

Humanities

Television

THE MAGAZINE OF VIDEO FACT



Special Effects • Shooting on the Gridiron • Commercials • Hollywood

35 CENTS
DECEMBER 1944

**ANOTHER
RCA FIRST!**

RCA ANNOUNCES **BIG** TELEVISION PICTURES AT LOW COST

The public will want brighter, larger images on self-contained screens . . . RCA will have them in postwar receivers!

SUCH pictures are ready now in the laboratory because RCA scientists had the imagination to go outside the field of electronics, into the realms of optics and astronomy, combining special mirrors and lenses into a whole new *system* of television projection.

With this new method, television pictures can now be projected onto

large-size screens which are *part of the set itself* . . . big enough to be readily seen from all parts of even the largest living rooms . . .

Once again RCA engineers demonstrate the leadership in inventive research that has made them largely responsible for developing today's television system.

RADIO CORPORATION OF AMERICA

RCA VICTOR DIVISION • CAMDEN, N. J.

LEADS THE WAY... *In Radio... Television... Tubes...
Phonographs... Records... Electronics*



RCA . . . FIRST WITH THE THINGS THAT COUNT

**PUBLISHED MONTHLY
WITH THIS ISSUE**

Television

THE MAGAZINE OF VIDEO FACT

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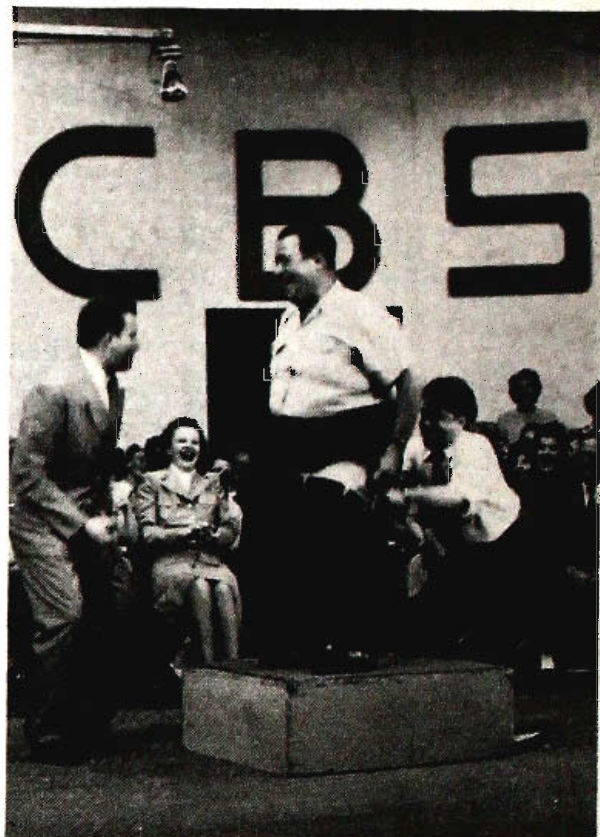
COVER: Above the 50-yard line at Franklin Field, Philadelphia, part of the Philco crew is seen during a telecast of the recent Penn-Navy game. Platform in foreground is flanked by a camera on either side. Announcer is guided by picture monitor in front of him. Photo by Kurt Schelling.

Frederick A. Kugel, *Editor and Publisher*
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Bradford Babbitt, *Art Editor*
West Coast—Frances Sage

PROGRAMMING



WBKB, Chicago, airs high jinks by Don McNeill, right, in a video parody on his radio *Breakfast Club* for Marshall Field & Co. through Ruthrauff & Ryan.



WCBW, New York, televises a hilarious scene from radio's *The Missus Goes A-Shopping*. John Reed King, left, has a contestant show how a woman dresses.

SIGNIFICANT is the swing toward adapting tested radio shows to television. As long as the sound stanzas have visual potentialities, the addition of sight merely shifts the stress from gab to action. Experimentation with exclusively sight-and-sound shows, though, remains the principal trend.

Substantial consideration in the conversion of radio programs to television is the resulting cut in video programming costs. For example, a deep reduction in rehearsal time and production problems is evident in *The Missus Goes A-Shopping*, popular morning radio feature successfully adapted for weekly television presen-

tation by WCBW (CBS), New York. The regular format cuts preparation to a minimum.

An audience-participation type with a comic slant, *The Missus* uses only three regulars—emcee John Reed King, program assistant James Brown and a duck misnamed Pierre. Set very simply in a store, it is a natural for a sponsor or series of participating sponsors when the CBS video department decides to exercise the privilege of its commercial license.

Keynote of low-cost conversion was also sounded in the Don McNeill *Supper Club*, a television take-off on his radio *Breakfast Club* (Blue Network), at WBKB, Chicago. Sponsor

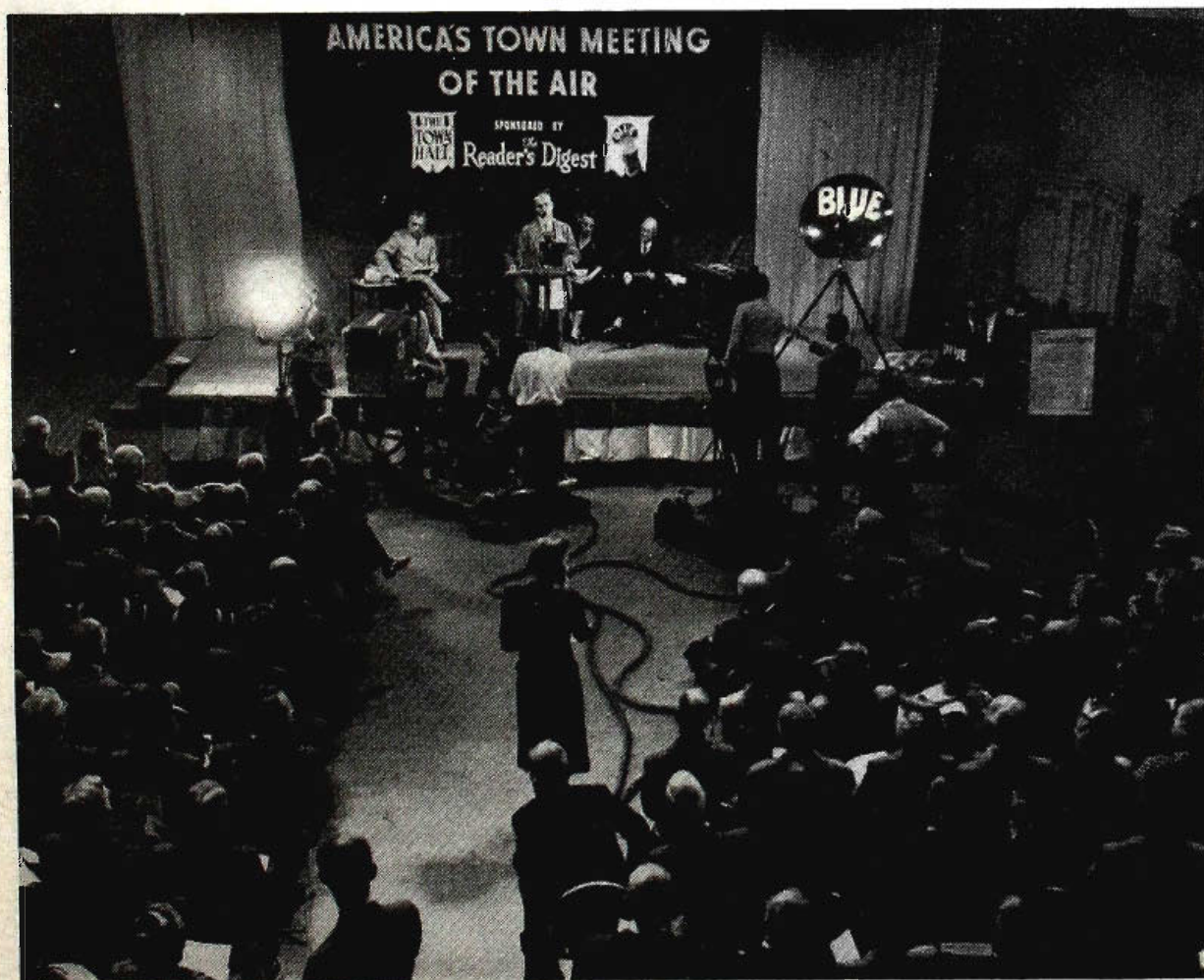
of this video variety was Marshall Field & Company through Ruthrauff & Ryan, Inc. A minimum of props—a few ringside tables and chairs to simulate a night club—helped keep down expenses.

