and closed-circuit television.

The year 1954 holds promise for new advances throughout the radio-television and electronic industry. Fulfillment of the promise of this new year, however, will depend upon how well the leaders of the industry meet current economic problems and the new challenges of our times.

Corporate Developments

The Radio Corporation of America in 1953 produced the largest volume of business in its 34-year history. Sales of products and services are estimated in an amount exceeding \$830 million during the year. Net profits are estimated at approximately \$34,700,000 (final figures for the year are not yet available). Dividends declared on the Common Stock amounted to \$20,312,000. In addition, \$3,152,952 was paid in dividends on the Preferred Stock. Employment totaled 65,000. Manufacturing accounted for 70% of net earnings; radio-television broadcasting, 15%; communications, 5%, and all other activities, 10%.

Government business accounted for about \$160 million, or 19% of total sales. The current backlog of Government orders was about \$500 million at the year-end, and is expected to expand in 1954.

The organization of the National Broad-

casting Company was greatly strengthened during the past year in every phase of its operation. Sylvester L. Weaver, Jr., elected President of NBC on December 4, 1953, has an awareness of high purpose, a sincere regard for public service, proven capacity for showmanship, a thorough understanding of the advertisers' needs and problems and an appreciation of the economic facts of life in the broadcasting industry. He has youth and a breadth and depth of experience.

Robert W. Sarnoff, the newly elected Executive Vice President of NBC, has served in a wide range of capacities which include excellent experience in programming, production and sales. These two men working together as a harmonious team will lead NBC in strengthening its position as the Nation's No. 1 broadcaster and keep it at the forefront as "first" in service to the public in both radio and television.

Military Electronics

Since the end of World War II, great advances have been made in the military application of communications, radar, missile control, airborne television and many other phases of electronics which fit into the modern ramparts of our Nation's security. Our objective is not only to produce electronic weapons and instruments, but through research and engineering to keep the United States at the forefront of science in its relationship to military electronics.

In the field of radio communications, opening of the most powerful radio transmitter in the world (1,200,000 watts) built for the U. S. Navy by RCA at Jim Creek Valley in the State of Washington, marked a historic milestone in world-wide communications. It demonstrates to a marked degree how teamwork between private industry and the military forces contributes to the nation's welfare and to the leadership of the United States in international communications.

Color Television Advances

The date December 17, 1953, 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-NBC introduced *all-electronic black-and-white television* as a new broadcast service to the public at the opening of the World's Fair in New York.

RCA is proud of the leadership its scientists and engineers achieved in developing the all-electronic *compatible* color television system and the RCA tri-color tube.

Compatibility means that existing television sets can receive color programs in black-and-white without any changes or additional devices. For this principle of compatibility in television, RCA fought hard and long, not only to achieve it scientifically, but to advance such a system as the only logical and practical service in the interest of the public and the television industry.

Because of compatibility, no one need hesitate to buy a black-and-white television set. It will not be obsolete because of color, and it will perform many years of service. Color television sets at the outset will cost from \$800 to \$1,000, and production will be in relatively small quantities until the industry is geared for mass production.

The National Broadcasting Company has completed program plans for color television's introductory year that call for each of NBC's regular productions to be broadcast in color at least once during the year—at the average rate of two programs a week.

During the past year NBC's personnel had an opportunity to acquire extensive experience in the broadcasting of color television programs. Significant developments in 1953 pointed the way to further progress that may be expected in 1954:

1. Compatible color television was viewed for the first time in Chicago on September 22, 1953, when RCA-NBC staged a demonstration at the annual meeting of the Association of National Advertisers. This inter-city program was transmitted over a closed circuit from New York.

2. On November 3, 1953, R C A - N B C staged two historic "firsts": A live show from the NBC color TV studio at the Colonial Theatre in New York was relayed by microwave to Burbank, Calif.,



Color television camera in action at NBC's Colonial Theatre studio in New York, world's largest color TV program center

and a color film was televised for the first time from coast to coast.

3. A color television version of the opera "Carmen" telecast by NBC in New York was acclaimed as "breathtaking and beautiful" and "a magnificent feat of technology and showmanship".

4. The first sponsored network program in compatible color television broadcast on November 22, 1953, featured "The Colgate Comedy Hour" starring Donald O'Connor. This telecast was the first of a number of premieres scheduled by NBC.

