

# Spot Radio News

\* Presenting latest information on the Radio Industry.

By RADIO & TELEVISION NEWS'  
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**COLOR TV**, a year ago in quite a hopeless state, sharply criticized by most as an impossible medium for the present and perhaps for many years, now appears to have emerged from that completely dismal condition and become tinged with a few rays of hope. The fringe glow began to hover about the horizon as those breathlessly-awaited reports of industry were filed with the Commission. For the first time, there was one optimistic note in all the briefs, and that concerned the *dating*. All three proponents—*RCA*, *CBS*, and *CTI*—agreed that color TV should be commercialized immediately. But, and here is where the rosiness of the glow began to show signs of paling, the briefs disclosed that each system developer insisted that his method was a superior one and should be adopted, an argument that most felt would eventually stymie decision rendering for more months than anticipated. While everyone expected that staunch support for each of the proposed ways and means for solving the color war would prevail, there was a general feeling that some compromises might be effected to avoid any further hectic debate and consequent delay in a final edict.

Each of the three aspirants for the red, green, and blue prize submitted husky volumes in defense of his ideals. The *RCA* story appeared in what will probably become an historic technical document, a 200-page book, covering practically every aspect of the situation to date.

Presenting the case for the dot-interlace system, the Commission was told that . . . "Standards based on the *RCA* system may be adopted which will give the greatest potential for the speedy development of a commercial color service now and for future improvement without disruption of present or future black and white service, and without future disruption of the color service. . . . The record establishes that the *RCA* system is free from color breakup, fringing, and flicker. Neither dot structure nor small area flicker or crawl is perceptible at a viewing distance where the line structure of an ordinary black and white picture is not resolved."

In rows of pages devoted to a critical commentary of other systems, par-

ticularly the one proposed by *CBS*, the report covered every characteristic of method operation. Detailing the problem of compatibility, *RCA* declared that: "The *CBS* statement . . . that the problem of compatibility is 'merely transitional' cannot serve to obscure the real significance of compatibility. *CBS* seeks to minimize the importance of continuing black and white reception to present owners of receiving sets by calling the problem 'transitional.' *CBS* has, however, no suggestion which would enable the Commission to keep faith with the more than six million owners of black and white receivers, other than the unjustifiable expense of unsatisfactory adapters and an 'obsolescence' which is wholly without support."

Continuing in its tirade, the brief said that . . . "*CBS* claims that 'within a few years' the problem of incompatibility will disappear. This statement underscores in a dramatic way the real importance of compatibility. That is, to make it economically possible for all broadcasters to give the public color now; not 'within a few years.'"

Recalling the early days of TV, when many criticized the adoption of the present black and white electronic method, *RCA* pointed out that there were those who claimed . . . "it was impossible to attain the goal of 6,660,000 picture elements per second on a practical basis. . . . However the fact is that the 6,660,000 picture elements per second . . . has been attained . . . on a practical basis. . . . So, too, the nearly 867 hours of color broadcasting time on *RCA* color standards . . . over *WNBW* and . . . *KG2XCL* bear witness to the fact that the *RCA* color system is practical for day-to-day broadcasting operations."

In a review of the possibilities of the three-gun, tri-color tube, as used in the *RCA* setup, employing circuitry which bypasses the mixed highs and eliminates the dot component after sampling in the picture signals, the report declared that . . . "each of the three electron beams is available 100% of the time for each color, whereas when this tube is used in the *CBS* system, each electron is available only 33% of the time. . . . Accordingly the available light from the

tri-color tube can be up to three times greater for the *RCA* system than for the *CBS* system."

Reviewing the problems of resolution, the report said . . . "At a viewing distance of eight times the picture height, a viewer . . . can enjoy more vertical and horizontal resolution (430-line vertical and 340-line horizontal) with the *RCA* system . . . than is provided by the *CBS* color system at any viewing distance."

