

Television

January 1946

Humanities

35¢

THE BUSINESS MAGAZINE OF THE INDUSTRY

television talk



busy (see page 6)

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Television

VOLUME III, NUMBER I

JANUARY, 1946

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Just talking . . .

The old controversy in trade papers as to the advisability and importance of having big names write feature stories for the magazine has hit home with TELEVISION. Many of our readers have queried us on our reason for not continuing our original policy of having top shots present their views. Frankly we should like nothing better. If we could count on authoritative articles by key men, our editorial task would be considerably easier. Unfortunately our objective is not to present big names, but to present factual material. The amount of men who can write authoritatively on television can be counted on the fingers of one hand; and those men do write for us.

Our task, at present, is a tough one. There is a limit to the factual material available. To really be of aid to the prospective television operator we have to dig, and that involves a vast amount of research. The problem is not one of staff-written articles versus name articles. It is one of presenting the information which the industry needs.

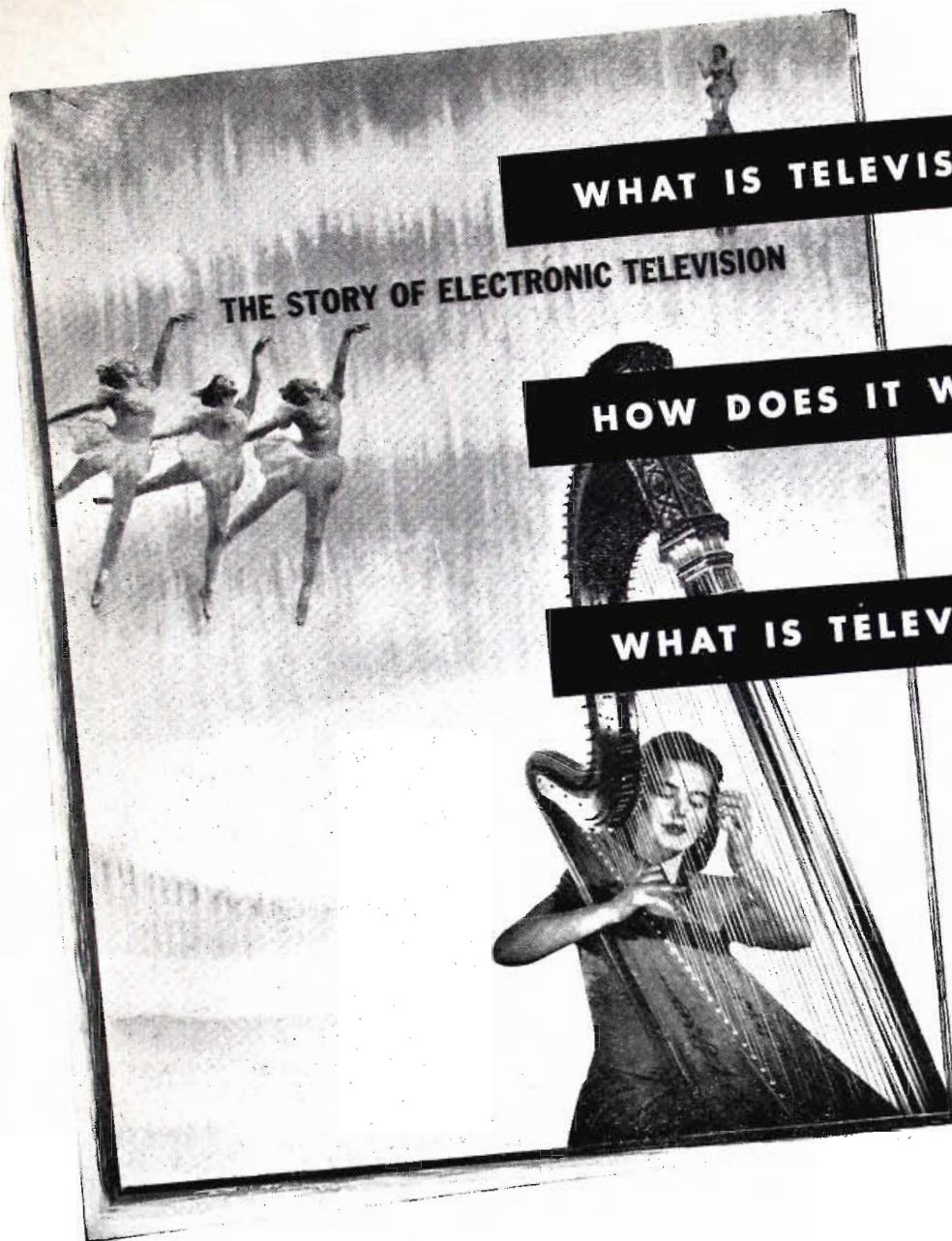
Frederick A. Kugel

Here are the answers to some of the questions which steadily barrage the editors of TELEVISION. In a constantly changing industry, all answers must be noted "subject to change," but here's how the picture shapes up.

The Status of the Industry

- Q. WHICH ARE THE STATIONS IN OPERATION?
- A. New York - WCBW, Columbia Broadcasting System; WNBT, National Broadcasting Company; WABD, DuMont; Philadelphia - WPTZ, Philco; Chicago - WBKB, Balaban & Katz; W9XZV, Zenith; Hollywood - W6XAO, Don Lee; W6XYZ, Television Productions; Schenectady - WRGB, General Electric.
- Q. WILL THEY ALL ACCEPT ADVERTISING?
- A. Yes, although policy differs. Some stations have no charge but welcome commercial experimentation.
- Q. WHAT'S THE STORY ON TRANSMITTER PRODUCTION?
- A. Transmitter production will not get underway sufficiently during 1946 to allow for more than present station replacements and a dozen or so new stations. With installation taking three to six months, operation will probably not start in a good many stations until 1947.
- Q. HOW MANY STATIONS WILL BE IN OPERATION BY THE END OF 1946?
- A. There are 9 in operation now, and an optimistic view would be another 7, for a total of 16 by the end of 1946.
- Q. WHEN WILL SPECIFIC CHANNELS BE ALLOCATED TO APPLICANTS?
- A. With final regulations and allocations set, FCC is tackling the knotty problem of weeding out applicants in cities where number of claimants outnumber the available channels. First hearing on the Washington, D. C. applicants is set for January 21st. Using the yardstick of "public interest, convenience and necessity" as a guide in determining the merits of each contestant, this first "test case" will probably set a precedent for other cities.
- Q. WHAT IS THE PROGRESS ON TELEVISION NETWORKS?
- A. The Washington to New York link via coaxial

(continued on page 4)



WHAT IS TELEVISION?

HOW DOES IT WORK?

WHAT IS TELEVISION'S FUTURE?

SCORES OF QUESTIONS like the above will be answered for you when you read "The Story of Electronic Television." Here, in a colorfully illustrated, easy-to-read booklet is the complete, concise explanation of the miracle of modern television.

Heretofore, this fascinating booklet was available only to those directly connected with the television industry. Now it can be offered to all interested persons. It sets forth in plain, non-technical language the entire story of television, how it began back in the minds of the ancients, how present-day science has made it a reality. In this booklet you will find how electronic television

works, how it has been developed since the early days when Philo T. Farnsworth first set forth the basic idea as a fifteen-year-old high school student. And in this booklet you will find a key to the potentialities of television as it will affect our daily living, how it will contribute to the fields of entertainment, industry and education.

"The Story of Electronic Television" has been called the most complete, understandable explanation of this important new endeavor yet written. For your free copy, write the Farnsworth Television & Radio Corporation, Fort Wayne 1, Indiana.

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cable facilities of A.T.&T. was ready for operation the first of the year. Boston to New York will probably be in operation via radio relay by the middle of 1946. Los Angeles and San Francisco might also be hooked-up by that time. Transcontinental facilities will be almost completed by the end of 1946. 1947 should see a New York to Los Angeles circuit, probably by both coaxial cable and radio relay.

Q. WHAT ABOUT PROGRESS IN COLOR?

A. Both CBS and RCA have held demonstrations of color television, with good reception of the colored pictures in both instances. However, RCA still maintains that color tele is in the experimental stage, with CBS holding to their premise that high frequency color tele is practical now. FCC rulings gave the green light to low frequency allocations, while holding the door open for experimentation in the higher frequencies. Feeling in some industry quarters is that a transition period between the two wave lengths will eventually be the best solution - a sentiment which is shared by FCC Commissioner Jett. (See page 12.)

Q. WHAT'S THE STORY ON RECEIVER PRODUCTION?

A. Latest figures available quote 300,000 sets manufactured by the end of 1946. Philco, RCA and DuMont, along with a few smaller manufacturers, had been pointing for a possible delivery by April, '46. However, unless the OPA and the manufacturers can get together, delivery will be held up indefinitely. As it stands now, June will probably see first release of major companies.

FACTS AND FIGURES

Don't miss getting copies of these three company publications:

Television Talk
National Broadcasting Co.

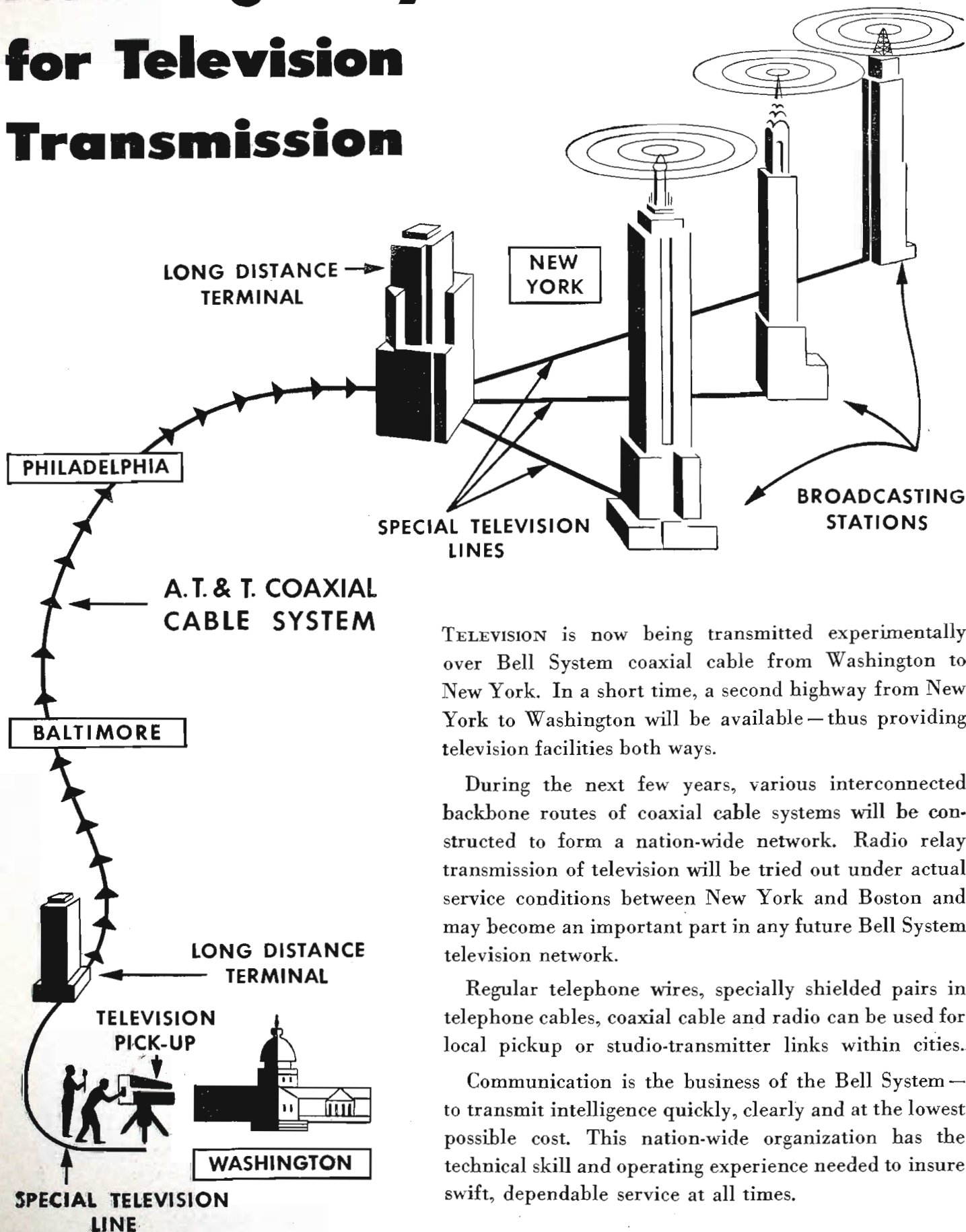
Economics of DuMont Television
Allen B. DuMont Laboratories

Television Show Business
General Electric Co.

While they are all company promotional pieces, they contain probably the most solid and factual information that has been published on television.

Either write to us or write directly to the companies for your copies.

New Highways for Television Transmission



TELEVISION is now being transmitted experimentally over Bell System coaxial cable from Washington to New York. In a short time, a second highway from New York to Washington will be available — thus providing television facilities both ways.

During the next few years, various interconnected backbone routes of coaxial cable systems will be constructed to form a nation-wide network. Radio relay transmission of television will be tried out under actual service conditions between New York and Boston and may become an important part in any future Bell System television network.

Regular telephone wires, specially shielded pairs in telephone cables, coaxial cable and radio can be used for local pickup or studio-transmitter links within cities.

Communication is the business of the Bell System — to transmit intelligence quickly, clearly and at the lowest possible cost. This nation-wide organization has the technical skill and operating experience needed to insure swift, dependable service at all times.

BELL TELEPHONE SYSTEM



Only the **FLICKER** of a match—yet more than



enough light for television pick-up

REVOLUTIONARY, NEW RCA "CAT'S EYE" CAMERA

- ✓ 100 times more sensitive than conventional television cameras. Provides greater depth of perception and clearer views under shifting light conditions.
- ✓ Wide sensitivity range provides unvarying transmission despite wide fluctuations of light and shadow (from the sunny to the shady end of a tennis court, for example).
- ✓ Lightweight, portable, easy to use, quickly set up. Telephoto lenses are easily applied.
- ✓ Improved stability which protects images from interference due to sudden bursts of light (such as exploding flash bulbs).

Picks up scenes in moonlight, in candle-light, and in any kind of weather

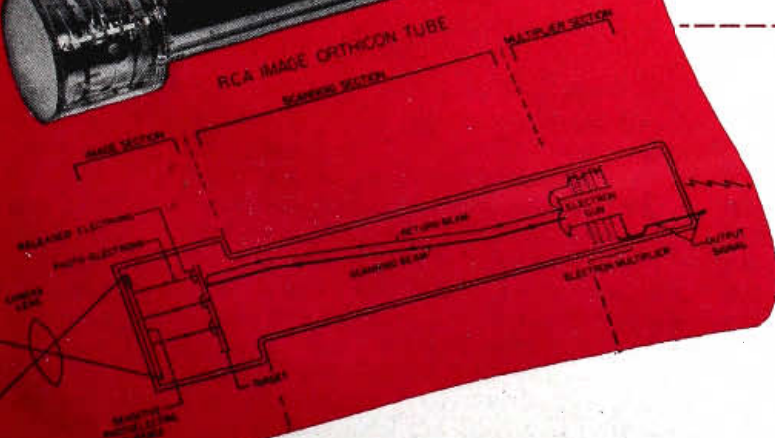
THIS television camera, utilizing RCA's amazing new electron tube—the image orthicon—opens up a wealth of new program opportunities.

Now, for the first time, round-the-clock television news coverage is possible—spot news and special events. It is now practical to televise football games, baseball games, ice hockey, boxing and other sports events, in any kind of weather, day or night. Remote indoor pick-up such as in theatres, concert halls, schools, churches, and courtrooms are other of its almost limitless application possibilities. Using infrared rays, it is even possible to pick up events in total darkness.

Equally significant are the lowered program production costs this camera makes possible. Many expensive-to-solve illumination problems are eliminated.

With such an increased source of programs, specially prepared *studio* programs can be greatly reduced. The way is now clear for practical television program production in small towns and cities.

It is truly the "Aladdin's lamp of television." Radio Corporation of America, Broadcast Equipment Section, Camden, N. J.



The new RCA image-orthicon tube—the "eye" of the camera: A light image from the subject (arrow at extreme left) is picked up by the camera lens and focused on the light-sensitive face of the tube, releasing electrons from each of thousands of tiny cells in proportion to the intensity of the light striking it. These electrons are directed on parallel courses from the back of the tube face to the target, from which each striking electron liberates several more, leaving a pattern of proportionate positive charges on the front of the target. When the back of the target is scanned by the beam from the electron gun in the base of the tube, enough electrons are deposited at each point to neutralize the positive charges, the rest of the beam returning, as indicated, to a series of "electron multiplier" stages or dynodes surrounding the electron gun, which multiply the signal many times. The output of the tube is further amplified in the camera pre-amplifiers and then carried to the television mixing circuits.



TELEVISION BROADCAST EQUIPMENT

RADIO CORPORATION of AMERICA

ENGINEERING PRODUCTS DIVISION, CAMDEN, N. J.

TELEVISION

28

hour programming week

By **FREDERICK A. KUGEL**

TWENTY-EIGHT hours a week is a lot of television. In fact, it's more than most of the operating stations are now prepared to handle. Present facilities and personnel must be greatly expanded if this minimum FCC operating schedule is to be met adequately.

In spite of the experiences already gained by operating stations, any attempt to draw up a pattern of programming must be labeled theoretical. The following program plan was arrived at after careful consideration of equipment, economics and personnel. It is aimed only at the first few years of operation. By then limited network programming will be available and the economic picture will change enabling a more ambitious, qualitative programming schedule.