Biggest example of radio-into-television fare was the recent *America's Town Meeting of the Air* produced in the studio of WRGB (General Electric), Schenectady, before an audience of 150 spectators. Simultaneous radio-video transmission was effected under a rigid check against doing anything that might impede the regular Blue web broadcast. Both programs were sponsored by *The Reader's Digest* through BBD&O (video, Ted Long). Cost was kept down to a minimum in this case, too. Since the show was held in the GE studio, it

wasn't even necessary to hire a hall, as is the case on radio tours, though moderator George V. Denny, Jr., had to transport his speakers and radio crew to the upstate New York station.

Ample proof of inexpensive adaptation of successful radio programs is afforded by the trio of shows just cited. At this stage of video development, keeping down production costs is a *must*. Most advertising agencies and sponsors justifiably can't see putting up a sizable sum for today's token circulation of some 7,000 receivers.

Of course, where the sponsor intends to use eye-and-ear experimentation as a promotion vehicle, heavy spending may thus be warranted. Specimen of this kind of production is the recent program produced by Charles M. Storm Company (Ray



WRGB, Schenectady, N. Y., plays host to a studio audience at a dual radio-television broadcast of *America's Town Meeting of the Air* under the sponsorship of *The Reader's Digest* (BBD&O). Because the radio stanza was aired via more than 180 stations of the Blue Network, restrictions were imposed on the video portion.

Nelson) in behalf of *Esquire* magazine at an estimated cost of \$10,000. Full-page ads in newspapers and trade publications ballyhooed this ambitious project as "the first full-length television musical comedy written and produced expressly for television."

Cast of the *Esquire* extravaganza numbered 44 performers in addition to an orchestra of 11 musicians. Running time consumed two hours and 10 minutes. Actually, the length could have been cut advantageously to a half hour with a much smaller cast. But the publicity value was the thing, so it served its purpose in that respect. High spots of the show demonstrated, however, that musical comedy has a place in television. *Esquire* is reported

to be planning a color page of the event by art photographer Anton Bruehl in its February issue.

Right now, though, television needs plenty of inexpensive experimental production to find its way in the difficult job of live programming. Equipment limitations must be realized by producers, directors and sponsors to utilize the medium's full expression. Greater activity in video programming will help pave the way toward better shows. If costs are kept down, activity will increase.

Ridiculously low budgets, however, present a dangerous extreme. The answer does not lie in badly produced packages at \$50 and \$75. It lies in intelligent use of the art at minimum cost, with fair compensation to all.



WCBW dramatizes an appeal for Red Cross blood donors by presenting Arthur Godfrey of the a.m. radio in the actual role of a contributor to the blood bank. Demonstrating the ease of giving blood to save lives in battle, Godfrey re-enacts the experiences of a volunteer donor. Here he is seen with an Army M.D. and nurse.

Coaxial and radio links

NEW light has recently been thrown on current and planned postwar relaying systems from which, undoubtedly, will come the network facilities for nationwide television. One is coaxial cable; the other, a series of towers—about 30 miles apart—between which very high frequencies or microwaves will be transmitted and received.

Coaxial cable, as an efficient means of transmitting many telephone conversations simultaneously—480 over the New York-Philadelphia link—is well established. So is its use as a medium for television. But development work, begun before the war, is expected to be successful soon after the end of hostilities in providing a coaxial-channel frequency *width* of about 7,000,000 cycles (7 megacycles), compared with the current frequency of only about 2,700,000 cycles.

Full Frequency

With such a system installed in the thousands of miles of cable throughout the country it would be possible to transmit the full video frequency of 4,000,000 cycles. Capacity would thus be one complete television picture, plus 480 telephone conversations, simultaneously, or the transmission of a much broader television band if video standards are raised to permit an image of greater detail than the standard 525 lines currently afford.

Discussing such possibilities, Harold S. Osborne, chief engineer of the American Telephone and Telegraph Company, disclosed at a recent meeting of the Society of Motion Picture Engineers: "Whether the coaxial cable will in the future be used with still broader bands of frequencies will be a question of economics rather than any inherent limitation of the cable."

He said the *top* frequency to be sent over the coaxial cable is largely a matter of the spacing of repeater stations along the cable at intervals to build up the *level* of the signal being transmitted. Present cable repeater spacing of about 5.3 miles, he stated, will be about 3.5 miles with the 7-mc. cable.

"The whole development," Osborne went on, "is still young, and we do not want to say whether 7 mc. will be the final step, or whether further developments will lead us to the use of still broader frequency bands over this type of cable."

Pipe Circuit

All this talk about the television *pipe* now being capable of transmitting about 2,700,000 cycles—with possibilities in the future pointing to its extension to 7,000,000 cycles—means what can take place in just one coaxial cable; in short, in one pipe circuit. Cable installations today, however, are not being limited to one or two pipes, each one a metallic tube with a single wire suspended by insulators at the tube's exact center. In other words, the wire is suspended coaxially within the outer tube.

As they are being plowed in today or contemplated for future installation, the coaxials comprise as many as eight pipes and many telephone *wire* channels packed around the pipes proper. All of which—pipes, wires and everything—are rolled into a big bundle and securely bound with armor and moisture-proof material. The resultant cable is sometimes two-and-one-half inches in diameter.

Think of the telephone conversations and television programs such a cable would conduct over great distances. Actually, such an eight-pipe cable would carry 1,440 phone messages simultaneously, with two pipes

held as spares in case of trouble in the circuit. Or, it would conduct three television programs each way, with two pipes held for stand-bys. Remember that telephone conversations require not only a going but a coming circuit in a coaxial pipe—going in one pipe, returning in another. This way of doing it minimizes cross-talk interference.



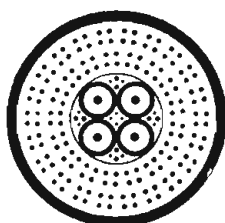
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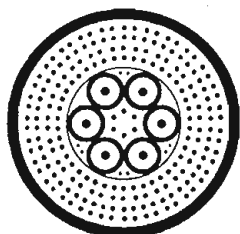
STEVENS POINT-MINNEAPOLIS



ATLANTA-MACON



BALTIMORE-WASHINGTON



PHILADELPHIA-BALTIMORE

Cross-sections of various types of cable are seen with coaxial pipes inside.

Cross-sections of the various cables are illustrated herewith, except the eight-pipe cable, a cross-section of which is not available.

