

Spot Radio News

★ Presenting latest information on the Radio Industry.

By RADIO & TELEVISION NEWS'
WASHINGTON EDITOR

COLOR DOTS, three hundred and fifty-one thousand of them on the face of a picture tube, paraded before the anxious eyes of officialdom and the press, during what it was expected would be the *cleanup* hearings on color by the Commission, as the first direct-view color TV tube made its debut in studios in downtown Washington, with a gala show from WNBW to spark the occasion.

Three receivers were employed for the demonstration, picking up the colorcasts from the Wardman Park Hotel, three air-miles away over the standard black-and-white channel four. In two of the receivers the color tubes had been installed, while the third was a run-of-the-mill black and white model. On view was a festive affair, *Pan Americana*, with strikingly garbed Latin-American singers and dancers, and quite a large orchestra, whose members were attired in plenty of reds, greens, and blues.

In one of the receivers was a single-gun picture tube, while a three-gun picture tube was featured in the second set. (*Editor's Note: For a complete discussion of the technical details of the new tubes see page 46 of this issue.*)

While members of the Commission were hesitant to voice their opinions about the new-tube results, there was a general air of optimism about the studios among the specially-invited audience, some frankly declaring that the pictures were the best they had seen in any color test.

Dramatic single-color-tube developmental news also hit the hearing rooms, from another source, about a week before the elaborately-prepared demonstrations. Testifying in what appeared to be a routine manner, *Philco's* research head, David B. Smith, suddenly declared that his company was developing a direct-view tube, which was, as he described it, in the research stages. The Commissioners perked up when they heard this report, and began peppering him with questions. Commissioner George Sterling wanted to know if the tube might be installed in present receivers, through some modification. Smith replied that it was feasible, although he wouldn't recommend the step. Further questioning revealed that it was his opinion and that of his company

that direct-view color tubes were the answer to the eventual color receivers, but no standards should be set until the tubes had been field tested thoroughly, and the variously described systems had been subjected to exhaustive tests, under all types of conditions. Madame Commissioner Frieda Henneck quizzed Smith, asking when commercial color TV might be available, and when the test period might be over. And, as in earlier sparring sessions on the witness stand, Smith declared that he didn't know the answers, and then repeated that standards should wait until we know more about the art.

The explosive testimony period continued, shortly after the special tests, with both *NBC* and *CBS* contributing to the fireworks. In one session *NBC* Prexy John H. McConnell told the color judges that if the *RCA* system received their blessings and standards were prescribed for it, WNBW would extend its color programming to a twelve-hour schedule, and that WNBW, in New York, would receive equipment to inaugurate colorcasts.

Describing the possibilities for transmissions from other cities, McConnell said: "Our stations in Chicago and Cleveland would receive color over a relay of the telephone company, which has said that such facilities would be available this summer. . . . Thus these stations would be able to transmit in color before they had their own facilities for originating color broadcasts."

Detailing the extent of the relays which would be available for service to other stations, McConnell noted that he understood such intermediate points as Providence, Philadelphia, Pittsburgh, Toledo and Davenport-Rock Island, would be linked before the summer was over.

The *CBS* front lines were buzzing as the *NBC* executive left the witness box, and soon after *CBS* Prexy Frank Stanton began explaining what his network would do with color. He declared that within three months, *CBS* would be able to present twenty hours of color programs, emanating from both studio and remote spots. An extremely revealing analysis of the costs *CBS* has had to meet in evolving color was also placed in the record by Stanton, who stated that over four million dollars had been spent thus far, with

two-and-a-half million for the old 12 megacycle system and the remainder for the present 6 megacycle development.

The possibilities of multiple standards, offered as a means of solution during earlier hearings, received quite a beating from both the *CBS* and *NBC* headmen, with McConnell declaring that only a compatible system would be suitable, since a dual setup, involving converters and adapters, would upset program scheduling. Broadcasters would be unable to transmit color during the choice evening hours because, he declared, they would lose a large part of the black-and-white viewing audience.

Stanton didn't think the multiple idea would work out either, because he felt that industry would not cooperate voluntarily on standards, and the *CBS* system could not be made to operate on a completely compatible basis.

The compatible headache was bounced around by others who came to the stand, as the days went on, particularly during the reappearance of David Smith, who during a cross examination session, on behalf of *Philco* and an RMA committee, said that the selection of a non-compatible system could put manufacturers out of business. He pointed out, too, that a change in the present standards, which would prompt the need for attachments, would cause a public reaction that could seriously affect receiver sales.

The double-standard idea was also riddled by criticism from Smith who indicated that his company probably would not produce sets for testing during a limited commercial trial period.

Blistering remarks seemed to be the order of the day, with even mild-mannered FCC Lab Division Chief E. W. Chapin striking out with some bold commentary. Reviewing a series of tests completed at the Laurel, Maryland labs, Chapin said that from the data available, it appeared as if the *RCA* color system may require some 2 db. more protection from offset co-channel interference than the *CBS* system. Observations indicated a figure of near 30 db. for both of the systems for offset operation, and it was believed that such a value would be sufficiently accurate for allocation purposes. These values, Chapin said, were tolerable for satisfying only fifty percent of the listeners in a given region and higher values will be required, depending on the percentage which it is decided to protect in a given region. The *CTI* system did not fare too well in the Chapin report, the review revealing that *CTI* pictures, as received on an ordinary monochrome receiver, were so degraded that it was not possible to attempt to determine interference ratios.