28 HOUR PROGRAMMING PATTERN

Film (3 hrs. repeated)	6 hours
News & Special Events (part repeat)	5 hours
Drama, Variety, etc.	5 hours
Mobile Pickups (part repeat)	3 hours
Civic Events	1 hour
Straight Education	2 hours
Shopping News	2 hours
Children's Programs	2 hours
Special Interest	2 hours

Films

Probably the most debated question is just what percentage of the twenty-eight hours will consist of film. From a facility and personnel viewpoint the answer would be the more film the better. However from a programming standpoint the television operator will be extremely limited in the amount of film he will be able to use. It is very doubtful whether acceptable film fare can be obtained from the major film companies. Ten year old movies or a steady diet of Westerns certainly cannot be classified as adequate video fare. Of course five or ten years from now television may well be able to make its own movies if necessary. Films made exclusively for television now will consist mostly of one minute commercials and one or two reeler commercial films with other outlets besides television contemplated. News and special events film plans are already underway.

However, there should be available at least three hours of film which will make good programming and there's no reason why a major portion of this three hours cannot be repeated at least once during the week. The three hours will probably consist of at least one feature of approximately ninety minutes length. The balance of the

film program will be made up of travelogues, shorts and commercial films.

News and Special Events

News programs will probably consist of both film and live presentations, and should provide two fifteen minute periods a day with perhaps the film portion repeated. A half hour summary of the week's news could be a regular Sunday feature. Condensation of films of outstanding sports events or special news events should take care of an additional hour. Still pictures, charts, maps, animation and cartoons have all been successfully used. These techniques combined with live and film portions will make television probably the most effective medium for presenting the news.

Mobile Set-Up

Where mobile equipment and facilities are available, local inter-scholastic sports as well as professional games, could be televised. Three hours a week is allowed for them. Lacking such equipment, movies could be taken of the event, and shown over the station the following day. Use of this motion picture equipment could provide many local interest programs — such as shots of Christmas decorations in various parts of the town, prize-winning gardens; scenes at local beaches, school proms, commencements, social affairs of local organizations, etc. As more mobile equipment becomes available, daily Vox Pop type of programs will account for another hour or so. (See "Setting Up a Special Events Department," December TELEVISION.)

Drama, Variety, etc.

A minimum of one, one hour play, repeated again the same week, is certainly in the cards. Station may start its own stock company, as was done for the WOR "Brownstone Theatre" series. Such an arrangement in their opinion, made for an easier, quicker production, as the director and producer was better acquainted with his cast, knew their abilities and limitations. Talent, with ready made shows, can be recruited from local little theatre groups, like the Civic Players and the Amsterdam players that WRGB has put on in Schenectady. Then, of course, there are the super, station produced dramas like NBC has been staging on Sunday night.

The other three hours in this division will probably be divided up among television soap operas, musicals, variety shows, audience participation and all the many forms of entertainment now shown in film shorts and heard over the radio.

Less expensive programming fare is found in the audience participation shows, which depend on a number of laugh getting gimmicks and an emcee who can keep the show going, and the laughs coming.

Typical of these are the "Missus Goes A-Shopping" at WCBW and "The Better Half," a WOR presentation over WRGB.

Audience-viewer participation goes a step further by inviting the listener to phone in their answers, with the telephone being answered on the set. "Thanks for Looking" over WABD, "Telequizz:calls," the Commonwealth Edison sponsored program at WBKB, and "King's Record Shop," an ABC package over WRGB all used this formula very successfully.

Television playlets (soap operas) may be in serial form, employing the cliff-hanging technique to keep interest sustained. "Three Houses," CBS serial, uses this format. Or each playlet can be a separate incident, with the continuity kept by centering interest on a few main characters. Typical of this was WXYZ's "Embarrassing Moments" series.

Variety shows can use either professional talent or local amateurs. Musical programs can also be professional or recruited from local orchestras, school bands, choral groups, etc.

Civic Events

Various civic organizations can be lined up to furnish another hour a week of programming. Weekly talks by the Mayor and other officials such as the Health Commissioner, Police Commissioner, etc. should be good for a half hour. Charts and illustrative material could be attractively prepared to give more visual interest. Round table meetings of such groups as the Chamber of Commerce and the Parents Teachers Association could account for the other half hour. Example would be debates between local groups over a disputed ordinance.

Straight Education

A comprehensive program worked out with local educational groups, such as the Board of Education, the local university and museum, etc., could be packaged for another two hours. This should result in a high level of educational offerings for both school age and adult consumption. These programs should be distinguished from enlightenment or quasi-educational programs such as travelogues, news programs, etc.

Visual education techniques, employed so successfully by the armed forces, could be used on subjects which would have wide interest. Language courses given over tele would permit the viewer to see the lip formation necessary for pronunciation. New scientific discoveries could be graphically explained. Here keeping a close finger on the public pulse would be a good guide as to what would be most interesting. Tele-visits to museums

AUDIENCE PARTICIPATION



CHILDREN'S PROGRAM



SPECIAL INTEREST



AUDIENCE PARTICIPATION: Formats can be practically unlimited. Good example is "King's Record Shop," presented by ABC over WRGB, which combined stunts with the playing of records. Both audience and viewers participated — with studio group picking out records and home lookers phoning in the answers. Phone rings on set.

CHILDREN'S PROGRAM: Tying in with Children's Book Week, WRGB built format around story reading to a group of youngsters. Show also included scenes from local library and dramatization of a fairy tale for visual interest.

SPECIAL INTEREST: This classification can embrace any hobby as well as the more practical domestic sciences. Cooking with an electric range was the theme of a comedy series over WBKB by Consolidated Edison Company.



RELIGIOUS PROGRAMS: Catholic clergyman reads invoking at WNBT.



DRAMA: WOR's "Brownstone Theatre" series over WRGB is a good example of productions possible for local stations. Above: "Man Who Came to Gettysburg."

could develop into a whole series, ranging from the uncovering of ancient civilization right down to the modern interpretation of art.

Shopping News

Stations will undoubtedly be able to sell many times more than two hours a week of this type of program which will be a department store's dream come true. Macy's, Bloomingdale's, McCreery's, Gimbel's, Robinson's, Marshall Field and The Fair are some of the retailers who have already experimented with video.

Children's Program

At least 15 minutes a day can be devoted to the children, with probably a half hour on Sundays for reading the comics. Story telling, singing children's songs, or even kid shows are possible formats.

Special Interest Programs

Another two hours a week, split up among special interest programs, should make up some excellent com-

mercial shows. Programs designed for women could include interior decorating, cooking, household tips, child care, home sewing, cosmetic and coiffeur tips, fashion news, etc. Masculine interest could be secured through hobby programs on carpentry, photography, painting, coupled with a series on gardening, etc.

Summing It Up

THIS has been a completely arbitrary programming proposal. The percentage of time in any one of the classifications will undoubtedly change with each station depending upon the economic resources, the city and the availability of talent. The proposed schedule has been based primarily on keeping down the budget, personnel and facility requirements, and at the same time providing good program fare.

These specific suggestions, while arbitrary, have by no means been figments of the imagination. On these pages are pictures and description of television shows already produced over existing facilities, all of which can easily make up the proposed 28 hour program week.

EDUCATION: A member of the U.S.E.S. graphically illustrates lecture on employment statistics over W6XYZ. This is typical of straight educational formats.

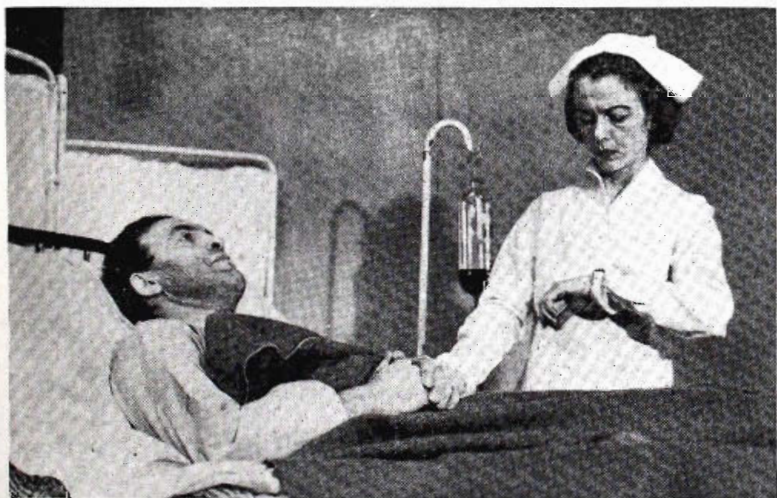
VARIETY: Emily Hahn as guest on WABD series featuring famous authors.





LOCAL GROUPS: Tying in with the radio-video training given to talented youngsters in the New York City high schools, WCBW has cooperated with the Board of Education by presenting the group in a regular series of programs titled "There Ought To Be A Law."

DRAMA: Good example of the possibilities of radio adaptations was "Untitled," presented over WCBW in support of the Seventh War Loan Drive. Format concerned a soldier who rose from his battlefield grave to tell the story of his home and army life. Flashbacks, film and slide insertions were used to dramatize the difference in conditions between life on the home front and in the war zones.



MYSTERIES: Whodunits rate high as audience favorites. Scene below shows Leslie Charteris, author of the "Saint" series, experimenting with a mystery show during rehearsal at W6XAO.



FILM CLIPS: Film clips will be used to bridge sequences in live shows as well as for commercials. The above strip is from the three minute commercial for Red Heart Dog Food and was produced by Henri, Hurst & McDonald, Inc., for John Morrell & Co.

Commissioner Jett

Restates His Views on Dual System

By DOROTHY HOLLOWAY

NONE of the known developments or much-publicized statements on high-frequency television made in the past year have changed FCC Commissioner E. K. Jett's mind on the rightness of his 1944 prediction that "we can look forward to a dual system of television over a several year period." In an interview with TELEVISION, Jett declared he still holds views he expressed in a letter to the American Television Society in April 1944. At that time, the FCC Commissioner espoused a dual system of television to allow for "orderly progress" in high-frequency development. This statement touched off a spirited controversy with CBS and James Lawrence Fly (then FCC chairman) lining up in one corner of the ring, and RTPB, The American Television Society, Television Broadcasters' Association and the New York Times siding with Jett on the dual-system theory of TV planning.

Jett still adheres to his statement that "It is entirely feasible to recognize there might be a period when licensees will transmit all of their television programs with two transmitters—under the old and new standards." Fly, with characteristic irony, at the time punned that "Jett had muddied the waters" in television. However, history and recent FCC action in speeding low-frequency television on its way, appear to support Mr. Jett's prediction on low and high frequency dual television programming.

In his 1944 letter, Jett wrote: "If we prepare now on the basis that there will be two systems of commercial television, each occupying different bands of frequencies, it would be possible in the time available to give adequate attention to both systems. Under this plan, the public would have a good system of television under existing commercial standards immediately after the freeze is lifted, and this system could be continued for an indefinite period after the new system is placed in commercial operation."

Now, Jett told TELEVISION, it is his "personal opinion" we still might have a dual system for "perhaps as long as five years." The FCC Commissioner would not go along with some industry predictions of dual operation over a 10-year period, and rejected a pro-

posal put forth by Allen B. DuMont at FCC tele hearings, October 12, that FCC assure purchasers that low-frequency TV sets would be good for at least a 10-year period.

However, Jett feels that the Commission's present TV policy in itself recognizes the possibility of overlapping operation on the low and high-frequency video channels. "We are," said he, "giving a green light to present-day television and we cannot expect to wipe it out entirely the minute the new upstairs television is ready to go commercial."

Further assurance that present-day television will not be replaced overnight lies in length of time required to perfect standards. The FCC member pointed to the several year period from January 1939 through July 1, 1941 spent by industry and FCC in working out standards for the present low-frequency system. And high-frequency color television, according to Jett, may raise even more "complicated problems" in arriving at acceptable standards.

Testimony by Alfred N. Goldsmith, vice-chairman of the RTPB, at FCC allocations hearings in October 1944, pegged average life of a radio receiver "around seven years." Therefore, Jett believes it is reasonable to assume that persons buying tele receivers over the next year or so, plus the 7,000 present owners of TV sets, will not be left without adequate programming, after upstairs video is okayed for commercial use.



Commissioner Jett, having served with the FCC since 1935 as Chief Engineer and now Commissioner, has an international reputation in radio engineering. He worked with the National Television Systems Committee from 1938 through 1941 in perfecting present-day television standards. Mr. Jett is the only engineer among the commissioners.

Film Projection Equipment

By JAMES L. CADDIGAN

Satisfactory film equipment will be a necessary part of studio facilities. At present there are no film projectors specifically designed for television. Mr. Caddigan points out some of the problems on design and adaptability. His recommendations are based on many years experience in practically every phase of the film business from production, through distribution to projection. He is now with Paramount.

BEFORE any purchase is made of still or motion picture projection equipment, for use in a television studio, careful consideration should be given to the technical and operational demands television production will place upon such equipment. There is little doubt that a master television station will be equipped with a complete projection installation including 35 mm., 16 mm., and stereoptican or still picture projectors. Before any purchase is made, it should be first determined whether 35 mm. film, or the increasingly popular 16 mm. gauge, will be used for the majority of programs produced on film.

A television studio motion picture projector will be required to perform a broader range of services than the projector used for straight theatre projection. Therefore it must be designed and constructed to insure trouble free, continuous operation without the stops and breakdowns that occur on the light "amateur" types manufactured to meet the price limitations of the popular market.

The fact that all possibilities for accidents that might take the picture "off the air" and all possible losses of picture and sound quality must be eliminated before the projected image is fed into the video channel, will demand certain "musts" in the design and construction of the film-television projector.

Construction

Film-television projectors should be designed to permit easy replacement, of any mechanical part which may become defective. The film gate should be of the "Studio Type" which provides guides for the film's travel over the aperture and prevents any side or up and down motion of the image. Size and design of film aperture should permit the projection of a film image on the television pick-up element, or mosaic, of the correct size and shape. This aperture should be standardized and should be duplicated in any motion picture camera used in film-television production.

Pressure shoes, which hold the film against the tracks in the film gate, should be adjustable to allow for varying thicknesses of film which television studios will probably receive. Prints of all ages will eventually be used in such projectors and will leave many types of "dirt" deposits in the projector head. This will necessitate easy accessibility to all parts for frequent cleaning.

The projector's motor should be heavy enough to guarantee constant speed, and to provide accurate synchronization with associated sound equipment, when such synchronization is desired. This motor should be capable of quickly coming up to normal running speed so that fast film cues can be met. It also should be equipped with a safe, efficient braking device which will

permit the projector to be quickly stopped when several film scenes, that are to be mixed with a live studio production, are mounted in succession on one reel. Such a braking device will enable the projectionist to stop the projector before the in-coming scene has reached and passed the aperture.

Synchronization

Film-television projectors should be equipped with accurate tachometers that will enable the projectionist to know at all times the running speed of the projector. This will be important when film bridges are being synchronized with the stage business of a live studio production. For the same reason the film-television projector should be equipped with footage indicators in order that cues and synchronization, based upon the number of feet of film passing through a projector, might be met. The film path in a film-television projector should be sufficiently "open" to permit easy, quick threading. If a motion picture projector is not manufactured that will synchronize with the 30 frame scanning standard of the television camera, it will be necessary to obtain a projector that can be converted to this standard without changing the present speed standard of film passing through the sound head of a complete equipment.

Lens

Careful consideration should be given to the selection of the projection lens which will be used. A lens should be designed and ground to provide projection of an image to the television mosaic that is in sharp focus over the entire picture area. A lens of such specifications has not been usually provided as standard 16 mm. equipment. A focal length and speed standard should be set for projection lenses to be used for television projection service. The lens racking or focusing mechanism should include a locking device which will prevent a change of focus, because of vibration or accident, occurring while a film is being televised.

Type of Illuminant

The picture illuminant and lamp house should provide a steady, flickerless flow of light to the picture aperture.

Standards should be set for the type and wattage of the illuminant to be used for this service. If an arc lamp is to be used, the arc feed control should be designed to function constantly and accurately. This will prevent a loss of the projected image because of arc failure or uneven illumination over the aperture due to the carbons not burning in proper relation to each other, or the optical system. A meter indicating the amperage of the illuminant should be located where it can be observed by the projectionist at all times. The illuminant

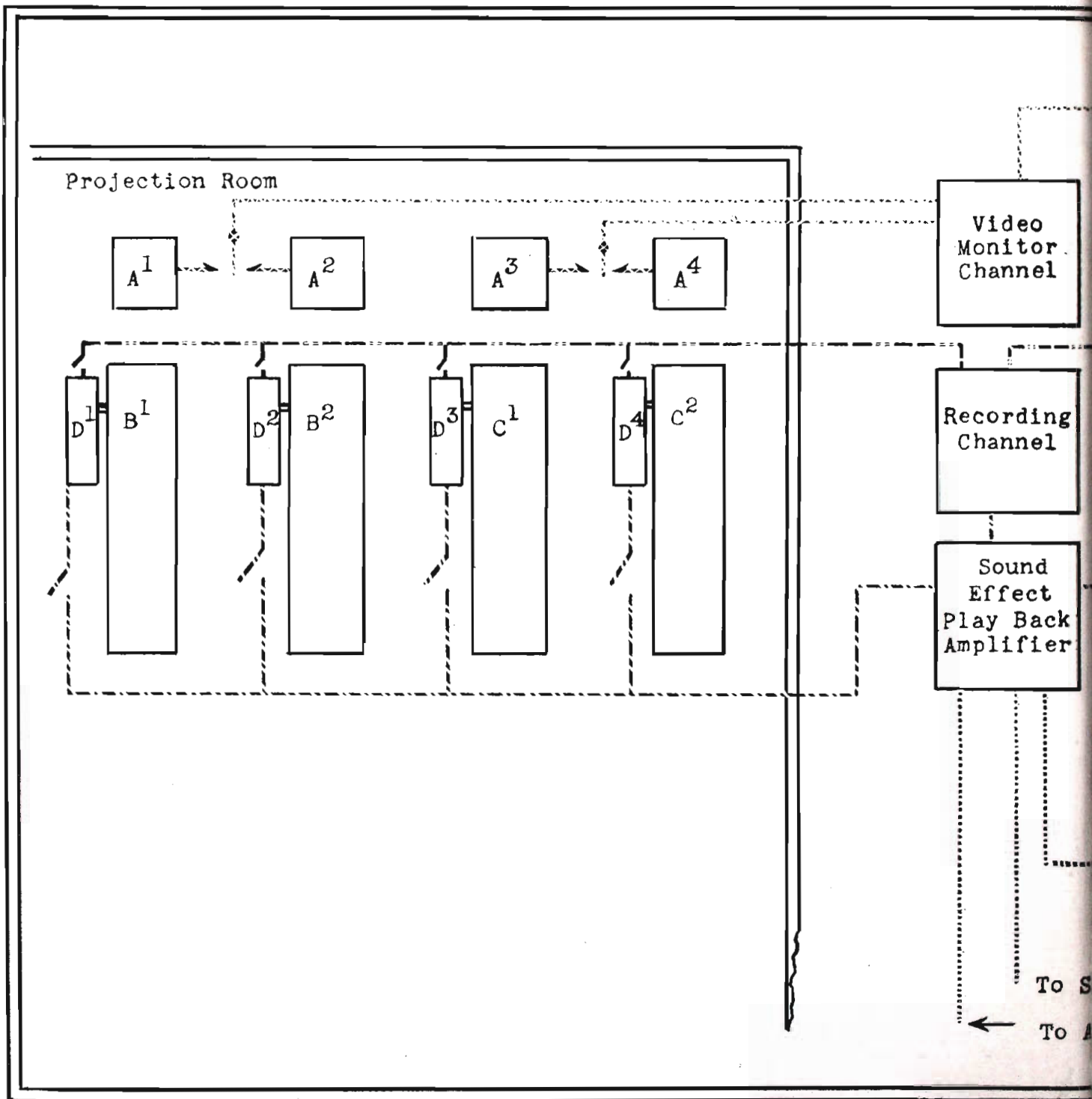
and associated optical system adjustment controls should be easily accessible. For example, such controls should not be located inside a lamp house, equipped with a switch which kills the illuminant when the lamp house door is opened.