Radio-relay links for all sorts of inter-city services of the future, including television, are regarded by many not as a threat to the coaxial cable's future but as a system likely

to be employed with it to set up the most efficient nationwide relay routes. The Radio Corporation of America and the AT&T are looking forward to the use of such relay-links between Eastern cities. That part of the AT&T link, planned between New York and Boston, will cost about \$2,000,000. It will be operated experimentally, on frequencies of about 2,000, 4,000 and 12,000 mc. Bands up to about 10 mc. are to be transmitted between tall towers spaced some 30 miles apart.

Purpose will be to determine by practical operation in commercial service the relative advantages and disadvantages for the transmission of messages and television programs by radio relay, compared with similar transmission of such programs over wires and coaxials. Relative operating costs, it is said, will be one of the factors to be determined. Others will be quality of transmission, flexibility under operating conditions and dependability. Using very short radio waves, the telephone company already has established permanent phone links over various bodies of inland and coastal waters.

Extensive planning work along this line by RCA contemplates inter-city 20-mc. links between towers some 200 feet high, spotted every 30 miles or so cross-country. Such stations would be of the unattended type, visited by a serviceman only when a signal flashed to a central service depot *anticipates* trouble. RCA has made many estimates on the costs involved. They vary widely—\$2,000 to \$4,000 per mile, irrespective of total distances to be covered.

It has been estimated that a 300-foot tower, for instance, might cost up to \$45,000; 200-foot towers, somewhat less. The necessary tower, transmitter-receiver apparatus and auxiliaries such as power, etc., would cost between \$25,000 and \$50,000 each.

A radio-relay television system planned by the Philco Corporation contemplates a series of towers between Philadelphia and Washington,

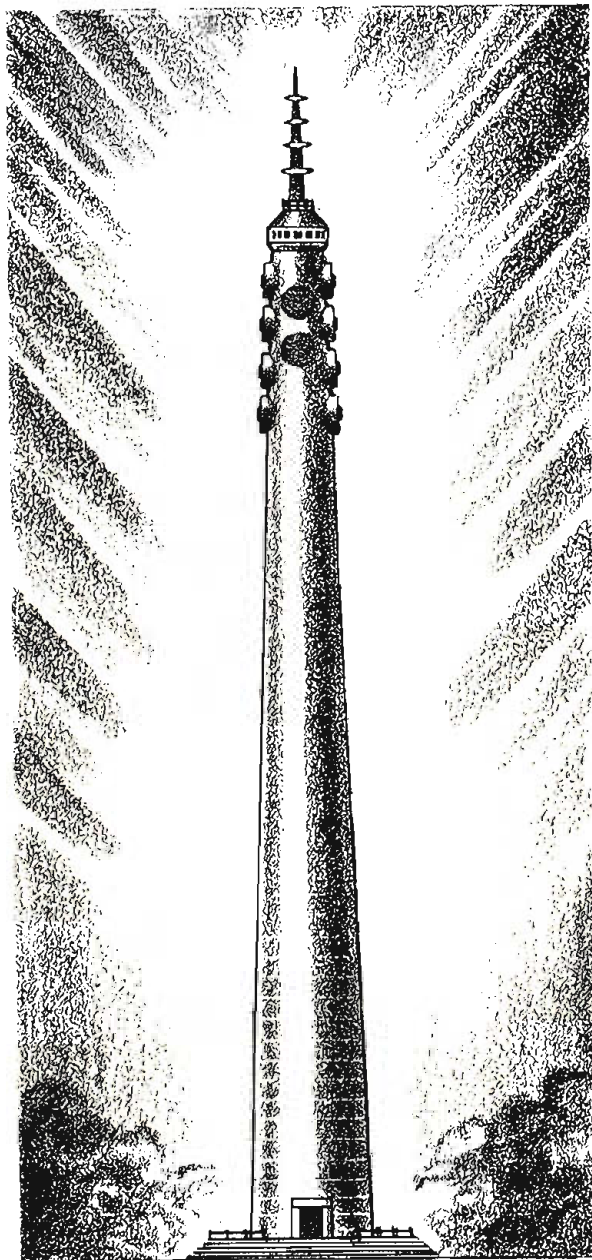
D.C., with towers at Honey Brook, Pa.; Sappington, Md., and Havre de Grace, Md. The Honey Brook relay will utilize relay channels 11 and 12, or 204-216 mc.—one for receiving and the other for transmitting; Sappington, channels 13 and 14, or 230-242 mc. Havre de Grace is to have equipment for all four channels, and the terminal equipment in Philadelphia and Washington will utilize channels 11 and 12. Tower heights have not yet been determined. Experiments are under way on this part of the problem. Each relay transmitter will have a peak video power of 15 watts, and audio, the same or a little less. Experimental licenses have been granted for this work by the Federal Communications Commission.

Postwar look-and-listen relays are also contemplated by the General Electric Company and the International Business Machines Corporation, as previously reported in TELEVISION. Both are collaborating in the development of a system to be set up and operated experimentally between New York, Schenectady and Washington. Eventually, this system is expected to be expanded throughout the nation and possibly the hemisphere. In November the FCC approved GE-IBM applications for five experimental wide-band relay stations of multiple transmission in the above-named points and New Scotland, N. Y. Allocation was granted for six 60-mc. continuous bands from 1,900 to 2,300 mc.

Radio-relay links have strong possibilities when it comes to the power required to send the waves at various frequencies. For instance, with 282-foot towers spaced 30 miles apart, the towered repeater-station transmitter would require 116 watts when a frequency of 500 mc. is employed. But look at the picture when 1,000-mc. beams are used. Only 29 watts are needed and the tower height may be reduced to 234 feet. Similarly, by engineering formulae, it has been estimated that at 2,000 mc. only 7.25

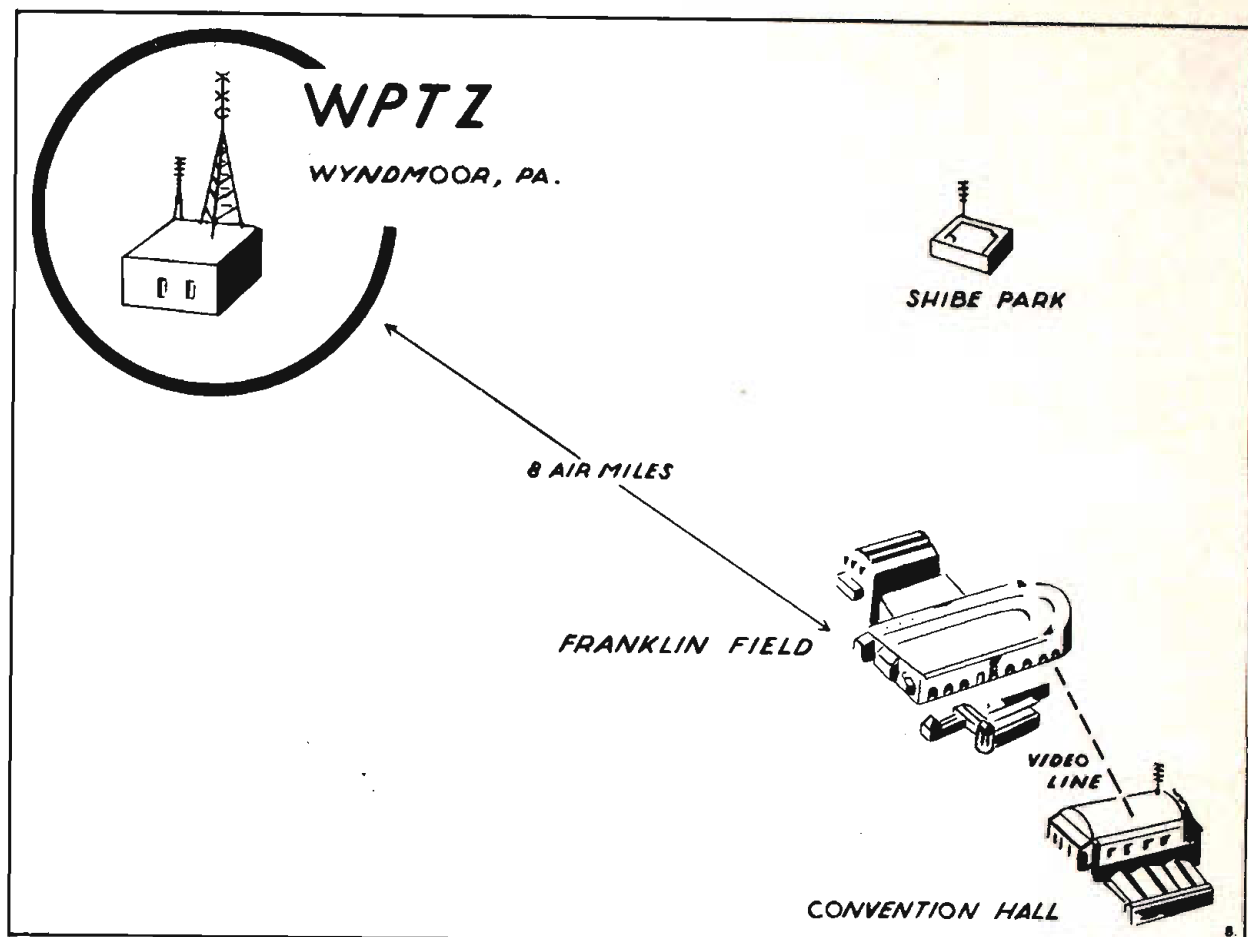
watts would be required at a tower height of 200 feet.