5. These impressive demonstrations led to another history-making colorcast by NBC—the Tournament of Roses at Pasadena, California. This event was colorcast on New Year's Day through 21 stations, which were equipped for colorcasts, while other stations in the network presented the pageant in black-and-white.

Said *The New York Times*:

"Color television's most exacting test came with the NBC's outdoor pick-up of the Tournament of Roses. All things considered the results were exceedingly good, . . . There was no question that the essence of the parade's panorama of color was projected successfully on home screens some 3,000 miles away."



RCA tri-color picture tubes—heart of color television receivers—in pilot production at the RCA plant Lancaster, Pa.

The *Daily News* noted that the Tournament of Roses parade “picked up by a special NBC mobile color unit, the only one of its kind in existence, was the first transcontinental colorcast from West to East. It also went into the books as the first remote (outside the studio) program in compatible tints, under the new FCC standards and the first network color show carried by a series of coast-to-coast stations.”

Television is also extending its usefulness to perform new services for business and industry. Television's basic function is “extension of human sight”, and wherever such applications are needed the TV camera and associated equipment are ready for practical use. Wherever danger, remoteness or discomfort preclude human observers, the industrial TV camera comes into play.

RCA's light-weight industrial TV equipment using the small vidicon camera tube has led to substantial expansions of industrial television. This field now becomes one of great potential for phenomenal growth, in factories, banks, department stores, hotels, theatres, lecture halls and auditoriums and even for inter-office “sight” communication.

Radio

Radio broadcasting in 1954 moves into its 34th year and during that period has become intimately integrated with American life. Naturally, over such a long period any service undergoes fundamental changes to keep pace with the times, and in the case of radio it has confronted television as a new competitive service.

Nevertheless, radio has continuing economic opportunities for it performs where television and other mediums of communication and information do not reach. Today there are more than 45 million radio families in the United States. There are 26 million automobile radios, and many millions of portable sets. In 1953 alone, 13 million radio sets, including nearly 5 million auto radios, were produced.

Magnetic Tape for Sight and Sound

A new era of “Electronic Photography” was ushered in during 1953 when on December 1, RCA demonstrated magnetic tape recording of both black-and-white and color television. This is a development of great significance to the motion picture world as well as television.

Eventually magnetic tape recording of video signals should make it possible for television set owners to make their own recordings of television pictures in the home. Then they can be “performed” over and over through the television receiver just as a phonograph record is played at will. Many more new uses will undoubtedly be developed as means are found for the packaging of magnetic tape in low cost cartridges. Electronic cameras are in prospect.

Phonographs and Records

Phonographs and records reached new levels of popularity in 1953, and this renaissance may be expected to continue in 1954. In 1953 the phonograph-record industry as a whole sold more than 238 million disks. Major factors that lifted record sales to a new peak in 1953 were: Increased use of 3-speed turntables; wide acceptance of 45-rpm Extended Play recordings, and the influence of High Fidelity in generating new interest in records and phonographs.

"Hi-Fi", the popular term for High Fidelity, has introduced a new epoch in music which is bright with promise.

The Outlook

As we look ahead into 1954, we have a clearer view of the field of science than of economics. Science and engineering in 1954 will move forward to new achievements.

Based upon standards of the past, 1954 should be a good year for the radio-television electronics industry. This does not necessarily mean that new records will be made in production and sales. It is more likely that a moderate degree of economic adjustment will take place in many industries throughout the year. But this can be achieved without dislocation of our economy.

America is still a growing country. Its population, annually increasing at the rate of more than 2½ million, continually calls for more and more radio and television sets. In 1953 the radio-television industry as a whole produced 13 million radio sets, including auto radios, and approximately 7,000,000 TV receivers.

Those who first saw the light of day in 1953 most certainly will grow up in an age of color television. They will also find tiny personal radios and other small but powerful sets made possible by the transistor, far different from the large sets used by their grandparents.

RCA now enters its 35th year dedicated, as in the beginning, to pioneering and steadfast in purpose to give America preeminence in communications. Pioneering, vision and scientific research are vital factors in long-range planning. The opportunities ahead for business and industry, for employment, for new and useful services to the public are truly great. We will continue our efforts to do our part to advance and to merit the faith and confidence the American people have in "RCA" as an emblem of quality, dependability and progress.