Consideration should be given to the cooling of the light train in such a projector, as excessive heat at the aperture will cause some film to buckle. This in turn will cause distortion in the picture received in the home television receiver, and will be difficult to correct during projection at the point of broadcast. Excessive heat will also damage a print. This is important as stations will eventually maintain libraries of sequences for film bridges, and effect material, which will be used repeatedly.

Sound Reproduction

If 16 mm. film is adopted as the standard for film-television production, and sound is to be reproduced from a 16 mm. sound track, serious consideration must be given to the improvement of the mechanical and optical systems of such 16 mm. sound reproducers. At the present time the average 16 mm. sound optical system projects a coarse light slit image, that "scans" the sound track (1.0 mil.), and uses lenses of inferior resolving power which contribute to poor quality sound reproduction. 35 mm. professional standards demand an optical slit image of not greater than 0.5 mil. in width and lenses of high resolving power if high fidelity reproduction is to be achieved. The mechanism driving the film through the sound head should be designed and

A^{1,2,3,4} — Video film pickups; B^{1,2} — 35 mm. M.P. projectors; C^{1,2} — 16 mm. M.P. projectors; D^{1,2,3,4} — Tape or Wire Recorders, synchronized with the M.P. projectors. (Note: Sound-on-film reproducers not shown.)



constructed so that the sound track passes the scanning point at absolute constant speed. Fine mechanical and electronic filters should be embodied in all projectors to eliminate possible distortion from reproduced sound before it is fed into the audio channel of the transmitter. Sound film amplifiers of special design should be provided in order that the output of such amplifiers will correctly match the input of the station's audio channel.

Provisions should be made to directly couple to or synchronize with any film-television projector, a thirty three and one third disc recorder and reproducer, a wire recorder and reproducer, or a tape recorder and reproducer to provide accurate synchronization of picture and sound. Such equipment will enable the television producer to record synchronized sound, commentary,

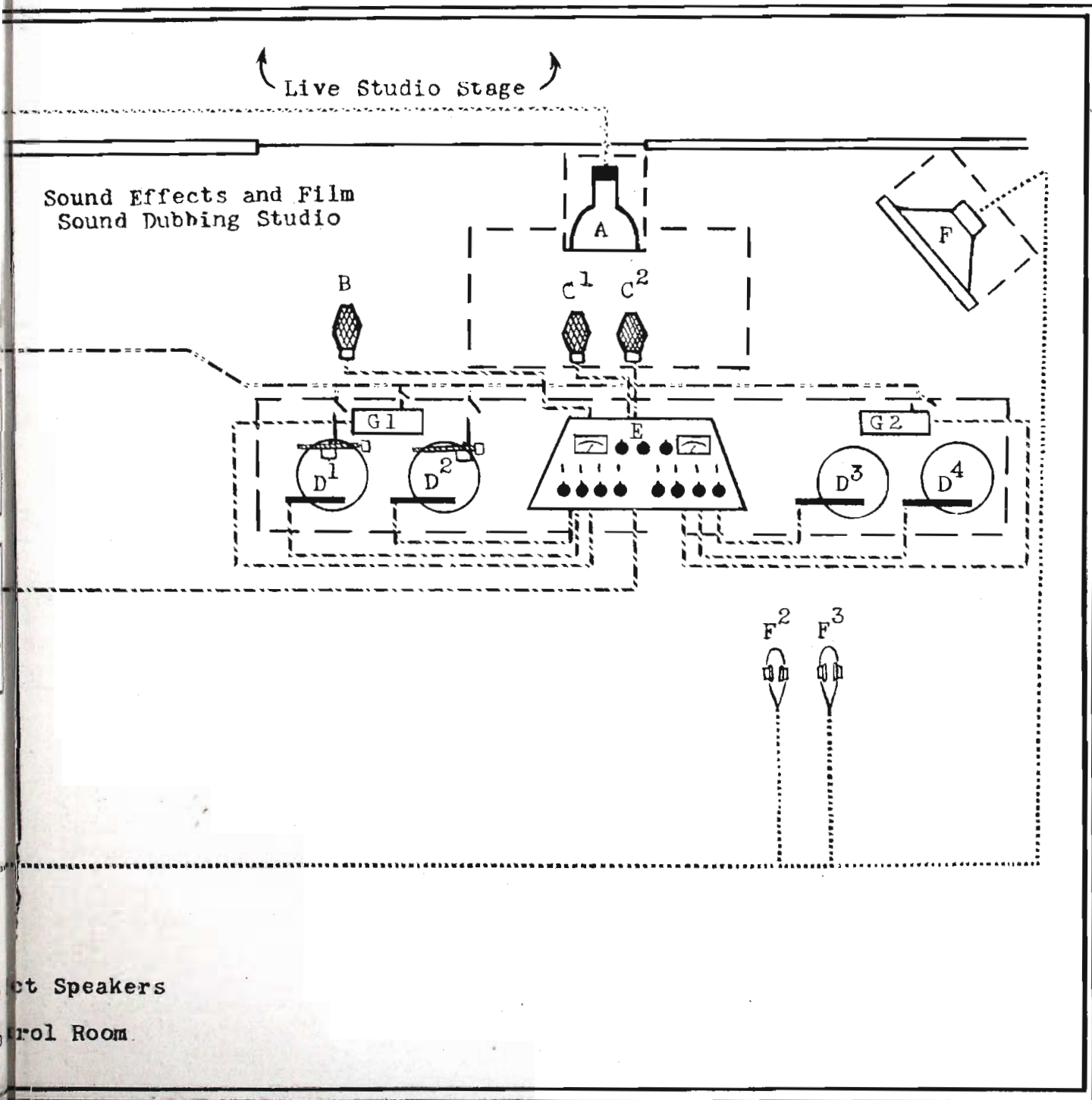
and effects after a silent picture has been edited. This equipment should prove a valuable production tool for news coverage and special events. It would permit sound and picture to be televised, in synchronization, as many times as was desired.

Negative Projection

As it is possible to achieve electronic reversal of a projected image in the video channel, this will permit the use of a negative for projection. Special events producers should take advantage of this and use such negatives to speedily get a film-television program on the air. In order to have the best possible projection of a negative, a "light change" mechanism could be incorporated in the projector. In normal motion picture

(continued on page 35)

A — Large screen television video monitor; B — Microphone (live sound effects); C^{1,2} — Desk microphones (commentary); D^{1,2,3,4} — 16" dual speed 78 & 33 $\frac{1}{2}$ turntables (two with recording heads); E — mixing channels V.I. meter; F — audio monitor speakers; F^{2,3} — Audio monitor head sets; G^{1,2} — Non-synchronous tape or wire records (playback-heads).



ct Speakers
 rol Room.

Long Shots and Close Ups

A regular monthly feature on film production by H. G. CHRISTENSEN

YOU, sez a subscriber, didn't do too bad on telling us, how an advertising agency can go about selecting and qualifying personnel to head up or work in a motion picture department. Fine, but here's one *we'd* like to know. How can an agency *without* such a department *select and qualify a producer for a picture—and avoid being “stuck”*? It has happened you know!

Yep, and more than once, sez me. And because it has, some people refer to the commercial motion picture industry as “that racket.” It's hard to say who could count all the “flops” that have been made in radio. Still the networks would surely resent being told they were in a “racket” just because some programs didn't click or sell the product. So right here let me go on record as saying:

First—The commercial motion picture industry is as legitimate as any other recognized industry.

Second—No legitimate producer would deliberately set out to “stick” any client.

If a client, in his opinion, gets “stuck,” there can be one or many contributing factors — and the most important of those factors can be the client himself, especially if he is a novice.

Client Pitfalls

How—and Why, you ask? Well, he may have selected the wrong producer for the type of picture he had to produce; he may have insisted that someone in his organization write the script or outline, someone who was thoroughly unfamiliar with motion pictures, but could write; he may have bought from the lowest bidder; he may have taken a higher bid and whittled it down to the point where the producer couldn't make a decent profit unless he did it by cutting corners on production; he may have ignored the advice of the producer in the selection of certain members of the cast; he may have insisted on shooting on location when it should have been a studio set; or, he may have insisted on any number of things contrary to the advice of

the producer, who, after all, was spending the client's money. So the client got what he wanted—and when he saw it on the screen, raised the roof about getting it. **SOMEBODY SHOULD HAVE TOLD HIM**, he sez. Think I'm kiddin'? While this doesn't happen often, Allah Be Praised, it does happen. Someone's been “stuck”—the picture was lousy, and—well, it's a racket. Sorry, I can't agree.

Those things can happen no matter what producer you pick—*unless* that producer has that thing called “intestinal fortitude” and enough money in the bank to back it up—to tell you, Nuts, we're either going to make this picture right or not at all 'cause our reputation is at stake, as well as yours. This doesn't happen too often either — it should happen oftener. Usually compromises are made, and right here, if you're not careful, you may be laying the foundation for future trouble.

There he goes blaming everything on the client, you say. Of course, the producer, all by himself, couldn't possibly do wrong by our Little Nell, could he? Sure he could, sometimes he does—but never deliberately. Certainly not if he wants to stay in the business.

Production Problems

Most of the troubles that producers are apt to get themselves into—and which may be passed on to you, come from such things as; figuring too low a production budget because of competitive bidding for the job; getting the job, and half-way through production, because of unforeseen contingencies, coming to the client for additional money in order to finish the picture; or taking on a complicated dialogue picture requiring a large cast, many sets, period costuming et al, when his previous experience was confined to the so-called “nuts and bolts” pictures with narration. But he believes he can do it and do it right. He's always wanted to, but never got the chance. So if you give him the chance, don't blame him if he takes it—a guy's gotta start on one of those sometime. As a matter

of fact there are few businesses in which so many different kinds of “jams” can be encountered—and when they are, they can generally be traced to one or all of three major shortcomings on the part of the producer.

First: Figuring too low when the job is on a competitive basis.

Second: Lack of experience on the particular type of picture to be produced.

Third: Inadequate facilities and dependence on free-lance personnel which, though competent, may not be available when needed.

So, what can you do, Mr. Client, to select a producer that will turn out a top-notch picture of the type you want, at a fair price and without adding troubles not specified in the contract?

Let's get this straight. While there will be some pictures produced solely for television, they will be a small percentage of the entire commercial output. But almost all commercial films can be shown over television if they are produced with tele in mind.

So the first step is to determine in what classification your picture belongs:

- Advertising
- Selling
- Public Relations
- Documentary
- Training
- Educational
- Technical
- Animation
- Scientific

It will fall into *one* of the above generalizations, each one of which can be broken down into literally *hundreds of special applications* or situations.

Let's say the classification is consumer selling, and the products, a new line of electric refrigerators. The pictures to be used by dealers, department stores; and because it's going to contain many good hints on the care of foods, can also be distributed to various Womens' Clubs and

(continued on page 39)

Television Advertising

TELEVISION is an industry made dormant practically at its inception. While research went on harnessed to the war effort, production stood still. But, during these past years, the advertising of many companies kept television before the trade—and more recently before the public.

Now with television receivers and transmitters coming off the production lines within the next six months, television advertising will pick up considerably. In view of this, we thought it would be interesting to glance back at significant video advertising run over past years. Institutional copy kept companies' plans before the trade. Trade advertising pointed out the technical developments in all types of equipment. Consumer advertising kept the promise of television before the public and, aiming for future receiver sales, informed them of important telecasts.

By far the most intensive campaign was that of all the divisions of RCA and its subsidiary NBC. Covering every phase of this new industry RCA's advertising has probably done more than the rest of the industry combined to keep television interest high among the public and the trade. The agencies were Ruthrauff & Ryan, Kenyon & Eckhardt and J. Walter Thompson.

Probably the most effective campaign for size of budget was the DuMont advertising prepared by the Buchanan Company. While advertising helped keep television in front of the public and trade, it was outstanding for its building up of the DuMont Company.

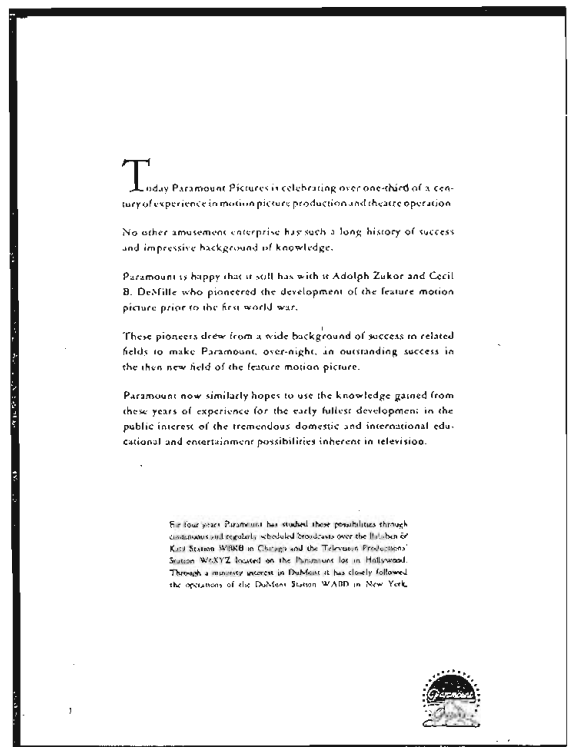
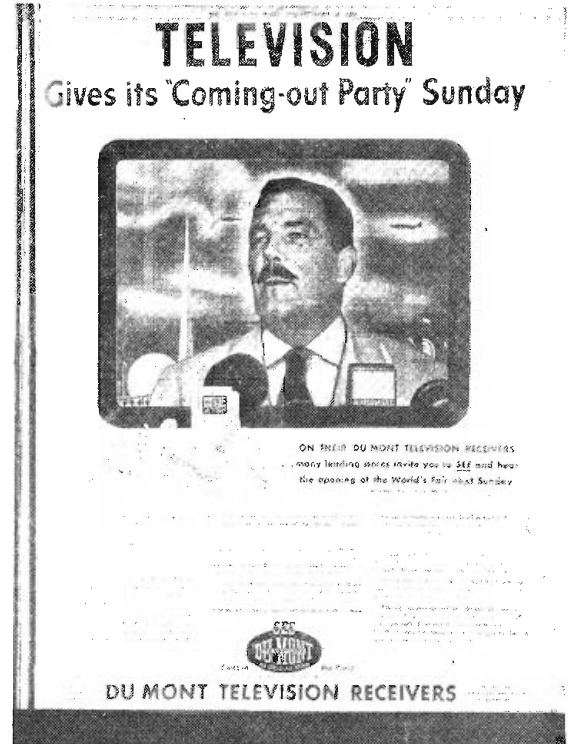
And one of the most forceful series was CBS's for color television. Campaign embraced 4-color ads in consumer and trade publications and was supplemented by elaborate color broadsides to industry groups. Agency was Benton & Bowles.

The following ads are by no means a complete record of all the companies who have advertised in television. Andrea, Rauland, Scophony, Emerson and Belmont, among others, have all had interesting video advertisements. Top ads by Farnsworth and Columbia Broadcasting were not reproduced because of their four-color layout.

TOP: First ad on electronic television is this RCA ad on tubes which appeared back to 1937.

CENTER: Interesting is DuMont's first ad heralding opening of the World's Fair and debut of television.

BOTTOM: Significant is this first television ad of Paramount Pictures in September 1945, stating that entire resources of company were behind television.



NBC SET FOR "THREE-WAY COVERAGE" OF 1944 DEMOCRATIC CONVENTION

America's Number 1 Network to repeat pattern of Television, Radio, Short Wave used for National Republican Convention



WEAF 660 ON YOUR DIAL—for full radio coverage of the convention
WNBT TELEVISION CHANNEL No. 1—for history-making television coverage

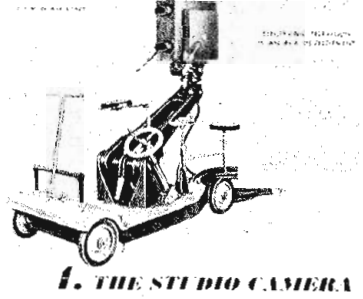
NBC Voices that Everybody Knows

AS PART OF SOUND CAN TRIP

AMERICA'S No. 1 Network

FAR LEFT: NBC's powerful consumer ad was one in a series appearing in New York papers on important events to be televised. J. Walter Thompson Co. was the agency.

LEFT: NBC ties in television with their standard broadcast campaign. Agency is J. Walter Thompson Co.



LEFT: RCA engineering products ran 1945 campaign on individual pieces of television equipment, with copy stating company's part in development. Kenyon & Eckhardt, Inc., was the agency.