Disc-type receivers were subjected to quite a sequence of scathing comments in the FCC brief, which declared in part . . . "Another defect of these disc receivers is reflected in the *CBS* operating manual. . . . In the manual it is stated . . . 'Caution . . . do not move receiver while it is in operation.' . . . On cross-examination of Dr. Goldmark, it was brought out that this warning was made because Dr. Goldmark feared that if the receiver was moved suddenly, the whirling disc would scrape the inside of the housing and be scratched. . . ."

During the hearings, the subject of adapters was quite a topic, with scores of witnesses appearing to testify as to costs, date of delivery, and their general usefulness. *CBS* had contended that external adapters would be a simple item, while *RCA* implied that the application was replete with difficulties, economical and technical. Elaborating on this point in their present report, *RCA* said: "In the light of the complexity and the cost to the public of adapting existing receivers to receive *CBS* color in black and white, and if only on this basis alone, the Commission should reject the proposed *CBS* system. Because of the complexity and cost of adaptation, many present owners of television receivers probably would not adapt their receivers and would thus be deprived of service which is now available to them. For *CBS* to urge that color service is, from this point of view, an addition to the black and white service now offered on presently authorized channels, would be either to attempt to mislead the Commission or to reveal a lack of faith in their own proposals. If incompatible color is merely to supplement black and white programming on present channels and is to be confined to off-hour broadcasting indefinitely, then the Commission should not authorize the service. . . . If, on the other hand, incompatible color can fairly be expected to grow and eventually replace black and white programs during desirable broadcasting hours, owners of existing receivers will be deprived of service unless they adapt those receivers. . . . On the basis of *CBS* figures (estimates for external adapters ranging from \$32 to \$50) the cost of adapting the more than six-million receivers now in the hands of the public would be on the order of \$192,000,000 to \$300,000,000."

*CBS* was far from docile in its re-  
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view of the situation offered to the Commission. In a sizzling 100,000-word report, CBS declared that . . . "It is clear from the record . . . that the CBS system is now superior in every significant aspect to either the RCA or CTI color system. . . . The present . . . performance of the RCA and CTI units is in many respects grossly degraded. Their over-all picture quality is low. . . . Their brightness and contrast are inadequate."

In the opinion of CBS, its system is . . . "excellent now and can be even better in the future . . . and not dependent on the future embodiment of a single direct-view, tri-color tube or horizontal interlace." CBS also pointed out that its system is . . . "plainly convertible."

Blasting away at the RCA declaration of continued interest in color, CBS stated that . . . "It is clear that so long as there is anything left to be done in the field of color television, RCA cannot be relied upon to press the development."

According to CBS, it would begin colorcasting within a matter of days after a decision was made in its favor, and within three months would expand its network color shows to about 20 hours weekly. Should the Commission decide on the other systems, prompt color programming would begin too, said the Columbia execs.

FCC found a hostile report, in the brief from CTI, too. According to the Pacific Coast inventors . . . "Nothing has occurred during the course of these hearings to alter CTI's belief in the fundamental superiority of line-sequential operation. . . . Its proposed system is completely compatible with existing black and white operations. The use of a direct-view, tri-color tube will eliminate many, if not most of CTI's past reception problems. . . . Viewed . . . from the standpoint of its fundamental advantages and recalling that its past and present apparatus limitations are all by the way of being remedied by the rapid development of this art, CTI . . . believes that its proposed system may now be safely standardized."

The FCC also received a caustic letter from Dr. Allen B. DuMont, who although not offering any color system, felt that his opinions and the data offered by Dr. Goldsmith during the hearings should be weighed carefully before a decision is made. According to Dr. DuMont, color TV is not ready for commercial use, and the proposed systems do not provide a complete solution. In the opinion of this pioneer TV specialist, the RCA system was at present confined to the application of the three-tube, dichroic-mirror setup, the CBS method was incompatible and expensive to apply, and the CTI approach has not as yet been proved compatible and, in addi-

tion, required expensive receivers. Dr. DuMont did agree that the ultimate development of the direct-view tube was on the horizon, but felt that substantial time might be required for the project.