Would this almost fantastic mathematical picture of tomorrow's ethereal roadways go on and on in favor of less and less power if the frequencies are made still higher, say to 10,000 megacycles? It looks that way, engineers declare. This would, it seems, bring big economies of equipment for



RCA tower may be equipped in future with observation platform to pay cost.

tower-top installation, but not much less, perhaps, in the cost of the towers. Only time will tell where the biggest economies and the most efficient operation will result.



Games are fed from university stadium by cable to ultra-high-frequency relay transmitter atop Philadelphia Convention Hall, where picture signals are beamed to main transmitter at Wyndmoor. Pro contests from Shibe Park have also been relayed.

tripods equipped with special gyroscopic mechanisms for instant panning.

A cameraman and an assistant are assigned to each camera. Both cameras, equipped with orthicon camera tubes, are used continuously and can be pointed in any direction to pick up action on the field, or human-interest scenes in the stadium. Each camera has associated equipment, which, at Franklin Field, is housed in a control room under the upper tier of the South stands, directly behind the camera platforms. Here the program director views the output of both cameras on his picture monitors. With push-button switches, he selects the picture, which he considers to be most interesting to the television audience, and by operation of controls at his fingertips sends that picture to the main transmitter.

The responsibility for a smooth, interesting continuity of events taxes the capabilities of the program director. He must be a quick-thinking, level-headed individual, possessing a wide variety of talents. For instance, knowledge and experience in motion picture production techniques will help him to determine which picture should go out over the air, how long a scene should run before switching to the other camera, whether the scene should be taken with a close-up or wide-angle lens, when human-interest *color* shots should be *cut in* during the game. Since on-the-spot telecasts are instantaneous and unrehearsed, he also must be his own censor. There is no time to consult headquarters about questionable scenes—the show is on the air!

The cameramen are guided in their work by this director via an inter-

phone system or *order wire*. This system not only links director, cameramen, spotters and announcer, but also affords direct two-way communication between the remote control room at Franklin Field and the master control at the main transmitter in Wyndmoor, eight air miles away.

Each person using this order-wire system wears a set of earphones and a small chest microphone. One earphone carries instructions from the director, the other carries program sound. The small chest microphone makes two-way conversations possible at all times. Here's an example of how this inter-phone system is used during a football telecast (to facilitate direction each camera is assigned a number):

Co-ordination

Director: "Two, pan right, two; three, pan down, three.

"Two, stand by to change your lens to number 19 on cue from me.

"Three, pan left and up on cheering crowd—and *hold it.*"

Camera Two: "Ready to change lens to number 19."

Director: "Three, smooth out that pan. Master control, two minutes left in this quarter, stand by for commercial. Two, change lens *fast.*"

Camera Two: "Number 19 lens in camera."

Director: "Two, open your lens to F 4.5.

"Video operator, check focus on number two.

"Two, slowly pan right and down on cheerleader. Careful, this is an on-the-air pan.

"Video operator, fade picture.

"Master control, take it."

To make an on-the-spot television remote complete, sound must accompany the picture. For football telecasts an announcer is employed to supply game statistics, player identi-

fication and general comments. This year Philco built a third platform, between the camera platforms, which is used by the television announcer, his assistant and the director's spotter.

The announcer co-ordinates his remarks with the picture, which is being transmitted by means of a special picture monitor located directly in front of him just below eye level on the platform. This makes it possible for him to view, at a glance, the entire gridiron and the picture being transmitted. This is the first instance in on-the-spot television sportscasting that this technique has been used.

To round out the sound portion of the football telecast, two *color* microphones are used in addition to the announcer's microphone. One is suspended over the North stand and the other over the South stand.

These three microphones are fed to a sound console located in the Franklin Field control room. Here they are mixed by a sound operator and sent on to master control at Wyndmoor via special telephone lines.

Master Control

We now have both sound and picture signals being sent to the master control at the main transmitter in Wyndmoor. The line carrying sound is terminated at a master-control panel. The picture is picked up on a special ultra-high-frequency television receiver through a 24-element-array antenna. This antenna, which towers 120 feet above the transmitter building, can be rotated 360 degrees by a remote control device in the master-control room, making it possible to pick up a program of remote origination from any direction. For Franklin Field football telecasts, this antenna faces the relay transmitter atop Convention Hall.

In the master-control room at the main transmitter, the producer of the program takes over. The duties of a television program producer of either live-talent studio shows or on-the-spot remote pickups are similar, but

more complex and exacting than those of a motion picture producer. For instance, before a commercially sponsored football telecast is put on the air, the producer and the director attend many conferences. The first conference is with the operating and engineering staff of the station. The public relations department of the station is consulted on station policy. The producer and director hold a conference with the sponsor and advertising agency. They work out plans for visual and oral commercials. It is here that decisions are made whether slides, motion pictures, live talent, or a combination of all three, should be used in the presentation of these commercials. Just when the commercials should be injected into the program and how long they should run is another important problem that must be solved at this conference. Selection of the television announcer is also discussed.

Production Confabs

When this preliminary work is completed, producer and director map out camera strategy and new production techniques. These producer-director conferences are most important in planning football telecasts, because the producer is responsible for the quality of the show. Since on-the-spot sportscasts are instantaneous and unrehearsed, the director must know in advance the producer's production aims. If an unforeseen incident occurs that is contrary to the production aims, the producer must immediately come forth with constructive criticism—there are no retakes in television.

In addition to the above responsibilities, the program producer, during the actual telecast, has other duties to perform. Working from an operating schedule prepared in advance by the producer and the director, he gets the station on the air at the right time; makes sure that network cues and station identifications are made at proper intervals, and he cues in the

visual and oral commercials as they are scheduled.