RIGHT: One of television's best ads was this one sponsored by RCA, listing most major radio manufacturers who plan production of television receivers. Ruthrauff & Ryan, Inc., was the agency.



TELEVISION

the "Baby" that will start with the step of a Giant!

WHAT AMERICA'S YOUNGEST NETWORK IS DOING ABOUT TELEVISION

AMERICAN BROADCASTING COMPANY
The Blue Network

Last week hundreds saw Switzerland by television...

Tomorrow thousands will go to Europe by CLIPPER

PAN AMERICAN WORLD AIRWAYS

This American Broadcasting ad, which was run as a double spread, served a double purpose. It pointed up company's progressiveness to agencies and related their effective use of television facilities of operating stations. Agency was BBD&O, Inc.

Present Pan American series of magazine ads ties up with their travelogue television programs. J. Walter Thompson Co. is the agency.

FAR RIGHT: Informative was General Electric's ad based on need of educating the public on status of television. Agency was Maxon, Inc.

RIGHT: Carrying through with "Philco First" theme was the ad heralding the opening of their Washington to Philadelphia multiple relay link.

Tele Network Practical

Another Philco FIRST in TELEVISION!

PHILCO
Pioneer in Television Research

General Electric answers your questions about

TELEVISION

GENERAL ELECTRIC

IN A FLY'S EYE

FARNSWORTH TELEVISION

LEFT: Farnsworth's institutional ad, which tied in a fly's eye with their Dissector Tube, was one in a series Farnsworth has run for trade and consumer. Agency was N. W. Ayer & Son, Inc.

RIGHT: Typical of N. W. Ayer's high craftsmanship was the simplicity of layout used in telling the story of A.T.-&T.'s part in television.

The Telephone and Television

Bell System facilities will be available for whatever is needed for the network transmission of television—and FM radio programs.

TODAY...

TOMORROW...

BELL TELEPHONE SYSTEM

JIMMY DURANTE Says: "DuMont Television is Terrific!"

DU MONT Pioneer Electronics and Television

We Design - We Develop - We Manufacture

Sherron Electronics

W2XDK

TELEVISION and FM TRANSMITTERS and STUDIO CONTROLS

— and Prove Them Over Our Own Experimental Station W2XDK

AD the requirements that add up to perfect performance can be brought to bear in our manufacture of FM and television transmitters and studio controls. That includes our recognized work on the field of electronic circuits, our long experience in flow control laboratories, PLUS our own experimental television stations checked every step of the way. Sherron models get a final and reliable check—under actual operating conditions. An excellent new electronic health check-up equipment for transmitters and studios. You can serve your own building of the following to your specifications:

- TELEVISION TRANSMITTERS... both video and audio modulators
- STUDIO CONTROL DECKS... operating with automatic time-lapse control
- RADIO CONTROL DECKS... low resistance video channels used for high-frequency projection
- TRANSMITTERS CONTROL DECKS... for operational control for both television and radio

SHERRON ELECTRONICS CO.
1201 PLEASANT AVENUE, BROOKLYN 8, N. Y.
"Make The Most of The DuMont, DuMont Cable And Standard Equipment"

Setting the Standard for Fine Screen Television

Federal Telephone and Radio Corporation

One of the most successful campaigns was that of Buchanan & Co., Inc., for DuMont. Advertising was outstanding for its build-up of the Allen B. DuMont Laboratories, Inc.

Example of progressiveness of smaller companies is the fine series of television equipment ads prepared for the Sherron Electronics Co. by the Harold Marshall Advertising Co.

Federal's ad announced plans for their new high frequency transmitter and plugged high definition television in full color. Agency is Marchalk & Pratt Co.

Television Outlook in Boston

Seventh in a series of articles analyzing the applications of the various claimants for television stations . . . By GILBERT WINFIELD

THE Boston television picture fits together like a jigsaw puzzle—five channels, five applicants. Of all the large cities of the east coast it presents the clearest and the least complicated situation. New York, Philadelphia and Washington all have more applicants than available channels, but Boston alone, true to its traditions of decorum, gives the FCC no problem of selection or elimination. But 'twas not always thus.

At one time there were seven companies in the Boston area applying for commercial television stations. But Filene's Department Store, Metropolitan Television affiliate, withdrew, and then there were six. Next Allen DuMont Laboratories withdrew their application in favor of applications for other cities, and then there were five. Of the five applicants, three are operators of AM stations in or about Boston, one a manufacturer of radio and electronic equipment and the fifth represents Hollywood.

The AM operators are Westinghouse Radio Stations, the Yankee Network, and E. Anthony and Sons. Raytheon is the manufacturer who has also applied for commercial licenses in New York and Chicago. The film company entry is New England Theatres, a Paramount Picture subsidiary.

There were originally two applications for experimental stations. The Twentieth Century Fox deal fell through when the application was denied by the FCC. CBS has the only experimental application still pending.

Considering that Boston has a population of approximately 800,000 and a retail trading area population of over 3,000,000 who spend more than 1½ billion dollars annually, it is obvious that Yankee conservatism in the face of large investments and color television and possible obsolescence in five years or so, has kept more local companies from plunging into television.

With relay plans of A.T.&T. and Raytheon well under way Boston will probably be hooked-up with New York and Washington before the end of 1946. Bostonians, therefore, will be among the first to receive network television.

The Yankees Network, Inc.

Address—21 Brookline Avenue, Boston, Mass.
Officers—Henry Linus Travers., Executive Vice-President.
Ownership—General Tire and Rubber Company, Akron, Ohio—owns 100% of stock.
Estimated Costs—

1. Vis. transmitter	\$22,000
2. Aural transmitter plus tubes	13,750
3. Antenna System	5,000
4. Studio Equipment	89,000
5. Studio Lighting	10,000
6. F & M Monitors	3,300
7. Land	10,000
8. Building	25,000
9. Other item—\$10,000 equipment installation; \$5,000 field tests, engineering; \$11,000 antenna installation	
Total Costs—	\$205,050

Operation Costs per month—\$2,000 (exclusive of program costs)
Channel #2
Kilocycles—60,000-66,000 kcs
Power, aural & visual—Aural 2kw—Visual 4kw
Location of Studio—21 Brookline Avenue, Boston, Mass.
Engineering Consultant—I. B. Robinson, Technical Director
Yankee Network
Lawyers—Pierson & Ball, Munsey Building, Washington 4, D. C.

New England Theatres, Inc.

Address—60 Scollay Square, Boston, Mass.
Officers—Samuel Pinanski, President
Ownership—Paramount Pictures, Inc.
Estimated Costs—

1. Vis. transmitter	}	\$36,000
2. Aural transmitter plus tubes		
3. Antenna System		7,500
4. Studio Equipment		81,000
5. Studio Lighting		5,000
6. F & M Monitors		1,300
7. Other items—\$10,500 remote equipment; \$50,000 engineers fees & construction		

Total Costs—\$221,300
Estimated Operating Costs per month—\$15,000

Channel #4
Kilocycles—66-72 mcs
ESR—1044

Antenna

Height, sea level—375 feet

Height, ground level—125 feet

Transmitter location—Tufts College, Medford, Mass.

Power, aural visual—Aural 2.5kw—Visual 5kw

Size of area—Primary 408 sq. miles; secondary 2596 sq. miles

Location of Studio—Esquire Theatre, Huntington Avenue, Boston
Engineering Consultant—L. E. Pett, Allen B. DuMont Laboratories

Misc.: Interesting is the tie-up with Tufts College. Tufts will originate educational and experimental commercial programs from auxiliary studios to be erected by the applicant at the college. The plan calls for complete utilization of television for Tufts Dramatic School for their engineering department, and as a testing ground for Tufts' marketing department.

Raytheon Manufacturing Company

Address—190 Willow Street, Waltham, Mass.
Officers—Joseph Pierson, Manager of Communications
Estimated Equipment Costs—\$400,000-\$600,000

Channel #2
Kilocycles—54-60 kcs
ESR—5520

Antenna

Height, sea level—490 feet

Height, ground level—440 feet

Location—Self-supporting, tapered steel tower

Transmitter location—190 Willow Street, Waltham, Mass.

Power, aural and visual—Aural 20kw—Visual 40kw

Size of area—Primary 821 sq. miles; secondary 3550 sq. miles

Location of Studio—Foundry Avenue, Waltham, Mass.

Engineering Consultant—Raymond M. Willette, Washington

Lawyers—Foley & Hoag, Boston; Kirkland, Fleming, Green, Martin & Ellis, Washington

Misc.:—Raytheon, manufacturer of electronic tubes and equipment, has recently purchased the Belmont Radio Corporation of Chicago. They have extensive plans for operating radio relay facilities (TELEVISION September). They also have applications for television stations in Chicago and New York.

Columbia Broadcasting System, Inc.

Address—485 Madison Avenue, New York City

Ownership—Columbia Broadcasting System

Estimated initial costs—

Transmitter	\$150,000
Antenna	25,000
Studio Equipment	75,000
Other items	50,000

Total Costs \$300,000

Kilocycles—480,000-496,000

Transmitter location—182 Tremont Street, Boston

Power, aural and visual—Visual 1 kw

7. Land } 40,000 (mostly leased)

8. Building }
Other items—\$70,000 installation and remote equipment

Total Costs \$241,000

Estimated Operation Costs per month—\$12,000

Channel #5

Kilocycles—84,000-90,000 kcs

ESR—1610

Transmitter location—Newport Road, Hull, Mass.

Location of Studio—275 Tremont Street, Boston, Mass.

Engineering Consultants—Ring & Clark, Washington

Lawyers—Pow, Lohnes and Albertson

Westinghouse Radio Stations, Inc.

Address—1619 Walnut Street, Philadelphia, Pa.

Officers—Walter Evans, Vice-President

Estimated Costs—

1. Vis. transmitter	\$30,000
2. Aural transmitter plus tubes	15,000
3. Antenna System	18,000
4. Studio Equipment	62,500
5. Studio Lighting	4,000
6. F & M Monitors	1,500

E. Anthony & Sons, Inc.

Address—555 Pleasant Street, New Bedford, Mass.

Estimated Equipment Costs—\$229,800

Estimated Operation Costs per month—\$14,000

Channel #3

Kilocycles—60-66 mcs

ESR—1515

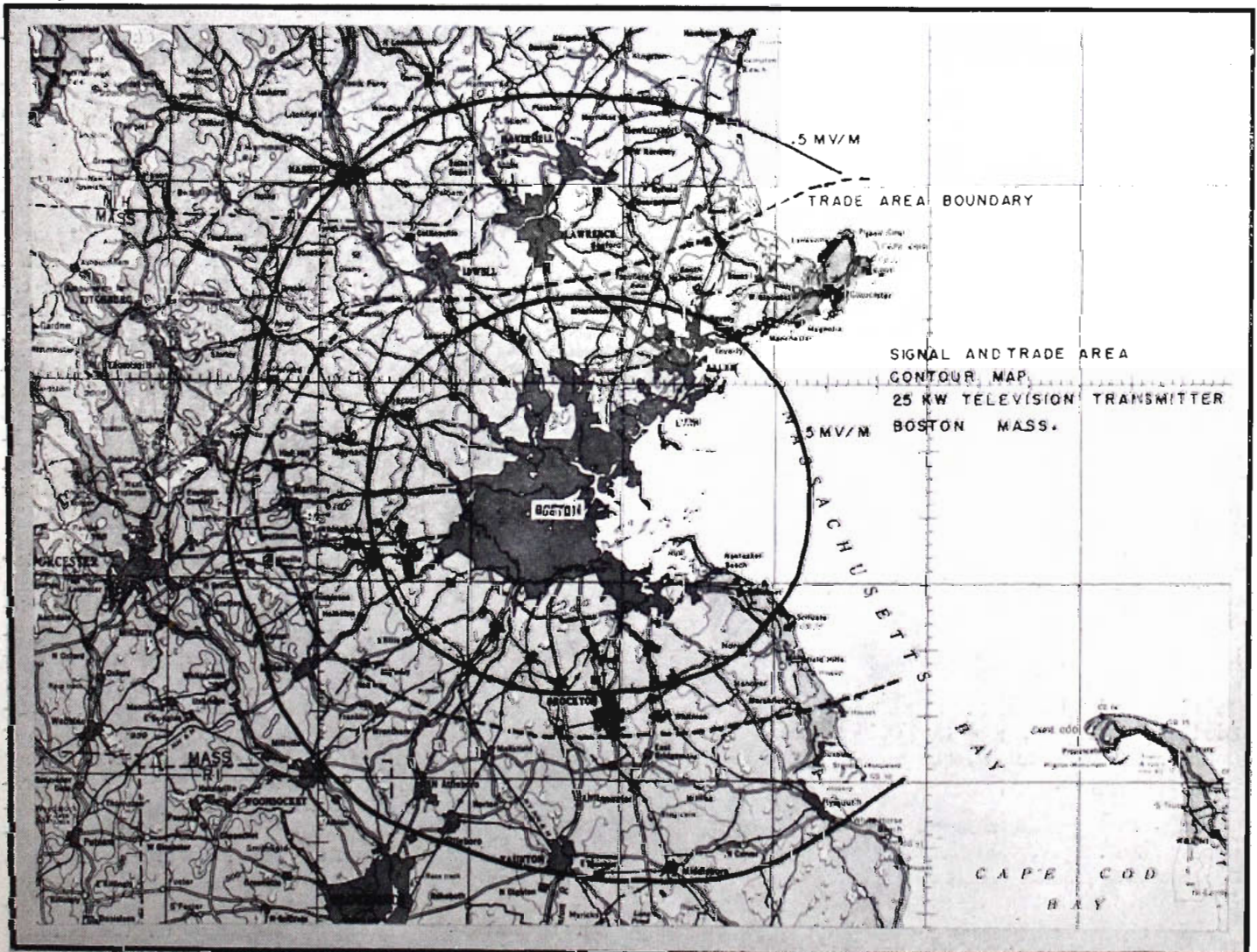
Transmitter location—Park Square Building, Boston, Mass.

Location of Studio—Park Square Building, Boston, Mass.

Engineering Consultant—Paul F. Godley Company.

Lawyers—Loucks & Scharfeld

Black wavy lines indicate the primary and secondary coverage in the Boston area which can be given by a 25 kw station, assuming that the antenna is 500 feet high and located in the center of the business district. Dotted line indicates the trading area. Contour map, courtesy of Allen B. DuMont Laboratories.



ADVERTISING

Current advertising activities point toward early '46 programming . . . review of '45 advertising sponsorship.

ADVERTISING activity last month was pointed toward future planning rather than immediate use of the medium, with many of the agencies lining up their top advertisers.

Elgin Watch signed a thirteen week contract at WCBW for two weekly time signals through J. Walter Thompson. With Elgin on WNBT and WBKB, this gives them a total of three video spots.

U. S. Rubber concluded their series on the "Friday Night Quarterback" over WNBT. Based on foot-

makes a total of six films which the agency has produced in the past six months.

Ben-Rus Watch have completed their 13-week contract for time spots on WCBW. Agency is Young & Rubicam.

Ben Pulitzer Creations are also in the line-up waiting for WABD to go back on the air. Novel format will be centered around Jimmy Jemail, Inquiring Photographer of the Daily News, who will interview people from all walks of life. Program will

will be integrated into each program, with perhaps the sponsor's product — men's ties — offered as prizes.

AGENCY ACTIVITY

Anderson, Davis & Platt is the first agency to embark on a large-scaled, multiple sponsored program, with their announced plans for a daily hour-long program over WABD. Maximum of ten manufacturers may participate each hour, with a rate of \$90 set for one minute of commercial time. This charge is based on a 13-week contract with a minimum of two announcements per week. Price will drop to \$80 for a 52-week contract. Agency is now busy lining up sponsors.

"Television Parade" is the tentative title of the program which will occupy the 12 noon to 1 p. m. spot, Monday through Saturday and which will get underway when the new DuMont studios open at Wanamakers. Formats will demonstrate fashions for men and women, home planning, food preparation, modern electric appliances and how to use them, use of cosmetics, and a better understanding of art, literature and music. While the themes will emphasize better utilization of products and self-improvement, programs will not be highbrow, but will combine entertainment and amusement with all the educational features sugar coated.

Schedules will change weekly, with the Saturday children's feature being a regular. This will include all sorts of games and story telling for children, incorporated into a party idea. Both film and live talent will be employed.

Duane Jones, after laying the preliminary groundwork of research and study, has announced definite plans for starting commercial experimentation. According to Walter Ware, their main aim is to learn how to put the particular type of advertising that they have applied in their copy into terms of television. They believe that their "reason why" technique will lend itself to the demonstration of products and the development of "how to do it" commercials. Although they plan to do shows for a number of sponsors, prime emphasis will be placed on the effective



New Ben Pulitzer sponsored program, due to start on WABD when station resumes operations, will star Jimmy Jemail, Inquiring Photographer of the New York Daily News. The entire series will be produced by Loewi-Gamble.

ball predictions, seasonal ending came with the various bowl games. This is the third format U. S. Rubber tried the past year, and they will undoubtedly resume tele-programming soon again.

Waltham Watch, through their agency N. W. Ayer, are now making two new twenty second films for their time spots, which are currently being shown over WNBT and WPTZ. This

be produced by Loewi-Gamble Productions, who see in this type of format the forerunner of remote pick-ups. However, since studio interviews lack the color of street corner button-holing, interest will be given to the program by having the contestants display their hobbies or talents. Plans also include having "name" guest stars who will do their particular specialty — cartooning, singing, dancing, etc. Commercials

presentation of commercials, as they feel too little time has been spent on the development of commercial formats.

As a check on their own theories and experiments, the agency will make their own audience research surveys. Present plans call for circularizing viewers with a letter, telling them about the program, explaining that they are new and experimenting and promising them a gift of the sponsor's product if they will write their opinion of the commercial. Very pointed questions will be asked in the letter and a place left for remarks. In addition, the studio audience will also receive questionnaires to test their reaction. From this twin approach, they believe a true picture of consumer response to the format will be obtained. Programs will probably begin over WABD when it reopens.