Commenting on the subject of interference, Chapin said that with either the *CBS* or *RCA* transmission in black and white there was no significant

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variation from the values required for the reception of the present black and white signals. However, interference from other emissions, which do not satisfy either the normal tolerance limits or the offset conditions, were found to be of considerable importance by Chapin, who emphasized that they will tend to become worse because of . . .

(1) The filling up of the spectrum which will result in more transmitters and receivers, increasing the probability of interference, and making it increasingly difficult or impossible to handle harmonic or local oscillator radiation problems by allocations problems; and (2) the use of the ultra-highs which will aggravate the oscillator radiation problems.

The probability of in-channel signal interference with the RCA color system, was reported by Chapin to be about twice as great as for a standard black and white signal, during preliminary tests. He said that this increased susceptibility appeared to result from the presence of a 3.6 megacycle subcarrier. Chapin then added that the double susceptibility of the RCA color signal to interference appeared to require abandonment of the approach to reduction of interference by allocation, and thus the allocation plan might, therefore, be substantially different, depending on the color system involved. Chapin also noted that susceptibility to interference was basic to the dot-sequential system and might become worse, with additional stations, additional receivers and other devices employing radio frequency, such as diathermy and industrial radio-frequency heating equipment. Use of the ultra-high band might also aggravate the situation, he said.

No sooner had Chapin returned to his chair along FCC Staff Row, than cannonading really began, with FCC Attorney Harry Plotkin as the principal fuse setter. The blasts arose during the testimony of RMA Prexy Raymond C. Cosgrove, who told the Commission that he didn't know the attitude of the individual members of the association about possible insistence on the production of receivers which would provide black and white signals under a non-compatible system, such as that fostered by CBS. The FCC counsel had pointed out that if the Commission approved a compatible system, there would probably be no problem of continuing manufacture, but if a non-compatible system were selected by the FCC, the official decision would be frustrated unless industry cooperated, and thus compulsory action by the FCC might be necessary.

When the RMA Headman could not supply an appropriate production answer, Plotkin roared out that FCC might call on all manufacturers to appear in Washington and reveal if they would or would not make equip-

ment which could provide reception from the CBS system, if it were adopted. The issuance of a subpoena to perhaps General David Sarnoff and Frank Folsom of RCA was also suggested by Plotkin, which was immediately protested by RCA's attorney and then subsequently pigeon-holed by Commissioner Paul A. Walker, who acting as chairman in the absence of Wayne Coy, declared that there was no need for a subpoena at this time. Plotkin then aimed his questions at Dr. Engstrom who was asked what his company might do if the CBS system were approved. He replied that RCA probably would make the CBS-type models, according to public demand, but his company had no faith in the system.

The arguments for government pressure appeared to stem from the vitriolic statements made earlier by Senator Edwin C. Johnson, during a speech on the Senate floor, when he blasted industry for its attitude towards the FCC and its talk about a Congressional investigation on television. At that time, the fiery Senator said: "If there is to be an investigation of television by Congress, let's have one which goes into monopoly controls. . . . Our committee may decide that the time has come to thoroughly explore what is going on."

Commissioner Jones' tart comments during a luncheon meeting earlier in the year were also recalled as playing a role in the present tirade against industry during the hearings. The Commissioner declared then: "I need not remind you that the Justice Department has taken steps to use the anti-trust laws where it appeared that an art was being suppressed for advancement of private interests and to the prejudice of the interests of the American people. Concerted action by industry groups to delay, if not prevent, the establishment of color television might well lead to the same type of action."

CBS also had entered its plea of industry restraint in an early Spring petition, requesting that the FCC dismiss certain evidence of the RMA, which indicated a . . . "studied course of indifference."

The hammering "we-must-have-an-answer-now" attack also fell on an A.T.&T. man, when he appeared to review the coaxial-cable situation. The victim was Frank A. Cowan, head of the engineering and long lines department of the telephone company, who came to testify when the color lines would be available. When told that such lines, with a bandwidth of 4 megacycles would not be available until perhaps in 1952, Madame Commissioner Hennock fired a . . . "too late" commentary at the telephone representative. Cowan declared that it was impossible to promise an earlier installation, unless the broadcasters were prepared to shoulder some of the financial burden of the line-laying. The burying of the wide-band lines would take at least two to three years,

he said, but perhaps with the aid of broadcasters could be completed by the end of '51.

As this column was being prepared, the color debate was drawing to a close, to be followed by an equally stormy series of sessions on whether the 470 to 500 megacycle band should be allocated to multi-channel common carrier mobile operation or to television broadcasting. Thus far seven parties have declared that they will testify in these hearings: *Bell Telephone Laboratories*, *United States Independent Telephone Association*, *National Mobile Radio System*, *Mutual Telephone Company*, *Philco*, *Television Broadcasters Association* and *DuMont*.

A review on this interesting phase

of the allocation snarl will appear in our report next month.