(*Ed. Note:* Network cues apparently refer to the special football hookup with NBC'S WNBT, New York, via Philco's radio-relay system at Mount Rose, N. J., and scheduled rebroadcasts of games by NBC to WRGB in Schenectady, N. Y. Opening of three-city series was marred by radio-frequency interference, which left immediate rebroadcasts in doubt as this article went to press.)

The program producer operates by means of a master-control console, equipped with switches and faders. The incoming remote picture, canned commercials from one 16-mm. and two 35-mm. motion picture projectors, and a slide projector, are viewed by the producer on pre-fade monitors. In this way he knows when to make switches, fades or dissolves from one to the other as he edits the telecast.

To illustrate more vividly how all facilities and personnel are co-ordinated during a football telecast, there follows a sequence of events as they took place over WPTZ during a recent Atlantic football telecast:

Warm-up

At 1:15 p.m., the program producer in the master-control room at the main transmitter put the station on the air by fading up a station-identification chart, accompanied by an oral announcement. This announcement stated that there would be 30 minutes of tune-up time with receiver test chart and transcribed music.

At 1:45 p.m., transcription credit was given, the receiver test chart faded out, and the visual and oral network cue faded in. Ten seconds later the network cue faded out, and the visual and oral local station identification was made. This dissolved into a special motion picture trailer, accompanied by appropriate music, which identified the program to follow. At the conclusion of this title trailer, the producer faded out the



Master control of WPTZ is seen in action during football telecast. At video controls, *left*, is Farrell Quigley, a key staffer. In foreground is producer Paul Knight. Beside him is sound operator; in background, relay-receiver engineer.

picture and sound, switched to the remote receiver and cued the remote director to fade up the first scene originating from Franklin Field, which was pre-set by the remote director. It was a close-up shot of the television sportscaster. After a few introductory remarks, the announcer tagged back to master control for the first commercial. The remote director immediately faded out picture and sound at Franklin Field and the producer faded up a television commercial, which emanated from the film projection studio at the main transmitter.

After the commercial, the producer at master control faded out the film and switched back to the Franklin Field receiver. On cue, the remote director faded up the Franklin Field

picture and cued the announcer to carry on.

Before the game got under way, background scenes and sounds were picked up, including marching bands and gathering spectators. From the kickoff to final whistle, every exciting play and interesting event were captured by the cameras. Commercials, network cues and local station identification were introduced only at the end of each quarter.

It is hoped that this account of our experiences with on-the-spot football telecasting will indicate some of the possibilities that lie ahead in this field of television-program development. There is every reason to believe that sports and news telecasting will increase rapidly as soon as portable equipment becomes available.

Training personnel

by JOHN F. ROYAL

The vice-president in charge of television for the National Broadcasting Company analyzes the perplexing problem of building a sight-and-sound staff. He has been a newspaperman, theater manager, radio-station director and production chief of NBC's domestic network. Currently, he also directs the web's short-wave activities and new developments.

TRAINING people in any form of artistic participation in the entertainment world, including television, cannot be done by charts or a book of rules. While there are definite fundamentals to be observed, the



John F. Royal

most important factor, is natural talent, a spark or a flair. If one has such qualities, training and experience will develop them, but without them, there is a great waste of time and energy.

As in all phases of the amusement world, the advent of television will set in motion a great army of prospective, overnight sensations. Everyone in television will soon hear the never-ending chorus: "I have a friend of a friend, who knows a vice-president of a big company, who says Lizzie Glutz is very talented and beautiful. She was great in her college plays, sensational in the Women's Club Revue, and do give her a chance in television."

Our difficulty will be to find the very occasional Lizzie who really does have the necessary talent. The sifting-out process is not always easy. Selecting men and women for staff assignments will be equally difficult.

We are now asked: "Are you going to take men from radio, from motion pictures or from the theater?" The obvious answer is that one can

have no set formula of selection. People will come from every branch of the show world, and many no doubt will succeed who never had any training or experience in the entertainment world. Television will go far beyond any phase of entertainment the world has ever known, and the talents required for the successful presentation of this new art will be many and broad.

Adaptability of writers, for instance, will largely determine their sight-and-sound suitability. Scripters will be accepted and trained, depending on their originality, their ingenuity and their aptitude to adjust their talents to the new medium.

This same situation will exist to a great extent with production men. In our experience we have tried to select people, who, in the vernacular of the show world, are troupers. These men know a little about many things—scenery, make-up, reading lines, where to get material and what to do with it.

For months our production men, floor men and engineers have been experimenting in our studio 3-H at Radio City, New York. Shows have been written, cast, staged and produced just as if they were to go over the air. Everybody has looked at the show on a television set, and then criticisms have been made and recommendations for improvement given. There is never a day that some new idea is not born as the result of these studio tryouts. Light values, fabric registration, make-up, angles, syn-

chronization—all these and more are subjects of biweekly skull-practice meetings.

Building a television staff will, in my opinion, be different from organizing a radio staff. The requisites will not be the same. Some men and women, who have been successful in radio, will fail in television. Others, perhaps only a few, will do well in both media. This will apply to artists as well as operating staff and executives.

People who come to television from the stage and radio have certain old habits, which they must adjust to television. It is my observation that stage people have less to adjust. Some day we may have charts and schedules of do's and don't, but right now our gang is *just learnin'*—at least, I hope so.

Methods Vary

Executives have different ways of training and handling their staffs. Each tries for the same result, but methods vary. In my own business career I remember one incident particularly: a one-minute interview with E. F. Albee, one of the world's greatest showmen. As a rather young man I was engaged to handle the B. F. Keith interests in Cincinnati. On my way from Boston to Cincinnati, I visited Mr. Albee for final instructions. They were brief and to the point.

"Young man," he said, "run the business out there as if it were your own, and don't be afraid of making mistakes. If you have a fear of making mistakes, you will not do anything. Just don't make the same mistake twice. Good luck and good-by."

Getting back strictly to television, a technical staff is our first requirement. This staff at NBC has been working long hours, for years, to bring the video art to its present state of development. Now that the industry is ready to proceed, a great increase in technical personnel is re-

quired. O. B. Hanson, vice-president of NBC, who is in charge of technical development, called upon RCA Institutes, another member of the RCA family, to provide a television course.

Early in January, 1944, this school inaugurated a 100-hour course for staff engineers, under the supervision of George Maedel. One hundred and eighty-four men responded and agreed to meet once each week for 52 weeks. This course is now nearing its completion, and, while some have discontinued through necessity, the general interest is keen. In Chicago there was similar interest manifested, and a like course was started by Clarence Radius for RCA Institutes in July, 1944. Our executive engineers look forward to competent groups, capable of handling the technical phases of television, with the re-conversion of radio materials to civilian use.

During the past few months the regular engineering staffs of the NBC stations were anxious to get on the *know-how* band wagon, and they went to school with blackboard and homework. During the past October a class of 25 was started. All the men are eager for a continuation of the courses and are asking for postgraduate work. Instruction of technical personnel will be a continuing operation.