COMMERCIAL SHOWS

General Mills made their video debut at WCBW with a 22 minute film, entitled "400 Years of Cake Making in 4 Minutes." Film was originally made in color for commercial distribution, and not primarily for television, (Many commercial films will probably be made with video showing in mind.) Contract was signed direct.

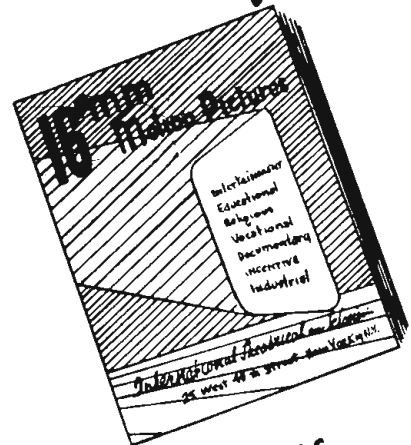
Opening sequence detailed the baking of the first cake, concocted to suit the palate of Henry VIII, then shot to close-ups of various cakes which became favorites through the years. Off screen narration carried the film to the present day and lead into the Betty Crocker experimental kitchens. Another detailed sequence explained recipe testing methods, visualized with shots of white smocked,

home-economists measuring, checking, filling out reports, etc., winding up with flashes of letters from satisfied cake bakers. This led up to the demonstration of their four minute cake recipe and at this point one of the Betty Crocker staff took over. She reiterated the standards which had just been given in the previous scene. Then began the actual mixing of the cake. Demonstration technique here was good, with close-up shots of the mixing process, and actual facts given with each step. The Soft-As-Silk cake flour box was prominently displayed. Cake pans were filled and popped in the oven. Film concluded with shots of the cake iced with a variety of frostings.

Main objection to the film was its repetitiousness. The lengthy monologue by the demonstrator could easily have been omitted, with her role limited to mixing the cake. Then from the point of immediacy and actuality, the film was badly edited. Good trick here may have been to open with the four minute recipe demonstration, up to the point where the cake was placed in the oven. Inference could have been made that while it was baking, here was a glimpse into the history of cake making, and the careful tests made by the Betty Crocker staff which resulted in the development of this particular technique. As a closing shot, the cake could have been taken from the oven. Because the demonstration technique was good, feeling was given that a cake was actually being baked in front of you. That effect was destroyed when the finished cake was removed from the oven in a few minutes — and the commercial value was weakened. For that is television's forte — seeing things as they happen.

PUBLICATION of the results of TELEVISION MAGAZINE'S-AUDIENCE PANEL met with such interest that we are convinced of the necessity of further continuation of this important task. Grateful as we are for the immediate endorsement, we are not yet convinced that sufficient work has been accomplished before the Panel will serve the industry as a definite guide in programming and commercial techniques. Additional groundwork is now being done with present television broadcasters and advertisers which will insure the solidity of our Panel when it appears in future issues of TELEVISION.

Ready
FOR YOUR TELEVISION
PROGRAMMING ...
Now



- FEATURES
- SHORTS
- SERIALS
- 16mm Sound

On Exclusive Basis!

Select your entire program series from the largest 16mm sound library in the world! Over 3,000 subjects to choose from!

Cost? A tiny fraction of what a live telecast or special telefilm would be!

Free
Complete Full Color Catalog

Fill in coupon below for copy of International Theatrical Television Corp. catalog—no charge or obligation! No matter what your objectives or type of audience you want to influence—you'll find a wealth of telecast material for immediate programming. Act now! Fill in coupon and mail to-day.

International Theatrical & Television Corp.

25 West 45th St., New York, N. Y.

Gentlemen:

Please send me my copy of your new full color catalog listing over 3,000 subjects. No cost or obligation to me.

Name

Position

Firm

Address

City..... Zone..... State.....

And commercials which use a "here's how" technique can't afford to bluff the "happy ending."

Famous Features Syndicate, a service which furnishes dress pattern promotion to newspapers, sponsored "See and Sew" with Sally Smart over WRGB. Sally, who is a puppet character, would pop up in the nick of time with sage advice, when the drama called for a situation-saver (Deus ex Machina, Jr.) with the right ideas about the economy and smartness of home-made clothes.

THE YEAR IN REVIEW

WHILE the list of agencies and accounts who have participated in television in the past year may seem impressive, advertising activity was really extremely limited. Only a handful of advertisers and agencies produced sufficient teleshows to gain any worthwhile experience. Many agencies went in for one time shots which did no one any good from a technique angle, except as a trade promotion or to satisfy the desire of a radio director to produce one show. Thus many agencies have "pioneered" but only a few have persevered. And those who have produced a series of programs are the first to say that the main lesson learned is the need for continued experimentation.

Techniques have varied from one minute film shots to fifteen minute programs where the commercial was integrated throughout the program. Briefly, here are some of the commercial formats, each varying widely in its individual conception, which

marked agency experimentation last year.

Institutional

Building on the idea that the "behind the scenes" story of a product can be made into an entertaining and educational format, this form of advertising came in for a good deal of experimentation. Such programs, while basically institutional, have a punch on video which makes them in many cases as effective as straight shows.

Good example was the U. S. Rubber, "Serving Through Science" programs, which demonstrated various rubber products and the part they played in winning the war. U. S. Rubber directed and produced the ½-hour weekly series presented over WABD. (Agency—Campbell-Ewald Co.). DuPont, through B.B.D.&O., experimented with "How's Your Imagination". Format was a commentary on wartime developments, with viewers invited to use their imagination in projecting products, use into the future.

"Backstage at Gimbels", presented over WRGB, was built around a motion picture film of Gimbel's "Laboratory of Living", where products sold in the store are tested for quality. Live talent was used for continuity. Format centered around a mother and daughter shopping at Gimbels. As they went from counter to counter, films were cued in showing how the merchandise they saw displayed was made and developed.

Integrated

Big problem in radio, which car-

ries over to tele, is to sustain audience interest through the commercial. This technique of incorporating the commercial into the format has also come in for experimentation.

Chef Boy-Ar-Dee commercial, through McJunkin Advertising, was a typical example. Sponsoring ABC's "Ladies Be Seated" audience participation program, a stove was installed on the set, and the spaghetti put on to cook in twelve minutes. Show then went on with the stove always kept in camera range. At the end of the twelve minutes, the spaghetti was removed, completely cooked, proving the sponsor's claims.

Commonwealth Edison's video experimenting over WBKB also employed this technique. Aiming to develop a greater use of electricity, their three formats stressed the use of the electric range and other electrical appliances. "Cooking by the Dial" was a television version of the cooking school format. "Welcome to the Walkers" was built around the amusing happenings in the home life of two neighbors—with many of the comic incidents taking place in the kitchen. "Telequizzicals", a viewer-audience quiz show, offered merchandise certificates for electrical appliances which were mounted on a display panel and flashed on the screen for every contestant to see.

Pal Blade's quarter-hour program over WABD, "The History of Shaving" or "The Care and Feeding of Whiskers", plunged directly into shaving and by means of flashbacks, portrayed man shaving down through

"Thanks for Looking," one in a series of tele programs produced for Lever Brothers by Ruthrauff & Ryan over WABD, was based on an audience-viewer participation format. Here John Reed King, assisted by Patricia Murray, has just drawn name of televiewer from glass bowl and is posing question to person called on phone.





"Magic Carpet" series, produced by Anderson, Davis and Platte for Alexander Smith Carpet Co. over WABD, used specially edited travelogues to take the family at the right for a tour on the magic carpet.



the ages from a comic point of view. A cast of eleven in appropriate costumes acted out scenes against specially painted backdrops. (Agency--Al Paul Lefton Co.)

Fashion presentations lend themselves well to integrated handling for everything that is modeled is a plug in itself. It has long since been learned that a fashion show can be television's biggest bore and here are a few of the many different program formats worked out to avoid the static fashion show.

A half-hour musical with ballet dancers modeling bathing togs, sports and evening clothes was presented by John Myers Department Store over WRGB. Particularly elaborate was Conde Nast's presentation of "Pattern for a Dream", a 1/2 hour commercial for Vogue Patterns over WRGB. Program opened in the mess room of an aircraft carrier where several officers come upon a Vogue Pattern book. In it is the picture of a girl whose face has been blacked out. In his own mind each of the men supplied her with the face of his own dream girl and a series of flashbacks revealed their reflections and memories. Sanforizing Division, Cluett Peabody & Company, presented a series on "Fashions Coming and Becoming" through Young & Rubicam over WABD. Nancy Dixon, Sanforizing's fashion authority, was the femcee of each program which dramatized fashions in a different format each time.

"Teleshopping at Macy's", a five minute shopping series over WABD, featured a different department in each show. Typical was the Bridal Shop program which in five minutes modeled a war bride's trousseau. (RKO--Television). Robinson's Department Store, presented models displaying latest fashions, with a fashion

magazine as a background. (Agency--Mays & Bennett). Gimbel's fashion show at WNBT tied in the cover of Harper's Bazaar, with the cover model posing before the magazine. Theme brought the pages of the magazine to life.

Demonstration

Selling axiom that a demonstration is half the sale has a natural application in television.

Ruthrauff & Ryan series for Lever Brothers has made good use of this technique. Most recent commercial on the "Aunt Jenny" show, which was sponsored by Spry, showed how to prepare a turkey for roasting, using the product of course.

Contrasts between the old washboard methods of washing and the Rinso way have also been shown on the Rinso sponsored shows. One particularly good version was done in pantomime with the girl responding in expression and gestures to the off-screen instructions of the announcer.

The first Super Suds show, produced by William Esty for Colgate-Palmolive- Peet, built their entire format on the "Here's How" theme. Direct commercial was the "Here's How—to wash a blanket", which gave practical information on the use of the product.

Variations on the demonstration technique are the department store uses of video. Marshall Field & Co. have been presenting "Wednesday Matinee", as a weekly series on WBKB. Their tips on gardening stressed the how-to-do-it angle. The Fair Store, now launched on their experimental tele shopping series at WBKB, is also stressing a merchandise presentation format.

Stills

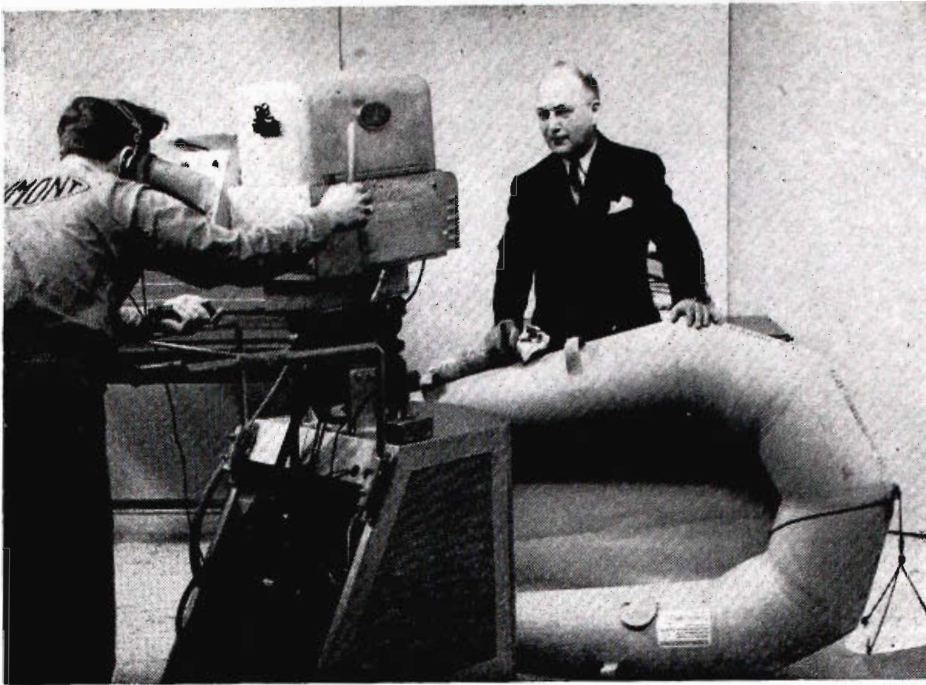
Stills can range from a simple title card with the sponsor's name, to



"Fashions Coming and Becoming," Cluett Peabody series produced by Young & Rubicam over WABD, dramatized fashions in a different format each time. Scene above was from their first program which plugged beach wear.

elaborate poster displays, or backdrops which give a silent plug through the entire show.

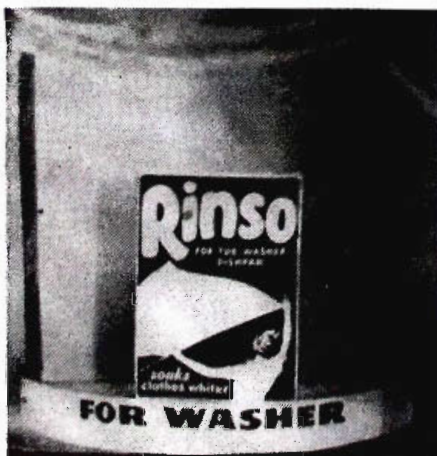
Gillette, with their twice weekly sponsorship of boxing bouts over WNBT, relies entirely on stills for their commercials. (Agency--Maxon, Inc.) Curtis Publishing Co. also used stills showing magazine covers and



"Serving Through Science," institutional program by U. S. Rubber over WABD, showed the wartime uses of their product. Here, Charles J. Durban, assistant director of advertising for the company, is shown with a rubber life boat.



Botany has animated their wooly lamb trade-mark for their weather reports at WNBT. Agency is Alfred Silberstein.



Rinsol turntable consisted of three divisions containing identical packages of the product. Title cards in each division mentioned different uses. This was developed for Lever Brothers by Ruthrauff & Ryan as part of the series.

titles of lead articles in their commercials on the Army-Navy game over WNBT. (Agency — MacFarland-Aveyard).

For their pre-Christmas time signals over WCBW, Ben-Rus watch commercial consisted of a Christmas wreath with two Ben-Rus watches mounted in the center. Close-up shots gave the right time, as well as a good view of the watches featured. (Agency—Young & Rubicam). Bulova also used a poster of a watch with the second hand going around for their time signal at WNBT. (Agency—Spear & Co.) Esquire's cover was used as a means of fading titles in and out for the sponsorship of the all-star baseball game, filmed by ABC and shown over WRGB. (Agency—Schwimmer & Scott.)

Keeping the product in sight throughout the program is a natural for packaged goods. Typical of this technique were the backgrounds used on Lever Brothers, "Thanks for Looking" show. In one set, large boxes of Rinso, soap bubbles and the Rinso White radio jingle formed the backdrops, while in another, the Lifebuoy Soap box and bar, together with the ad theme, gave a silent plug throughout the show.

Animation

Capitalizing on the public liking for cartoons, some experiments have been made along these lines. Typical example was the program, "Herkimer Wins the Red Heart", sponsored by John Morrell & Co. for Red Heart Dog Food. This consisted of 36 cartoons and headlines which were alternately filmed onto two 35mm. slide film strips and projected directly onto the face of the iconoscope, using lap dissolves. Sound was a narration in rhyme, recorded over a musical background. (Agency—Henri, Hurst & McDonald, Inc.)

Botany, using weather reports as station breaks, animates their wooly lamb trade mark as the focal character in the series. Commercial plug is usually given by having the lamb offer a tie or other piece of merchandise with the Botany label. (Agency—Alfred Silberstein)

Animation has also been tried out in other ways besides the film cartoon versions. The Rinso letters, simulating clothes flying in the breeze, pop into view, spelling out the word. The Super Suds show also used animated hand action on some of their still cartoons.

Film

On the widely disputed question of film vs. live, the issue has resolved itself into a general feeling that there's a place for both. Film proponents point to its use, particularly in a demonstration type commercial, as a safeguard against error—with results sure to be "as advertised". They further point out that in this pre-network stage, it makes for economic use of the medium, for films can be shipped to other stations around the country and used repeatedly. However, enthusiasts of live hold that the immediacy of tele is missed if film is used—that the viewing public will believe what *it sees happening*, more readily than it will a film version. Public knowledge of takes and retakes will dim the effectiveness of film, they believe.

Certain products have lent themselves particularly well to film. Esso, with their sponsorship of special events such as Eisenhower Day, over

WNBT, etc., used film shots to show their gas stations, cars in motions, etc. (Agency—Marshalk & Pratt.) For their sixth consecutive sponsorship of the Penn football game over WPTZ, Atlantic Refining Company made a series of four films (repeated twice weekly during the 8-week game schedule) which were shown before the game, during the half and after the game. (Agency—N. W. Ayer.)

Pan American's "Wings of Democracy" program at WNBT, also utilized film clips showing their planes in flight as opening and closing sequence to their film travelogues. (Agency—J. Walter Thompson.) Waltham Watch with contracts for time breaks at WNBT and WPTZ have made films, all with dramatic themes centering around time. (Agency—N. W. Ayer & Sons.) Elgin also uses film clips in their time signals. Same idea of tying in ad theme is used with background of twinkling stars underscoring the commercial that Elgin time is timed to the stars. (Agency—J. Walter Thompson.)

Live

Experiments with the live an-

nouncer type of commercial has varied from the comic approach to the more familiar personalized form of talking directly to the viewer.

Alexander Smith concluded their "Magic Carpet" programs over WABD by introducing the viewers to Clara Dudley, their home consultant, who discussed carpeting problems and explained the Alexander Smith floor plan. (Agency—Anderson, Davis & Platt.)

Gag type commercials were used on the Ben Pulitzer Tie programs, tying in with the variety show format.

Elgin commercial over WBKB uses live models and a three minute dramatic format for their presentations. (J. Walter Thompson—Chicago.)

SUMMING IT UP

These examples are just some of the highlights to show the trends of commercial techniques.

In almost all agency experimentation, particular emphasis was given to the development of the show itself, on the theory that without a good

show there would be no audience. There is a growing consciousness that more attention should be given to the development of good video techniques in order to best use the potent combination of a video and audio plug. While the "behind the scenes" tug of war over final production control is still an unsettled question between the agencies and the networks, agencies admit freely that before attempting to call the signals, they must understand the technicalities of television, must be familiar with its scope and limitations—and they want a chance to learn.