As the conclusions of the three color systems were being surveyed, the FCC also received an impartial report, which had been on the way for many months, the Condon report. Prepared at the suggestion of Senator Johnson, the report had been heralded as a document which would tell the whole story of color TV. It did, in part, offering a review of the situation, but revealed no solution to the problem. According to the report, the CBS system was superior in its color fidelity reproduction, an advantage which appeared to be lost when the method was converted to electronic control. RCA color was stated as being approximately equal to the resolution of black and white, but uneven color balance seemed to upset fidelity somewhat. The CTI system was described as being deficient in apparent vertical resolution and also subject to registration difficulties. It was the committee's opinion that the CBS system did offer an advantage, in that it was furthest developed. However, the RCA system was quite flexible and there was substantial opportunity for improvements within the confines of scanning standards, which had been proposed. The CTI system offered greater possibility for possible future development than the CBS method, according to the experts.

**THE COLOR DECISION** possibilities received their first official reviews, from two Commissioners, during a talk and an interview, reviews which caused many to cup their faces and wonder. The talk, by Commissioner Webster, was replete with comments which set off rows of queries about the future of color and other related problems.

Speaking before American Taxicab Association in Atlantic City, and covering the problems of the taxicab industry, the Commissioner expressed concern for the amount of official attention now given to the needs of their industry and others of the same type, in comparison to television and broadcasting. According to the Commissioner . . . "Taxicab operators, too, have problems before the Commission. Goodness knows, we take a great deal of time now to look into your problems. There are numerous other radio services, some of which have many more difficult problems than you. When do we have time to look after them? Is broadcasting and television the only radio service that should be given close attention by this Commission? I have difficulty answering that question, myself, because I appreciate as everyone does the vital importance of that service to the public."

Continuing his analysis of the puzzling condition, the Commissioner re-

marked . . . "Am I doing justice to you and other radio services when I tell you that back in Washington I am forced to devote 90% of my time to problems involving broadcasting and television." The Commissioner then declared that he was faced with quite a dilemma, for he wondered . . . "What do we do about the numerous outstanding policy problems constantly before the Commission. . . . ? The number of such problems flowing before the Commissioners is so great that only a few can be decided with the degree of celerity they merit."

Commenting on the effect the recent hearings had on available time, the FCC technical expert said . . . "Now after seven months . . . we are even yet talking color television and all that goes with it, even though the color phase of the hearing has just ended. Remember, we now have the stupendous job of making a decision. Decisions of this magnitude are just not made overnight."

Sharply rebuking those who insist on setting up timetables for decisions, the Commissioner declared that . . . "None of them has apparently given any consideration to the physical capabilities of the individual Commissioners and the staff to digest the record, study the matter thoroughly, discuss it among themselves, and render a formal decision. They forget that during all of that time we should also be attending to other important business of the Commission."

In the opinion of the Commissioner, there was only one solution to the problem and that was . . . "to delegate to individual Commissioners, or groups, limited responsibilities of decision in specialized fields of communications." He felt that the staff reorganization, which is now underway, would alleviate the situation somewhat.

The interview, which revealed more optimistic information about color, occurred during a two-session renomination hearing of Commissioner George Sterling. (We are very happy to disclose that Sterling was renominated Commissioner for a seven-year term at a subsequent session of the Senate.) In a quiz period which bristled with blazing queries about the freeze, clear channels, the ultra-highs, and color, the Commissioner spoke quite frankly. The color question, he declared, would be solved this Fall. The freeze, he felt, would become a thaw before the year was out, and it would not be long before the higher bands became a standard region for many new television stations as a supplementary service to present band operations. It was his belief, too, that the very-high band allocations, now in effect, and those that will be placed on the record will stand for a long, long time, and should not be considered as an interim appointment.