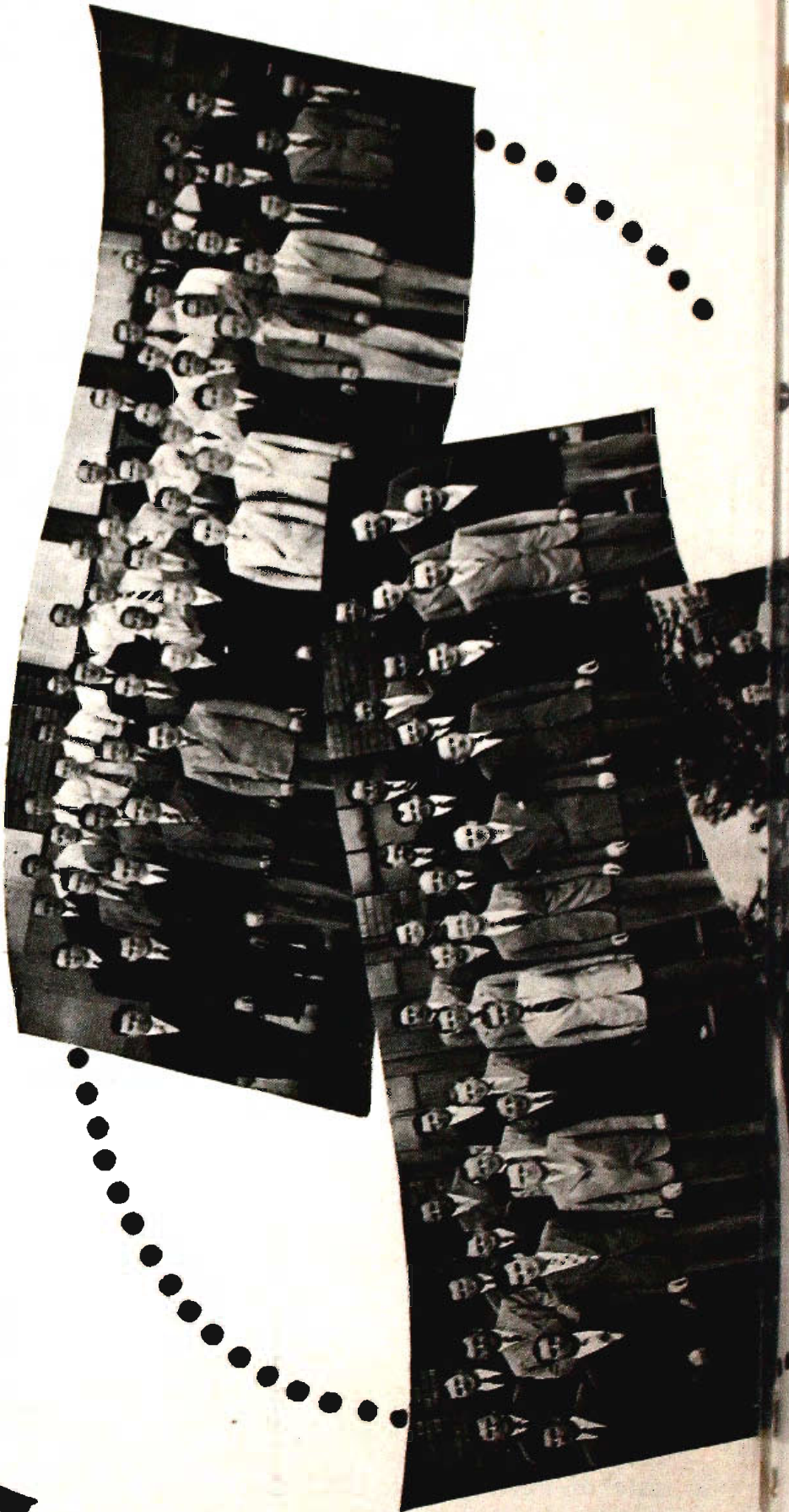
Team Work

Technical operations include many groupings, and their activities overlap with writers and production men. Team work will be necessary by all.

A good television staff will be well balanced between fast-thinking, creative youngsters and men of experience who can keep things *in the groove*, as the bobby soxers say. The youngsters must respect the experience of the oldsters, and the oldsters must not be harking back continually to *the old days*. Yesterday is dead. We are building for today and tomorrow.

Farnsworth Engrineers.

AT YOUR SERVICE



YOU can call on a wide range of experience in the Farnsworth engineering staff. This outstanding organization includes specialists in television . . . FM and AM reception and transmission . . . Radar . . . phonograph reproduction . . . acoustics . . . record-changers.

War keeps these men busy today. Tomorrow they will be the backbone for Farnsworth radio, phonograph and television equipment . . . drawing upon a rich experience of more than 19 years in electronics research and development . . . a guarantee of leadership.

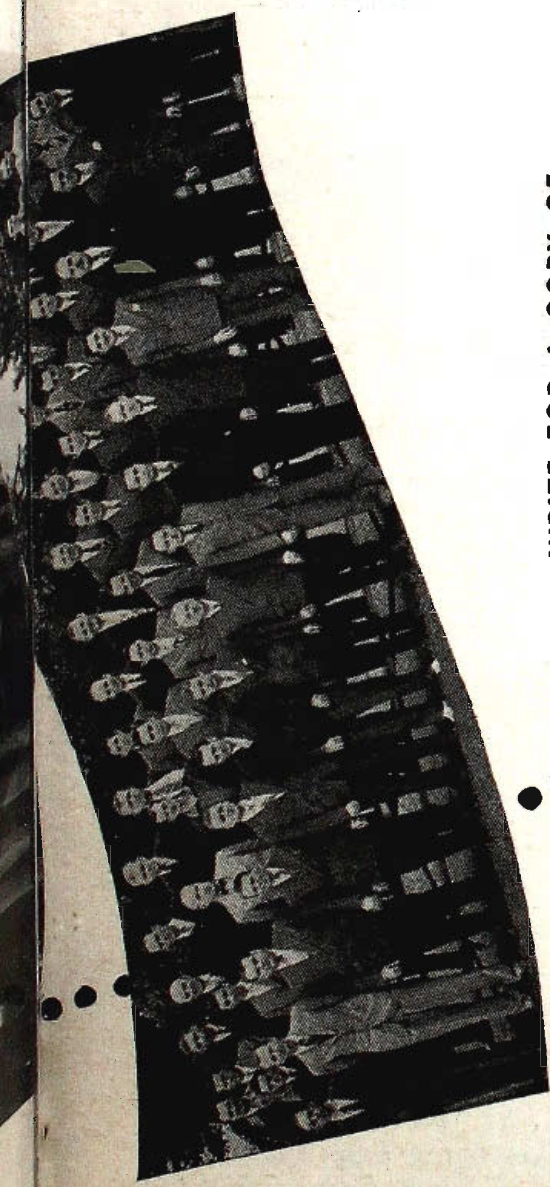
. . . And they will welcome your questions regarding all phases of radio and television transmission and reception. You'll find Farnsworth engineers leading in more and more fields . . . Farnsworth experience and Farnsworth equipment belong in your plans for the future.

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Television • Radio • Phonographs

Farnsworth Television & Radio Corporation, Fort Wayne 1, Ind. Farnsworth Radio and Television Transmitters and Receivers; Aircraft Radio Equipment; Farnsworth Television Tubes; the Farnsworth Phonograph-Radio; the Capehart; the Capehart-Panamuse.



TELEVISION IN REVIEW

Advertising Accounts

Sponsored video programs increased as the year drew to a close. A continuing, nationwide check by TELEVISION revealed considerable activity by advertising agencies and advertisers at six of the nine U. S. outlets. (For picture story, see *Commercials*, pages 25-29.) Participants at the following stations included:

WABD (DuMont), New York—Anderson, Davis & Platte, Inc., for Alexander Smith & Sons Carpet Co. (package shows by Bud Gamble); Cecil & Presbrey, Inc., co-operatively sponsored series in behalf of Omega oil and Pycope tooth-cleaning products by Block Drug Co., Inc., Nestle's chocolate and cocoa by Lamont Corliss & Co., Quaker hosiery by Quaker Lace Co., Inc., Ronson lighters by Art Metal Works, Inc., and Trencher Furs, Inc.; *direct*, I. J. Fox, furs; Geyer, Cornell & Newell, Inc., Knox hats by American Hat Corp.