Experimentation to date has been spotty—there has been very little activity the last quarter of 1945. But 1946 will see intensified effort and the entry of many newcomers into the tele field. For even those who have a "wait and see" attitude toward the new medium, are becoming convinced that they had better be prepared.

Yes, there's a feeling that television's "tomorrow", lengthened by the war years, is here and that "today" is the time to get going.

List of Advertisers

Acrobat Shoe Co. — *Ruthrauff & Ryan, Inc.*
 Admiral Radio Corp. — *Direct*
 Alexander Smith Carpet Co. — *Anderson, Davis & Platte, Inc.*
 American Gear Co. — *Direct*
 American Institute of Food — *Direct*
 Atlantic Refining Co. — *N. W. Ayer & Son, Inc.*
 Ben Pulitzer Creations — *Loewi-Gamble Productions*
 Ben-Rus Watch — *Young & Rubicam, Inc.*
 Botany Worsted Mills — *Alfred J. Silberstein*
 Broadway Department Store — *Lee Ringer*
 Bulova Watch Co. — *The Biow Co., Inc.*
 Carter Products, Inc. — *Buchanan & Co., Inc.*
 Cel-O-Sheen Tablecloth — *Norman D. Waters & Associates, Inc.*
 Central Manufacturing Co. — *Direct*
 Chef Boy-Ar-Dee Quality Foods — *MacJunkin Advertising*
 Cluett Peabody & Co. — *Sanforizing Division — Young & Rubicam, Inc.*
 Colgate-Palmolive-Peet Co. — *William Esty & Co., Inc.*
 Commonwealth Edison — *Direct*
 Conde-Nast Publications — *Vogue Patterns — Direct*
 Curtis Publishing Co. — *MacFarland, Aveyard & Co.*
 Duff Gordon Wines — *Munson Shaw American Distributors — Direct*
 E. I. DuPont — *B. B. D. & O., Inc.*
 Elgin Watch Co. — *J. Walter Thompson Co.*
 Esquire — *Schwimmer & Scott Advertising Agency*
 Esso — *Marschalk & Pratt Co.*
 The Fair Department Store — *Direct*
 Firestone Tire & Rubber Co. — *Sweeney & James Co.*

I. J. Fox Co. — *Direct*
 Gertz Department Store — *Direct*
 Gillette Safety Razor — *Maxon, Inc.*
 Gimbel Brothers, Philadelphia — *Direct*
 Harper's Bazaar — *Abbott Kimball Co.*
 Richard Hudnut — *Kenyon & Eckhardt*
 Johansen Brothers Shoe Co. — *Ansenger Advertising Co.*
 Lever Brothers — *Ruthrauff & Ryan, Inc.*
 Liberty Mutual Insurance Co. — *B. B. D. & O., Inc.*
 Loft Candy Corp. — *Al Paul Lefton Co., Inc.*
 R. H. Macy & Co., Inc. — *Direct*
 Maritime Milling Co. — *Baldwin & Strachan, Inc.*
 Marshall Field & Co. — *Direct*
 Miles Laboratories — *Wade Advertising Agency*
 John Myers Department Store — *Direct*
 Nash-Kelvinator — *Geyer, Cornell & Newell, Inc.*
 Nu-Made Mayonnaise — *Foote, Cone & Belding*
 Pal Razor Blades — *Al Paul Lefton Co., Inc.*
 Pan American — *J. Walter Thompson Co.*
 Park & Tilford — *Charles M. Storm Co., Inc.*
 RCA Victor — *J. Walter Thompson Co.*
 Red Goose Shoes — *Westheimer & Co.*
 Red Heart Dog Food — *Henri, Hurst & McDonald, Inc.*
 J. W. Robinson — *Mays & Bennett Advertising Co.*
 Schutter Candy Co. — *Westheimer & Co.*
 Shell Oil Co. — *J. Walter Thompson Co.*
 Society of American Florists — *Bozell & Jacobs, Inc.*
 Tangee Lipstick — *Warwick & Legler, Inc.*
 Tintex — *Charles M. Storm Co., Inc.*
 U. S. Rubber Co., N. Y. — *Campbell-Ewald Co., Inc.*
 Waltham Watch — *N. W. Ayer & Son, Inc.*

EQUIPMENT

The Year in Review... technical developments few but important... summary of 1945 patent application.

TECHNICAL developments in television equipment have been qualitative rather than quantitative. Naturally this was to be expected what with all available scientific and engineering facilities and personnel harnessed to the all-out war effort.

Perhaps the most important advance was in radio relay work. In the R.C.A.-Western Union experiments, results have been so conclusive for voice transmission, that Western Union is now planning to scrap its existing system of wire communication in favor of radio relay. Contracts have already been let out for construction of relay towers between New York and Philadelphia.

Philco's relay hook-up between Philadelphia and Washington is evidence that the step-up from voice to television relay is practical. This contention has also been borne out by

the developmental work of General Electric and International Business Machines, Federal Telephone and Radio, Raytheon, and A.T.&T.

Construction of coaxial cable facilities by A.T.&T. has also gone steadily ahead, culminating in the opening of the Washington to New York line.

Newcomer to the transmission field is the Stratovision system, jointly proposed by Westinghouse Electric Corp. and Glenn L. Martin Company. This was developed during the war by the Army Signal Corps. Plan encompasses an airborne system of television relaying, whereby television signals can be sent through antenna and transmission equipped airplanes flying in fixed circular formation six miles up in the air. Actual flight tests to demonstrate the practicability of the system have just gotten underway. (See "Network Plans" page 7, September TELEVISION for com-

plete story on present status of facilities.)

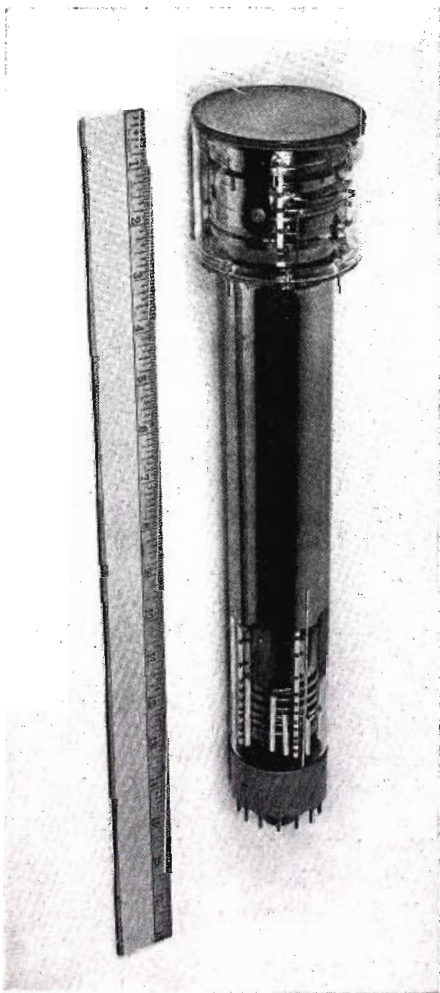
Another important advancement was the Image Orthicon Tube, a wartime development of the RCA Laboratories. This highly sensitive tube makes it possible for mobile cameras to operate under the most difficult lighting conditions, being able to televise clearly in light intensities as low as the flare of a match. This development extends the scope of programming operations to include all types of outdoor and indoor pickups where pre-arranged lighting conditions are not possible. While still not perfected for studio use as yet, the problem is now in the process of being solved. Its ultimate perfection is bound to have far reaching effects on present systems of studio lighting. (For technical story, see November TELEVISION.)

Other equipment developments were largely in the improvement of present studio and transmitter equipment. Chief among these are the high frequency, water cooled transmitting tubes: cathode ray tube improvements such as aluminizing to give more brilliance to the picture, and greatly improved broad band antennas.

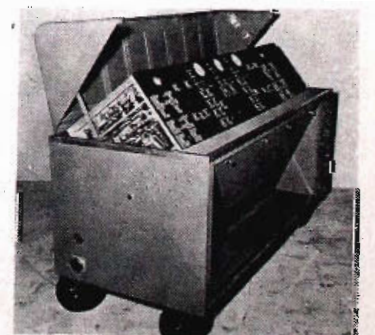
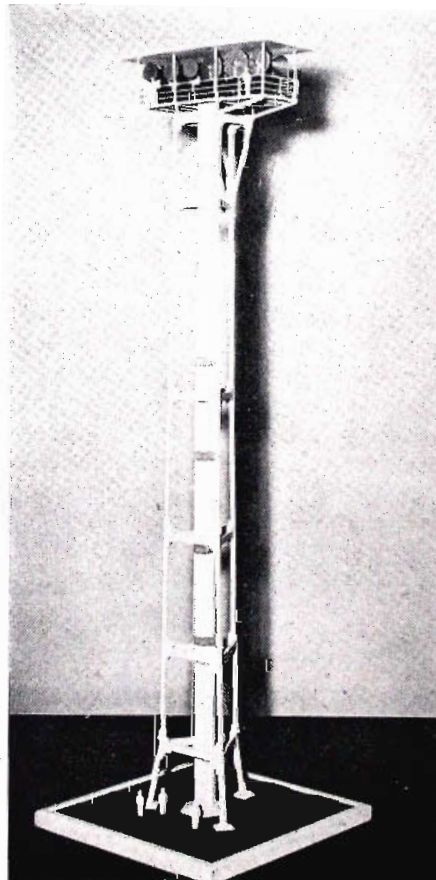
Receiver development was mostly limited to improvements of circuit design and an increase in definition and brightness.

MOBILE EQUIPMENT — Telemobile, designed by Klaus Landsberg of Television Productions, combines all control equipment necessary for operation of two television cameras, including the synchronizing pulse generator, sweep signal generator, power supplies and monitoring units.

RCA Image Orthicon



G-E — IBM Radio Relay Tower



Professional Directory

RING & CLARK

Consulting Radio Engineers

WASHINGTON, D. C.

Munsey Bldg. • Republic 2347

Frank H. McIntosh

Consulting Radio Engineers

710 14th St. N. W. ME. 4477

Washington, D. C.

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1319 F Street N. W. District 4127

JOHN J. KEEL

CONSULTING RADIO ENGINEERS

Earle Bldg. • NATIONAL 6513

Washington 4, D. C.

GEORGE C. DAVIS

Consulting Radio Engineer

Munsey Bldg. District 8456

Washington, D. C.

John Creutz

Consulting Radio Engineer

328 Bond Bldg. REpublic 2151

Washington, D. C.

WELDON & CARR

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WASHINGTON, D. C.

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RADIO ENGINEERS

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Washington, D. C. NATIONAL 6982

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Consulting Radio Engineers

Specializing in Broadcast and
Allocation Engineering

Earle Building, Washington 4, D. C.
Telephone NATIONAL 7757

1945 PATENT REVIEW

Amplification

Kurt Schlesinger, West Lafayette, Indiana, Patent #2,384,263 (RCA)—The amplifier comprises a number of voltage amplifier stages with electronic tubes serving as the coupling elements. These coupling tubes are connected as cathode followers and they result in splitting the load capacitances across the voltage amplifier in two parts.

Patent #2,366,358 (RCA)—An amplifier circuit using modulated or keyed cathode follower circuits by connecting a number of cathode-follower stages in series and keying them by the blanking and synchronization control impulses.

Automatic Gain Control

Robert B. Dome, Bridgeport, Conn., Patent #2,363,299 (G-E)—The circuit as a whole is described as a simple and effective arrangement for

securing automatic volume control and synchronizing pulse separation in a video frequency detector and amplifier system without the necessity of providing separate electron discharge devices and circuits for performing these additional functions.

Electronic Beam Correction

Otto H. Schade, West Caldwell, N. J., Patent #2,368,844 (RCA)—A tube designed to compensate for second order distortions produced by an electronic scanning beam.

Richard Ritter von Felgel-Farnholz, Berlin, Germany, Patent #2,375,968 (Alien Property Custodian)—A method for correcting or controlling the shading of a television picture by modulating the electron beam scanning the storage electrode.

Robert E. Graham, New York City, Patent #2,378,547 (Bell Telephone Lab.)—A new television circuit aimed at removing spurious electrical

variations from the output currents of electron camera tubes.

Color

George Beers, Haddonfield, N. J., Patent #2,378,746 (RCA)—The mechanism works on the basis of two sets of color filters mounted on rotatable disks. A color wheel at the receiver operates in synchronization with a master wheel at the transmitter. This apparatus is designed to transmit a three-color image at 40 frames per second.

George C. Sziklai, Princeton, N. J., Patent #2,386,074 (RCA)—A system providing "a brilliant projected reproduction" at the receiver in natural colors. A new image producing tube is provided under this patent, as is a novel light controlling device.

Georges Valensi, Paris, France, Patent #2,375,966 (Patented in France in 1938)—Scanning means are provided for exploring successively ele-

mental areas of the subject being televised. A first electrical signal is produced corresponding to the brightness of one area at each given instant, and automatic means analyze the color of this area and produce a second coded electrical signal corresponding to this color. These first and second signals are transmitted to a distant station, and there modulated to recompose the image.

Dr. Alfred Goldsmith, New York City, Patent #2,384,260 (RCA)—A hand-held device designed to provide three-dimensional, full color television, adapted to operate in synchronization with the television receiving equipment, said device containing its own disc and a small electric motor.

Edwin Jay Quinby, Key West, Fla., Patent #2,384,259 (RCA)—This device is particularly adaptable to the Goldsmith system. It comprises a light-weight instrument with a sponge-rubber fitting for the observer's forehead. An electric motor operates a disc with color filter segments. Eye apertures are spaced at the approximate eye-distance apart and a hand switch is provided on the plastic casing.

Deflection

Otto H. Schade, West Caldwell, N. J., Patent #2,370,426 (RCA)—A circuit arrangement for deflecting the cathode ray beam in a television image pick-up or scanning tube such as the "Iconoscope" type.

George L. Beers, Haddonfield, N. J., Patent #2,385,563 (RCA)—This patent covers a method for improving the system utilized for scanning the elements in a television picture by controlling the velocity of movement or the change in velocity of movement of an exploring point or a scanning beam.

Karl Wendt, Audubon, N. J., Patent #2,381,238 (RCA)—This patent covers a simplified circuit for producing oscillation frequency control voltage which changes in value with any change in the phase relation of the incoming synchronization pulses with respect to the oscillator output.

John Wilson, Bayside, N. Y., Patent #2,384,717 (Hazeltine)—This patent covers an arrangement for controlling the aspect ratio of television scanning. A line-scanning generator and a field-scanning generator are coupled to an output circuit of a detector through a synchronizing-signal separator. The line-scanning generator also is coupled to line-deflection windings, and the field-scanning generator is coupled to field-deflection windings of the cathode ray tube.

Giuseppe Zanarini, Turin, Italy, Patent #2,369,631 (Alien Property Custodian)—This patent covers a push-pull circuit for magnetic deflection of cathode rays. The invention was patented in Italy in 1940.

Echo Reduction

Frank Bingley, Chestnut Hill, Pa., Patent #2,372,876 (Philco) — Echo elimination is provided through a phase-changing means at the transmitter for periodically changing the polarity of the echoes seen at the receiver, so that they are of opposite character in successive frames. Phase reversal is effected gradually, by selecting video and synchronizing carrier frequencies which bear a numerical relation to each other. This device works in practice on the familiar optical effect of "persistence of vision."

Frank Bingley, Chestnut Hill, Pa., Patent #2,386,087 (Philco) — This patent covers a system of periodically changing the polarity of the echoes seen at the receiver, so that they are opposite in successive frames. The phase of the echo carrier is changed in respect to the picture carrier, and is timed so that the successive echoes balance each other out so far as the expression on the observer is concerned.

David B. Smith, Philadelphia, Pa., Patent #2,369,614 (Philco)—An improvement on patents #433,660 and #435,402 which were methods to reduce echo signals by periodically changing the phase or polarity of the echo carrier with respect to the picture carrier. This patent effects the change gradually.

Film Transmitter

Hanns-Heinz Wolff, Berlin, Germany, Patent #2,376,645 — A scanning disc containing a number of apertures equal to the number of lines, operates in conjunction with a shutter which blocks certain groups of lines and permits others to be scanned.

Fluorescent Lighting

Otto Schade, West Caldwell, N. J., Patent #2,370,425 (RCA)—A system for using fluorescent lights in a television transmitting studio instead of the more conventional incandescent arc lamps or mercury vapor lights.

Lens

Arthur Warmisham, Leicester, England, Patent #2,379,292 (Unassigned) —An optical objective corrected for spherical and chromatic aberrations, coma, astigmatism, field curvature and distortion.

Robert M. Lynn, Altadena, Calif., Patent #2,379,167 (Unassigned)—A lens system which gives a large image, and which has been corrected for spherical and chromatic aberration.

Projection

T. T. Goldsmith, Jr., Cedar Grove, N. J., Patent #2,373,114 (DuMont) —A system for producing television programs on a large size motion picture screen. From a cathode ray tube, a motion picture camera films the incoming picture, develops the film and projects it in standard motion picture theatre projection equipment.

Receivers

George M. Daly, Collingswood, N. J., Patent #2,362,358 (RCA) — A method for converting power for television receivers using cathode ray tubes from DC to AC, without the hum effects or interference patterns unavoidably introduced in the received picture.

Joseph K. Rose, Chicago, Ill., Patent #2,368,882 (Unassigned)—A television receiver which includes a panel or frame surrounding the image exhibiting screen, and an extensible light shield that may be collapsed (like the bellows of a camera) into the recess of the panel bordering the screen.

Adolph Henry Rosenthal, New York City, Patent #22,628 (Scophony), a reissue on Patent #2,306,407—A television receiving screen, originally patented in England in 1938.

Receiver Control from Transmitter

John H. Homrighous, Oak Park, Ill., Patent #2,369,783 (Unassigned) —A system for controlling radio and television receiving sets by operation at the transmitting station, so that a power supply may be connected to the receiving set. While the apparatus has utility in conventional television systems, it is held to have additional value for military uses.

Signal Output

George L. Beers, Haddonfield, N. J., Patent #2,383,365 (RCA)—An arrangement for obtaining a maximum amount of useful signal in the output of television pick-up equipment under varying light conditions.