NEW YORK TOTAL CLIMBS

Also at DuMont were Kenyon & Eckhardt, Inc., for Richard Hudnut's Du Barry Success Course; Ruthrauff & Ryan, Inc., Lever Brothers' Lifebuoy, Rinso and Spry; Keeler & Stites Co., Cincinnati, Fashion Frocks, Inc. (single package by RKO Television Corp.); Charles M. Storm Co., Casual clothes, Alfred Dunhill of London, *Esquire* magazine, Park & Tilford, *Real Story* magazine, Tintex; Wade Advertising Agency, Chicago, Alka-Seltzer and One-a-Day vitamins by Miles Laboratories, Inc.

Additional agency-sponsor combinations at WABD were Norman D. Waters & Associates, Inc., for Air-o-Magic shoes by Daly Brothers Shoe Co., Bonafide Herbert fabrics and

Porter to Succeed Fly

White House nomination of Paul A. Porter, publicity director of the Democratic National Committee, to the Federal Communications Commission, was submitted for Senate confirmation at press time. Selection of Porter, former CBS counsel, followed the resignation of FCC Chairman James L. Fly. FDR is expected to name Porter to the chairmanship.

linings by Herbert Manufacturing Co., Cel-o-sheen tablecloths by Felix Tausend & Sons, Dove Skin knit underwear by Luxuray, Flatternit hosiery by Huffman Full Fashion Mills, Jones underwear by Augusta Knitting Corp. and Stardust slips by Industrial Undergarment Corp.; Louis E. Westheimer & Co., St. Louis, Winthrop and Queen Quality shoes (Gamble packages).

WNBT (NBC), New York—The Biow Co., Inc., Bulova Watch Co.; Maxon, Inc., Gillette Safety Razor Co., Inc.; Alfred J. Silberstein, Inc., Botany Worsted Mills; Sweeney & James Co., Cleveland, Firestone Tire & Rubber Co.

NATIONWIDE BILLING ACTIVE

WPTZ (Philco), Philadelphia—N. W. Ayer & Son, Inc., Atlantic Refining Co.

WRGB (General Electric), Schenectady, N. Y.—*direct*, Elizabeth Arden's cosmetics; BBD&O, Carter's underwear, *The Reader's Digest*; Compton Advertising, Inc., Ingersoll watches by U. S. Time Corp.; *direct*, McCall's patterns and fashions; J.

Walter Thompson Co., Textron synthetic fabric.

WBKB (Balaban & Katz), Chicago—*direct*, Commonwealth Edison; Ruthrauff & Ryan, Inc., Marshall Field & Co.; *direct*, Sally Frocks.

W6XAO (Don Lee Broadcasting System), Hollywood—Foote, Cone & Belding, Safeway Stores.

Agency Developments

Young & Rubicam, Inc., will begin video production shortly after the New Year. . . . William Esty & Co. is looking for a top television director at a substantial figure, with radio chief Tom Luckenbill making the search. . . . N. W. Ayer & Son, Inc., has named Don McClure television director. He's a founder of the American Television Society and former associate of Bob Ripley.

Benton & Bowles, Inc., has established a sight-and-sound service headed by Herbert Leder, formerly radio production staffer at that agency. . . . Peck Advertising Agency, Inc., has also formed a video division, with veteran radio director Arthur Sinsheimer in charge. . . . Geyer, Cornell & Newell, Inc., has a new television specialist in Ted Estabrook, former video producer at Zenith and Philco.

Allocations

Television's place in the spectrum remained undecided up to press time, with no word expected for a while. Belief in informed circles persisted that the FCC would settle on the lower frequencies for *commercial* broadcasting and on the higher frequencies for *experimental* operation, thus giving the video art the green light. Feeling was that the Commission would grant at least 15 channels between 60 and 300 megacycles, possibly 20, though 25 were conceivable but unlikely.

Scramble for allocations by all broadcast interests, including eye-and-ear enterprises, resulted in demands for more air space than was

available. Television played a major role in the Commission hearings, which lasted from Sept. 28 to Nov. 2. FCC Chairman James L. Fly's resignation, which became effective Nov. 15, threw responsibility for any decision on allocations after that date on the remaining members of the Commission.

Timetable calls for FCC recommendations to be in the hands of the State Department by Dec. 1, a date which may not be met in view of the complex problems involved. Role of the State Department is to prepare concrete proposals for U. S. participation in the hemispheric radio conference scheduled for Spring at Rio de Janeiro. Situation now looks as if the Commission may not submit its findings until the first of the year, or even later.

Applications

Quest for commercial look-and-listen licenses mounted to 88 applications up to Nov. 15. Diversity of prospective video broadcasters is gleaned from a sampling of the latest types to file: *department store*, Gimbel Brothers, Philadelphia; *film exhibitor*, Interstate Circuit, Inc., Dallas; *newspaper*, Los Angeles Times-Mirror; *radio broadcaster*, WJAC, Inc., Johnstown, Pa.

Columbia's UHF Transmitter

Soon after the FCC's grant of a construction permit to the Columbia Broadcasting System for a New York station to operate above 400 mc. came the announcement that the network had placed an order for such an ultra-high-frequency transmitter with the Federal Telephone & Radio Corp., a manufacturing associate of the International Telephone & Telegraph Corp. Delivery was to be made within eight months, according to Joseph H. Ream, network vice-president.

The transmitter, it is said, will incorporate the first broadcast application of the principle of sending sight

and sound signals on the same carrier frequency, which will lie between 450 and 500 mc., with the video frequency band at 10 mc. Location will be atop the syringe-like tower of the Chrysler Building, New York.

Order for the new transmitter is the web's second for television broadcasting. An order for another type of UHF transmitter was placed last May with the General Electric Co. for construction to begin on a date not yet determined. The network has also filed for upper-spectrum licenses in Boston, Chicago, Los Angeles and St. Louis.

Stations

WABD (DuMont), New York, plans to enlarge its virtually new second-floor studio, which is now operated jointly with a smaller one on the forty-second floor. . . . Three mercury-vapor lamps have been bought as a nucleus for revamping the present all-tungsten lighting system. . . . Two Gotham radio outlets, WNEW and WOR, are producing video programs regularly via DuMont.

WCBW (CBS), New York, is understood to be preparing for commercial production soon after this waning year bows out.

WNBT (NBC), New York, displays experimentation with too-infrequent live shows in preparation for the video go-ahead.

WPTZ (Philco), Philadelphia, has completed a hard football schedule at Franklin Field and Shibe Park. On deck is an extensive indoor sports season.

WRGB (General Electric), Schenectady, N. Y., celebrated its fifth year of regular television broadcasting on Nov. 10. A cavalcade of eye-and-ear entertainment presented during that period was re-created under the direction of Hoyland Bettinger, recently appointed program manager. . . . A program survey, released by

Robert L. Gibson, assistant to the vice-president in charge of broadcasting, revealed that 52 per cent of the viewers in this area preferred live shows as compared with 27 per cent for films. Qualifying factor was that the films were dated.

WBKB (Balaban & Katz), Chicago, is seeing a lot these days of Elmer C. Upton, controller-assistant secretary of the B&K theater interests and right-hand man of John Balaban. Upton is taking an active part in the management of the station during Comdr. Bill Eddy's prolonged leave as chief of Radio Chicago for U. S. Naval training.