Slow-motion Television

Alfred N. Goldsmith, New York City, Patents #2,381,902 and #2,381,901 (Unassigned)—A method for providing slow motion and reverse motion for television transmitters. The apparatus works on the same

principle of motion pictures, i.e., if a scene is photographed by cameras operating four times as fast as normal and the resulting film is then projected at normal speed, the action depicted will be only one fourth as fast as normal.

New Television System

Henry Haldeman-Julius, Downey, Calif., Patent #2,367,272 (Unassigned)—A television system which produces images without the customary scanning mechanism, but uses photoelectric cells, stimulated in varying degrees in accordance with the strength or intensity of the light rays striking them.

Transmitters

Le Roy Moffet, Baldwin, N. Y., Patent #363,800 (RCA)—A patent covering several improvements in a television transmitting system, primarily an improved arrangement for

the reinsertion of the DC picture current signal component in the transmitter.

Otto Schade, West Caldwell, N. J., Patent #2,377,972 (RCA)—Generally this invention presents a system whereby return beam blanking may be accomplished without the necessity of resorting to 100% or heavy current modulation of the scanning cathode ray beam or without producing undesired variations in the signal output intensity during the blanking interval.

Alva B. Bradford, Collingswood, N. J., Patent #2,368,096 (RCA)—A picture transmitter designed to improve transmission of the correct component of picture signals by utilizing the large power tube of the transmitter more efficiently.

Tubes

Robert Eugene Ricketts, Plainfield, N. J., Patent #2,365,006 (Unassigned)

ed)—A cathode ray tube having, in addition to an electron generating or producing source, a source of secondary emissions electrons which are produced by the bombardment of an electron emitting element. In this device, the secondary electrons are condensed with the primary electrons into the spot or trace producing ray which is directed against the fluorescent screen and is caused to move across the screen in the usual manner.

John S. Vansant, Huntington Valley, Pa., Patent #2,378,875 (Philco)—A method of forming a precision screen on a cathode ray tube, replacing the practice whereby the entire face of the tube is covered with fluorescent material and a mask is applied externally to cover that portion of the tube on which the picture does not appear. The patented tube works without an external mask.

(continued on page 39)

IRE Winter Technical Meetings

NINE papers on television, the largest number devoted to any single category, will be presented at the annual winter technical meeting of the Institute of Radio Engineers, scheduled for January 24th to 26th inclusive at the Hotel Astor, New York. In all, eighty-seven papers, covering sixteen general subjects, will be given during the three day session.

Meeting will be marked by the presentation of papers on vital war developments which have been prepared by the Armed Services and Government Agencies and released for the first time. Maj. Gen.

Leslie R. Groves, director of the Atomic Bomb Project, will address the joint meeting of the American Institute of Electrical Engineers and the IRE at the Engineering Society's Auditorium on January 23rd. Subject will be "Some Electrical, Engineering and General Aspects of the Atomic Bomb Project." Over 120 exhibitions of radio, television and electronic parts, equipment, etc. will also be featured.

Technical sessions and committee meetings are scheduled as follows:

TECHNICAL SESSIONS

Thursday, January 24

10:30 A. M. - 12:30 P. M.

Group A (Grand Ballroom), Military Electronic Applications.

Group B (Rose Room), Frequency Modulation and Standard Broadcasting.

Group C (Coral Room), Circuits and Theory.

2:00 P. M. - 5:00 P. M.

Group A (Grand Ballroom), Television.

Group B (Rose Room), Radio Navigation Aids.

Group C (Coral Room), Vacuum Tubes.

Friday, January 25

9:30 A. M. - 12:00 Noon

Group A (Grand Ballroom), Microwave Vacuum Tubes.

Group B (Rose Room), Antennas.

2:00 P. M. - 5:30 P. M.

Group A (Grand Ballroom), Radar.

Group B (Rose Room), Microwave Technique.

Saturday, January 26

9:30 A. M. - 12:00 Noon

Group A (Grand Ballroom), Industrial Electronic Applications.

Group B (Rose Room), Communication Systems and Relay Lines.

Group C (Coral Room), Radio Propagation.

2:00 P. M. - 4:00 P. M.

Group A (Grand Ballroom), Broadcast Receivers.

Group B (Rose Room), Quartz Crystals.

Group C (Coral Room), Crystal Rectifiers.

COMMITTEE MEETINGS

Wednesday, January 23 (Morning), Antennas; Frequency Modulation, Radio Receivers, Radio Wave Propagation.

Wednesday, January 23 (Afternoon), Circuits; Membership, Railway and Vehicular Communications; Research; Television; Vacuum Tubes.

Thursday, January 24 (Morning), Standards.

Thursday, January 24 (Afternoon), Education; Public Relations.

Six applicants set to battle for four Washington channels . . . eleven new applications for stations filed.

FOCUS of interest is on Washington hearing (slated for Jan. 21—Feb. 1) to select candidates from among six competing applicants for the four video channels assigned to the nation's capital. Washington was chosen as first test hearing in television it was understood, largely on ground that it had no present TV service, although it will undoubtedly be one of the most important U.S. program centers. FCC Chairman Paul A. Porter had earlier predicted that New York City would be scene of first hearing, but Commission, in his absence at the Bermuda Telecommunications Conference, voted for TV debut in Washington.

Applicants include one newspaper, one movie-affiliated company, a department store group and three important set manufacturers. They are: Bamberger Broadcasting Service, Inc., (affiliated with R. H. Macy, and licensee of WOR, N. Y. C.); Capital Broadcasting Co., (licensee of D. C. station WWDC); Allen B. Dumont Laboratories, Inc. (set manufacturer and 37-percent owned by Paramount Pictures, Inc.); The Evening Star Broadcasting Co. (owner of Washington Star, and licensee of ABC outlet, WMAL); NBC (RCA affiliate and licensee of WRC, Washington); Philco Radio & Television Corporation (set manufacturers and licensee of WPTZ, Philadelphia). (Complete information on these applicants will be found in July-August TELEVISION.)

Eleanor "Cissy" Patterson, publisher of the Washington Times-Herald withdraw from the race for a Washington outlet (December 19th). Mrs. Patterson gave as her reason for backing out of the D. C. television picture, fact that publishing activities consume bulk of her "time and energy."

Marcus Loew Booking Agency (100-percent affiliate of Loew's, Inc.) and Scripps-Howard Radio, Inc. (whose local newspaper affiliate is the Washington Daily News) were last minute scratches, withdrawing their applications on January 18th. Rumors also persist that the Capitol Broadcasting Co. may have a last minute change of plans.

On the other side of the story, Philco Radio and Television Corporation, December 21, reinforced its position in the Washington race. Company filed an amended application, giving complete engineering and programming plans for a \$500,000 station in Arlington, Va. (Complete details on Philco application below.) Moreover, Philco's plans call for 164 hours a month on the air, considerably over the commission's requirements of 28 hours a week. Station proposes spending as much as \$61,500 a month on station operation, a new high in cost estimates for D. C. stations.

At the same time, FCC denied an NBC petition for reinstatement of its construction permit (given in December 1941) for a Washington TV station at the Wardman Park Hotel location. NBC's plans for a capital city

outlet were caught in wartime freeze policy, and construction was never far advanced. In the meantime, the net's construction permit lapsed.

Four of the eight applicants have already begun activity in the Washington area. Dumont has an experimental license and is currently programming from a low-powered transmitter located in the Hotel Harrington, in downtown Washington. Philco has begun construction of a 350-foot tower on its experimental tele station in suburban Virginia. Its application for a commercial license specifies use of the present experimental station set-up in Arlington, Va.

Extent of present NBC and Bamberger activity is a series of appearances before D. C. Zoning Commission on location of proposed TV towers.

FCC Chairman Paul A. Porter set a new precedent—one which may be followed in future television hearings by calling a special "pre-trial conference" December 29 of counsel for the capital city applicants. Purpose was to narrow down issues for discussion at hearing, January 21, and so cut down unnecessary testimony. Porter, who will personally handle the Washington hearing, has also indicated speedy decision following close of the hearing.

Meanwhile, more and more publicity on the "lush Washington market" is catching the eye of potential TV broadcasters and advertisers in the capital city. Best survey of Washington's postwar market prospects to date was recently released by CBS-owned Washington station, WTOP. (Author is Maurice Mitchell, station's ace press chief).

Highlights of the WTOP Study Show:

1. Washington metropolitan area includes 1,250,000 persons, RIGHT NOW. (Washington's population has made steady gains every year since 1940, consistently growing faster than that of the U. S. itself. Its rate of growth dwarfs that of San Francisco, Chicago, New York City.)

2. Washington will reach a population of 1,380,000 in 1950, according to minimum figures compiled by Opinion Research, Inc. for the Washington Board of Trade.

3. Effective buying income of average Washington worker is \$1,899—or \$733 above average for entire country, and higher than that of New York, Chicago, etc.

4. In 1944, Washington was SIXTH in total retail sales.

5. Radio is close to pocketbooks of D. C. residents. More than 95 percent of all metropolitan families already own radio sets, say they plan to buy 56,000 more of them.

NEW APPLICATIONS

Eleven new applicants have filed with the FCC, bringing the total of prospective television stations to 150. Below are listed the newest entrants in the field, together with the pertinent information contained on their applications.

WBEN, Inc. BUFFALO, N. Y.

Address—Hotel Statler, Buffalo
Officers—Edward Butler, President

Estimated Costs	
1. Visual transmitter	\$21,500
2. Aural transmitter tubes	12,000
3. Antenna System	5,000
4. Studio Equipment	62,500
5. Studio Lighting	5,000
6. F & M Monitors	5,000
7. Land	
8. Building	5,000
9. Other item	8,000

Total Costs \$124,000

Channel—#3
Kilocycles—60-66
ESR—1340

Antenna
Height, sea level—975 ft.
Height, ground level—375 ft.
Transmitter location—Hotel Statler, Buffalo
Power, aural and visual—3 kw, aural; 4 kw, visual
Population—805,337
Size of area—1320 sq. mi.—0.5 mv/m
Location of Studio—Hotel Statler, Buffalo
Engineer Consultant—Paul Godley
Equipment—RCA
Lawyer—Paul Spearman
Misc.—Applicant has operated experimental FM-W8XM and facsimile outlet W8XA up till December, 1940. Has FM application pending. Butler is former owner of WEBR, Buffalo, sold in July, 1942. Ralph Kingsley, Chief Engineer, WBEN, directs tele operations.

CINCINNATI, OHIO

Allen B. DuMont Laboratories, Inc.

Address—2 Main Avenue, Passaic, N. J.
Officers—L. F. Cramer, Vice-President in charge of broadcasting

Estimated Costs	
1. Visual transmitter	\$65,000
2. Aural transmitter plus tubes	
3. Antenna System	40,000
4. Studio Equipment	90,000
5. Studio Lighting	10,000
6. F & M. Monitors	Included in Transmitter
7. Land	5,000
8. Building	20,000
9. Other item	50,000 (Studio)

Total Costs \$280,000

Operation Costs per month \$25,000

Channel—#2
Kilocycles—54-60
ESR—2360

Antenna
Height, sea level—1311 ft.
Height, ground level—391 ft.
Power, aural and visual—aural—12.5 kw peak visual—25 kw
Population—903,655
Lawyer—William A. Roberts
Misc.—DuMont has also applied for a Cleveland station. The same figures apply for both applications.

ERIE, PA.

Unity Corporation, Inc.

Address—1014 Edison Building, Toledo, Ohio
Officers—Edward Lamb, president

Estimated Costs	
1. Vis. transmitter	\$ 36,000
2. Aural transmitter plus tubes	
3. Antenna System	7,500
4. Studio Equipment	81,000
5. Studio Lighting	5,000
6. F & M Monitors	1,300
7. Land	210

8. Building	20,500
9. Other item	

Total Costs \$121,560

Operation Costs per month—\$12,000

Equipment—Du Mont
Channel—#2
Kilocycles—54-60 megacycles
ESR—1250

Antenna
Height, sea level—1215 feet
Height, ground level—177 feet
Transmitter location—Summit Township, Erie County—2 miles from Erie city limits
Power, aural & visual—2.5 kw aural and 5 kw visual
Population—174,855
Size of area—432 mi.
Engineering Consultant—A. R. Bitter, Toledo, Ohio
Misc.—Applicant has applied for FM station in Columbus, Lima, Toledo, Mansfield, Ohio, and also for Erie, Pa. Lamb is president of Record Publishing Co., publishers of Erie Dispatch Herald. Net worth \$449,000.

WHP, Inc. HARRISBURG, PA.

Address—216 Locust Street, Harrisburg, Pa.
Officers—E. J. Stackpole, Jr., President

Estimated Costs	
1. Visual transmitter	\$24,000
2. Aural transmitter plus tubes	13,500
3. Antenna System	7,500
4. Studio Equipment	89,000
5. Studio Lighting	12,000
6. F & M Monitors	3,500
7. Land	
8. Building	10,000
9. Other item	6,000

Total Costs \$165,500

Channel—#1
Kilocycles—50-56
ESR—1110

Antenna
Height, sea level—670 ft.
Height, ground level—330 ft.
Transmitter location—3rd and Locust Streets, Harrisburg, Pa.
Power, aural and visual—3 kw, aural—4 kw, visual
Population—240,506
Size of area—936 sq. mi.
Engineering Consultant—Grant R. Wrathall, Washington
Equipment—RCA
Lawyers—Dow, Lohnes and Albertson, Washington, D. C.
Misc.—Affiliated with Harrisburg Telegraph Press, which owns—95% station stock. Has FM application on file.

HUNTINGTON, N. Y.

Sherron Metallic Corporation

Address—1201 Flushing Avenue, Brooklyn, N. Y.
Officers—P. H. Sherron, President

Estimated Costs	
1. Visual transmitter	\$18,000
2. Aural transmitter tubes	8,500
3. Antenna System	10,000
4. Studio Equipment	43,000
5. Studio Lighting	5,000
6. F & M Monitors	6,500
7. Land	2,000
8. Building	7,500
9. Other item	5,000

Total Costs \$105,500

Channel—#5
Kilocycles—76-82

Antenna
Height, sea level—500 ft.
Height, ground level—200 ft.
Transmitter location—Suffolk County, N. Y.
Power, aural and visual—3 kw—aural, 5 kw—visual
Population—970,596
Location of Studio—Huntington, N. Y.
Misc.—Company is electronic equipment manufacturer and has already started manufacture of television transmitters and related equipment. Their coverage proposal and location of transmitter is a new approach in the New York City area. By locating transmitter in Huntington, a portion of Long Island, not covered by transmitters located in Manhattan, will be reached, as well as parts of Connecticut. This company has indicated their desire for channel sharing.

LOUISVILLE, KY.

Courier-Journal and Louisville Times Company

Address—300 West Liberty Street, Louisville, Ky.
 Officers—Mark Ethridge, President
 Channel—#9
 Kilocycles—186-192 mc
 ESR—1425
 Antenna
 Height, sea level—970 feet
 Height, ground level—500 feet
 Transmitter location—Jefferson County, Kentucky, 6th and Broadway, Louisville, Ky.
 Power, aural & visual—3 kw, aural; 4 kw visual
 Size of area—38 mi.
 Location of Studio—Jefferson County, Ky., 6th and Broadway, Louisville Ky., adjacent new WHAS studios.
 Engineering Consultant—O. W. Towner, technical director WHAS
 Misc.:—Applicant is licensee of WHAS. Station will serve all metropolitan area of Louisville, Jeffersonville, New Albany and most of surrounding counties of Jefferson, Clark and Floyd.

LOS ANGELES, CAL.

The Times-Mirror Company

Address—202 West 1st Street, Los Angeles
 Officers—Norman Chandler, President
 Estimated Costs

1. Vis. transmitter	\$ 86,000
2. Aural transmitter plus tubes	64,000
3. Antenna System	17,500
4. Studio Equipment	89,000
5. Studio Lighting	7,500
6. F & M Monitors	6,000
7. Land	500 annual rental
8. Building	60,000
9. Other item	20,000

Total Costs \$350,500
 Equipment—General Electric
 Channel—#5
 Kilocycles—76-82
 ESR—16,069
 Antenna
 Height, sea level—4,893 feet
 Height, ground level—118 feet
 Transmitter location—Mount Disappointment 5,994' above sea level
 Power, aural & visual—20 kw and 40 kw
 Population—3,156,297
 Size of area—9,114 miles
 Location of Studio—Los Angeles County, to be determined
 Engineering Consultant—G. L. Curtis and Milton Woodward—Commercial Radio Equipment Company
 Lawyers—Eliot C. Lovett
 Misc.:—This is really amended application of earlier request filed October 1944. Applicant owns the Southwest Company whose business is sole ownership Times Building and Los Angeles Times-Mirror. Herbert Wilson is special radio consultant.

PHILADELPHIA, PA.

William Penn Broadcasting Company

Address—1528 Walnut Street, Philadelphia, Pa.
 Officers—William McLea, President
 Estimated Costs

1. Visual transmitter	\$40,000
2. Aural transmitter tubes	13,000
3. Antenna System	30,000
4. Studio Equipment	50,000
5. Studio Lighting	5,000
6. F & M Monitors	7,000
7. Land	Leased
8. Building	10,000
9. Other item	50,000

Total Costs \$200,000
 Operation Costs per month \$15,000
 Channel—#10
 Kilocycles—192-198
 ESR—2980
 Equipment—RCA
 Transmitter location—12 South Twelfth Street
 Location of Studio—1528 Walnut Street
 Engineering Consultant—George C. Davis
 Lawyers—Pierson & Ball.

SAN FRANCISCO, CAL.

American Broadcasting Company, Inc.

Address—30 Rockefeller Plaza, New York, N. Y.
 Officers—Mark Woods, President
 Estimated Costs

1. Visual transmitter	\$86,000
2. Aural transmitter plus tubes	64,000
3. Antenna System	18,000
4. Studio Equipment	89,000
5. Studio Lighting	6,000
6. F & M Monitors	3,500
7. Land	—
8. Building	30,000
9. Other item	90,000

Total Costs \$386,500
 Operation Costs per month \$13,000—Based on 15 hour a wk.

Channel—#7
 Kilocycles—102-108 kc
 ESR—3950
 Antenna
 Height, sea level—4186 ft.
 Height, ground level—337 ft.
 Transmitter location—Contra Costa County, California
 Power, aural and visual—20 kw, aural; 40 kw, visual
 Population—2,433,875
 Location of Studio—San Francisco
 Engineering Consultant—Frank G. Kear, Washington, D. C.
 Equipment—General Electric
 Misc.—ABC has bid for tele stations in Chicago, New York and Los Angeles.

SAN FRANCISCO, CALIF.

Hearst Publications, Inc.

Address—Hearst Building, Third and Market Sts., San Francisco

1. Vis. transmitter	\$ 86,000
2. Aural transmitter plus tubes	64,000
3. Antenna System	27,000
4. Studio Equipment	89,000
5. Studio Lighting	16,000
6. F & M Monitors	3,500
8. Building	12,500
9. Other item	25,000

Total Costs \$323,000 plus rent
 Operation Costs per month \$35,000
 Equipment—General Electric
 Channel—#4
 Kilocycles—66-72 megs.
 ESR—1472.85
 Antenna
 Height, sea level—2735 feet
 Height, ground level—131 feet
 Location—on 50 feet substructure, consisting of a self supporting steel tower. Mt. Tamalpais.
 Transmitter location—Marin County, leased from Marin Municipal Water District
 Power, aural & visual—aural 20 kw.—visual 40 kw.
 Population—1,713,807
 Size of area—9,000 sq. mi.
 Location of Studio—San Francisco County
 Engineering Consultant—Gille Brothers
 Lawyers—Grove Fink, 1018 Hearst Building, San Francisco, E., California

SCRANTON, PA.

Comerford Publix Theatres Corp.

Address 297 Wyoming Avenue, Scranton, Pa.
 Officers—J. J. O'Leary, President
 Estimated Costs

1. Visual transmitter	\$36,000
2. Aural transmitter tubes	—
3. Antenna System	7,500
4. Studio Equipment	81,000
5. Studio Lighting	5,000
6. F & M Monitors	1,300
7. Land	—
7. Land	—
8. Building	—
9. Other item	40,500

Channel—#12
 Kilocycles—204-210 mc
 ESR—2057

Transmitter location—Mountain top site, 4½ miles southeast Scranton, Pa.
 Power, aural and visual—5 kw, video; 2½ kw, sound
 Population—1850,824
 Size of area—1288
 Engineering Consultant—L. E. Pett, Field Enginner, DuMont
 Misc.—Comerford Publix Theatres Corporation in theatre business for many years; 55 theatres in Pennsylvania. Paramount owns 100 percent of the B preferred and 50 percent common shares.

WASHINGTON, D. C.

Philco Radio & Television Corp.

Address—Tioga and C Streets, Philadelphia, Pa.
 Officers—Ernest Loveman, Vice president in charge of television
 Estimated Costs

1. Vis. transmitter	\$37,500
2. Aural transmitter plus tubes	12,137
3. Antenna System	19,995
4. Studio Equipment	171,300
5. Studio Lighting	34,000
6. F & M Monitors	1,630
7. Land	10,000
8. Building	167,281
9. Other item	79,580

RCA Equipment
 Operation Costs per month \$61,500

Channel—#4
 Kilocycles—66-72
 Hrs per wk of operation—164 hours a month
 Breakdown—54 hours, outside pickups; 100 hours studio production; 10 hours, film.

Antenna
 Height, sea level—740 feet
 Height, ground level—350 feet
 Transmitter location—South side, Lee Highway, Arlington County, Va.

Engineering Consultant—Raymond Wilmotte
 Lawyers—Reed T. Rollo

Misc.:—The application points out Philco received its first experimental license in Philadelphia in 1932. Been on the air for 13 consecutive years. Work is underway to permit two-way operation through their Washington to Philadelphia radio relay. Philco will maintain studios at Arlington transmitter site and in Washington. Will use three studios, six studio cameras and four mobile-unit cameras. Will hire up to 190 personnel, minus those used on New York and Philadelphia station terminals.

WORCESTER, MASS.

Worcester Telegram Publishing Company

Address—20 Franklin Street, Worcester, Mass.

Estimated Costs

1. Visual transmitter	\$38,500
2. Aural transmitter plus tubes	19,400
3. Antenna System	25,000
4. Studio Equipment	74,500
5. Studio Lighting	7,500
6. F & M Monitors	500
7. Land	
8. Building	17,000
9. Other item	12,000

Total Costs \$194,400
 Operation Costs per month \$11,051—Based on 20 hours per wk.

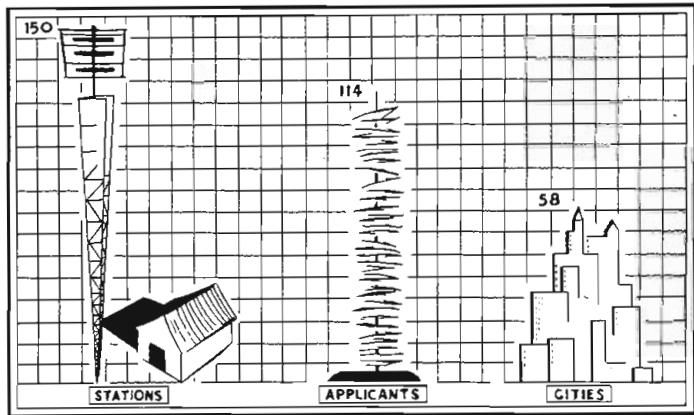
Channel—#1
 Kilocycles—44-50
 ESR—3260

Antenna
 Height, sea level—1600 ft.
 Height, ground level—280 ft.
 Transmitter location—Little Asnebumsket Hill, Paxton, Mass.—5 miles

Power, aural and visual—aural—3 kw, visual—4 kw, northwest Worcester

Population—882,068
 Location of Studio—18 Franklin Street, Worcester
 Engineering Consultant—Jansky and Bailey, Washington, D. C.
 Equipment—RCA
 Lawyer—Karl Smith, Washington, D. C.

Misc.:—Applicant is licensee of WTAG and WTAG-FM, Worcester; has applied for FM station at Paxton, Mass. Station's technical staff under direction Hobart Newall, Professor Electrical Engineering. Elliott Browning, WTAG, chief engineer will direct engineering.



Film Projection Equipment

(continued from page 15)

practice this "light change" procedure, which compensates for varying density in different scenes in a negative, is taken care of in the laboratory when the negative is printed. In film-television production a negative edited for projection might contain a great number of scenes shot under widely varying light conditions. Some type of light change device, operated by a photo-cell "reader," can be developed which will automatically control a set of filters, a vignette or operate an electronic control in the video channel. This will permit a print of level density being received in the home receiver.

Stereoptican and still picture projectors used in television production should receive equal consideration. The size and shape of the slide or transparency, the focal length and speed of the lens, the type and intensity of the illuminant should be standardized in order that the eventual interchange of still picture material between television stations may be accomplished.

Need for Experimentation

Experiments should be conducted with 16 mm. and stereoptican projection equipment to determine the feasibility of using such equipment to provide projected backgrounds for live studio productions. Television should not require the large background screens used in motion pictures and such projected backgrounds would solve scenic problems while broadening the scope of studio productions. Major problem to be solved in such experiments will be that of providing an illuminant of high intensity which can be cooled to a level of safety before reaching the motion picture film or still transparency. Motion picture studios have designed and successfully used such projectors with 35 mm. film, by using a water cooled cell and a revolving glass shutter to cool the light beam projected by a high intensity lamp. A motion picture projector for background projection in a television studio would of course have to meet the 30 frame scanning standard of television and should be equipped with lenses of high resolving power which were corrected over their entire surfaces.

Film-television projectors are destined to become one of a television studio's most versatile and most used pieces of equipment. The straight projection of programs produced on film will be but one of the many uses for such projector. Locales will be identified, moods will be created, effects produced, and sequences of live studio productions will be tied together with projected film "bridges." Present available projection equipment should be carefully investigated from the viewpoint of converting it to the technique of film-television projection and manufacturers should be encouraged to develop projectors of special design for film-television service.

PROGRAMMING

The Year in Review . . . highlights of programming formats and production techniques developed by stations.

THE YEAR IN REVIEW

A survey of the past year's programs would indicate that television last seen by the pre-war public in its swaddling clothes, will renew its post-war acquaintanceship sporting its first pair of long pants. The demands of the war took from the infant industry almost everything essential for its physical growth, equipment, manpower, and finances from commercial sources. But this cloud, too, was not without its silver lining. Priorities were never established on imagination or intelligence, nor ceilings on ingenuity and initiative. The circumstances enabled program directors to experiment widely, to adapt to the new video art whatever was valuable from other mediums, and to evolve new forms suited to the peculiar requirements of television. In the last year, viewers have seen some of the results of this constant experimentation and development in programs. Presentations have varied widely, ranging from standard film and dramatic fare to visual musical abstractions.

Such factors as small budgets, limited facilities, inexperienced personnel and material shortages influenced to a considerable degree the type of program as well as its quality and technical excellence. Programs must be viewed not only by what has been done—but with what it was done. And much has been accomplished with little.

The programs mentioned are important, we believe, as examples of what has been attempted or achieved, rather than for technical excellence or entertainment value. Some were highly successful and some fell short of their goal. But they are signposts on the road to programming.

Dramatic Adaptations

One of the outstanding developments of the past year has been the use of film in live dramatic shows. WNBT (NBC) in many of its Sunday evening full-length dramas has used film successfully in establishing locale, mood and setting of a play. In "Bodellia," WNBT's dramatization of Vera Caspary's best-selling novel, viewer interest was stimulated by the use of film depicting a rural

winter scene while an off-stage announcer delivered an appropriate prologue. In "Winterset," films showing a great bridge lent credence and substance to the stage set of a house and waterfront alley in the shadow of the towering structure. NBC has also used film in other dramas to bridge the gap between scenes or to maintain continuity while set changes were made. However, film must be employed with some discretion. Too much can be made of a good thing, as was demonstrated in the WNBT



"The Town Crier of Chungking" was presented by WNEW over WABD. Story concerned a Chinese woman guerilla.

production of "The Devil And Daniel Webster" when clips from Walt Disney's "Fantasia" were inserted and permitted to run so long that they broke into the mood and continuity of the drama. A particularly good use of film was made in "Casey, Press Photographer," CBS's regular radio serial adapted for television on WCBW. The film inserted a burning warehouse, and the solution of the crime came simultaneously to Casey and the audience by a photograph.

Radio station WNEW in New York used the DuMont facilities for its drama group. Outstanding was "Town Crier Of Chungking," the story of a Chinese woman guerilla fighter, and "The Story of Bess," the history of a bomber. Similarly,

WRGB (GE) in Schenectady has become the focal point of a number of "little theatre" and experimental groups. The Yale University Players, the Civic Players, Amsterdam Players, and others are material and talent source for live shows for smaller stations with limited budgets.

W6XAO (Don Lee), in cooperation with the Birmingham General Hospital, gave a radio training course to a group of their servicemen patients. "Cops Don't Get Married", a comedy-drama, was televised as an illustration of the work being done. WBKB (Balaban and Katz) in Chicago presented "Welcome To The Walkers," one of television's first comedy series. Sponsored by the Commonwealth Edison Co., the script neatly tied in plugs for electrical appliances. W6XYZ (Paramount) in Hollywood, presented a string of "Embarrassing Situations," another comedy serial.

Radio Adaptation

Another popular trend was in the adaptation of well-known radio presentations to television. WCBW produced a Norman Corwin show, choosing "Untitled" for its initial attempt. A flashback technique, film and slides helped to dramatize the story. It was, unfortunately, a rather poor choice. Written for radio, it contained little action, and hence, little visual appeal. "On A Note Of Triumph," Corwin's VE day script was judiciously cut, and the televised portions came over much better. Among others televised by WCBW were "Big Sister" and "Aunt Jenny," while WABD (DuMont) adapted ABC's "Women Of Tomorrow" and "Breakfast Club." ABC in particular concentrated on the adaptation of radio shows to television.

WCBW produced "Three Houses," first soap opera written especially for television. No "cliff hanger," it was presented in three evenings with each episode self-contained, an off-stage voice preserving continuity by relating the preceding events. Another WCBW series which should appeal to the millions of crime detection "whodunit" fans was the adaptation of the "Look" magazine mystery feature, "Photocrime." As in the magazine, all the evidence necessary to solve the crime is presented

in the opening scene and constitutes a challenge to audience to solve the mystery before the detective does.

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PROGRAMMING

The Year in Review . . . highlights of programming formats and production techniques developed by stations.

THE YEAR IN REVIEW

A survey of the past year's programs would indicate that television last seen by the pre-war public in its swaddling clothes, will renew its post-war acquaintanceship sporting its first pair of long pants. The demands of the war took from the infant industry almost everything essential for its physical growth, equipment, manpower, and finances from commercial sources. But this cloud, too, was not without its silver lining. Priorities were never established on imagination or intelligence, nor ceilings on ingenuity and initiative. The circumstances enabled program directors to experiment widely, to adapt to the new video art whatever was valuable from other mediums, and to evolve new forms suited to the peculiar requirements of television. In the last year, viewers have seen some of the results of this constant experimentation and development in programs. Presentations have varied widely, ranging from standard film and dramatic fare to visual musical abstractions.

Such factors as small budgets, limited facilities, inexperienced personnel and material shortages influenced to a considerable degree the type of program as well as its quality and technical excellence. Programs must be viewed not only by what has been done—but with what it was done. And much has been accomplished with little.

The programs mentioned are important, we believe, as examples of what has been attempted or achieved, rather than for technical excellence or entertainment value. Some were highly successful and some fell short of their goal. But they are signposts on the road to programming.

Dramatic Adaptations

One of the outstanding developments of the past year has been the use of film in live dramatic shows. WNBT (NBC) in many of its Sunday evening full-length dramas has used film successfully in establishing locale, mood and setting of a play. In "Bedelia," WNBT's dramatization of Vera Caspary's best-selling novel, viewer interest was stimulated by the use of film depicting a rural

winter scene while an off-stage announcer delivered an appropriate prologue. In "Winterset," films showing a great bridge lent credence and substance to the stage set of a house and waterfront alley in the shadow of the towering structure. NBC has also used film in other dramas to bridge the gap between scenes or to maintain continuity while set changes were made. However, film must be employed with some discretion. Too much can be made of a good thing, as was demonstrated in the WNBT



"The Town Crier of Chungking" was presented by WNEW over WABD. Story concerned a Chinese woman guerilla.

production of "The Devil And Daniel Webster" when clips from Walt Disney's "Fantasia" were inserted and permitted to run so long that they broke into the mood and continuity of the drama. A particularly good use of film was made in "Casey, Press Photographer," CBS's regular radio serial adapted for television on WCBW. The film inserted a burning warehouse, and the solution of the crime came simultaneously to Casey and the audience by a photograph.

Radio station WNEW in New York used the DuMont facilities for its drama group. Outstanding was "Town Crier Of Chungking," the story of a Chinese woman guerilla fighter, and "The Story of Bess," the history of a bomber. Similarly,

WRGB (GE) in Schenectady has become the focal point of a number of "little theatre" and experimental groups. The Yale University Players, the Civic Players, Amsterdam Players, and others are material and talent source for live shows for smaller stations with limited budgets.

W6XAO (Don Lee), in cooperation with the Birmingham General Hospital, gave a radio training course to a group of their servicemen patients. "Cops Don't Get Married," a comedy-drama, was televised as an illustration of the work being done. WBKB (Balaban and Katz) in Chicago presented "Welcome To The Walkers," one of television's first comedy series. Sponsored by the Commonwealth Edison Co., the script neatly tied in plugs for electrical appliances. W6XYZ (Paramount) in Hollywood, presented a string of "Embarrassing Situations," another comedy serial.

Radio Adaptation

Another popular trend was in the adaptation of well-known radio presentations to television. WCBW produced a Norman Corwin show, choosing "Untitled" for its initial attempt. A flashback technique, film and slides helped to dramatize the story. It was, unfortunately, a rather poor choice. Written for radio, it contained little action, and hence, little visual appeal. "On A Note Of Triumph," Corwin's VE day script was judiciously cut, and the televised portions came over much better. Among others televised by WCBW were "Big Sister" and "Aunt Jenny," while WABD (DuMont) adapted ABC's "Women Of Tomorrow" and "Breakfast Club." ABC in particular concentrated on the adaptation of radio shows to television.

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EDITORIAL

Anti-Trust Suit

The recent action of the Department of Justice against the Scophony Corporation of America and its major stockholders, General Precision Equipment Corporation and Paramount Pictures, coupled with the front-page smear treatment the story received in the press, was unwarranted.

At the onset the action found a favorable reception from a postwar, cartel-suspicious public. If it's publicity the Attorney General's office wanted, they've had it. But it is incredible to us that Attorney General Clark would be naive enough to let his subordinates bring this matter to a head without a thorough investigation of the technical factors.

Our responsibility as the business publication of the industry calls for a thorough study of all of the developments pertaining to television. After our careful analysis of all claims, engineering opinions and the statements of the litigants involved, we are convinced this is a case of much ado about nothing.

Television Training

The problem of providing qualified television training is serious and cannot be solved by irresponsible opportunists hanging out a shingle with the magic legend "School of Television." For those who wish to be shorn, there is always the "School of Tonsorial Arts" or Barber College. There are too many video courses based on very flimsy experience mushrooming throughout the country today. There is just not enough experience in tele-programming to justify the "definitive teachings" of these self-constituted experts. The handful of men with a sufficient backlog of tele-work who can qualify as legitimate experts will admit that they are still in the student rather than the professor stage.

Fundamentally, television programming depends on a knowledge of the technicalities of the medium itself—its scope and limitations. First step toward any understanding of video depends upon actually working with the many different elements involved—lighting, mike placement, camera operation, control room set-up, etc. And with even the operating studios handicapped by equipment shortages, certainly no school, lacking such necessary tools, can do more than offer theoretical solutions to the problems involved. And television has been surfeited with theories.

If the multitude of courses now being offered adhere to an honest exposition of the problems of programming, some good may come from them. But, if they should invent a series of programming rules, only rigor-mortis will result.