W9XZV (Zenith), Chicago, continues with film programs because the studio is located in what has become the company's war plant. (*Tip*: Philco has solved a similar problem with on-the-spot telecasts of special events.)

W6XAO (Don Lee), Hollywood, has been playing host to Mark Buckley, video-wise account executive for Foote, Cone & Belding, who has been experimenting with commercial programs.

W6XYZ (Television Productions, Inc.), Hollywood, is making considerable progress in the use of special effects under the guidance of Klaus Landsberg, director of the station on the Paramount lot.

TBA Conference

First anniversary of the Television Broadcasters Association will be marked by a nationwide conference to be held Dec. 11 and 12 at the Commodore Hotel, New York. Sessions, including social festivities, are open to everyone for a fee of \$15.

Most every important name in the sight-and-sound set is expected to participate. Three gold-medal awards will be made for (1) a technical improvement, (2) the outstanding program of the year and (3) individual contribution.

COMMERCIALS

YANKEE traders shrewdly observed there was a lot of difference between say-so and take-a-look. So, in describing television commercials, the best way to explain them would be to show them pictorially.

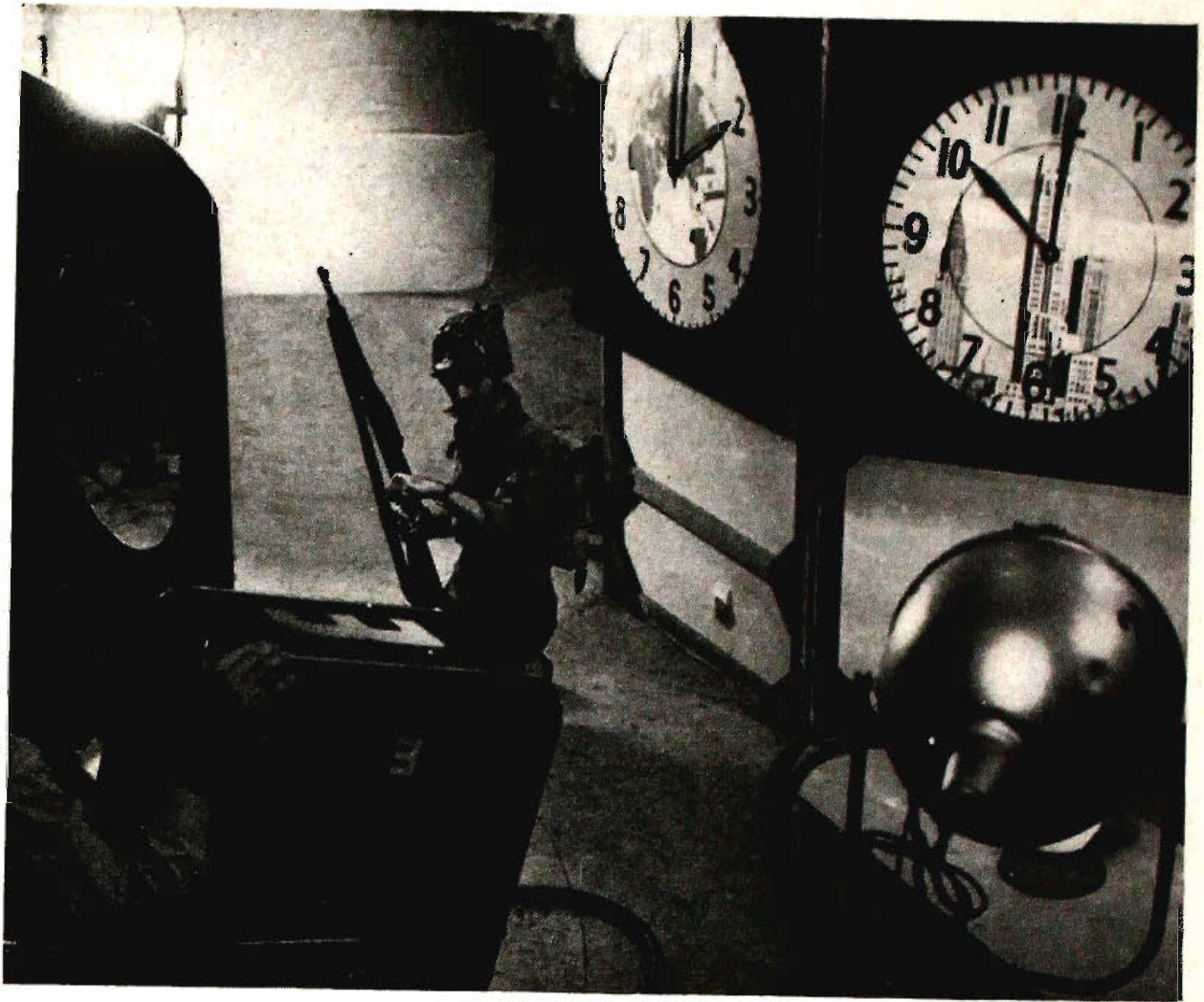
Today, four of the nation's nine active video outlets are carrying commercials regularly. They are WABD (DuMont) and WNBT (NBC), New York; WRGB (General Electric), Schenectady, N. Y., and WBKB (Balaban & Katz), Chicago. Participating less frequently, because of wartime limitations, are WPTZ (Philco), Philadelphia, and W6XAO (Don Lee), Hollywood. Considerable experimentation in this frankly postwar preparation goes on, judging from some of the more recent examples reproduced in these pages.

Highlights of the Fall season were two unique events at WRGB. A jamboree of five straight commercials, lasting one hour and 12 minutes, was staged to convince skeptical, ranking visitors from 22 department stores of the Associated Merchandising Corporation group that television was an effective medium for selling goods on either wired, intra-store systems or over regular broadcast channels.

A hand-picked studio audience of 150 upstate New Yorkers witnessed, on a later occasion, a television broadcast of *America's Town Meeting of the Air*, which was aired simultaneously over the Blue Network. Combination video-and-radio fare was sponsored by *The Reader's Digest* through the Batten, Barton, Durstine & Osborn, Inc., advertising agency.



McCall's expert points out the virtues of home sewing to a housewife in department-store demonstration at WRGB. Actress at right is wearing dress seen on sponsor's pattern envelope. Prepared by Scott Cunningham and W. J. Boyle, of McCall Corp.



Compton Advertising, Inc., delivers a topical sales message for U. S. Time Corp., maker of Ingersoll and Waterbury timepieces, in commercial jamboree at Schenectady. Theme of split-second precision on a global war front, above, is taken with two cameras, one out of sight, to indicate time here and abroad.



Left, Compton stages a silhouetted scene of administering plasma to point up precision motif of commercial by U.S. Time. Two cameras are used for lap dissolve over a clock face. Silhouettes are brought up by lighting in rear of white-gauze curtain. Prepared by Edith Dunn, of the sponsor, and J. E. di Donato.



BBD&O demonstrates finer points of dressing baby, *above*, in a pantomime pitch for Carter's underwear at exhibition for department-store executives over WRGB. Prepared by the agency's Ted Long & Jo Lyons.



J. Walter Thompson Co., *top right*, visualizes wearables made from a synthetic fabric known as Textron in merchandising demonstration on General Electric outlet. Prepared by Gene Kuhne, agency staffer.

Ruthrauff & Ryan, Inc., *at right*, illustrates versatility of Spry in one of alternating weekly cycle for Lever Brothers' products at WABD. Pat Murray, emcee, looks on. Supervised for agency by Lee Cooley.





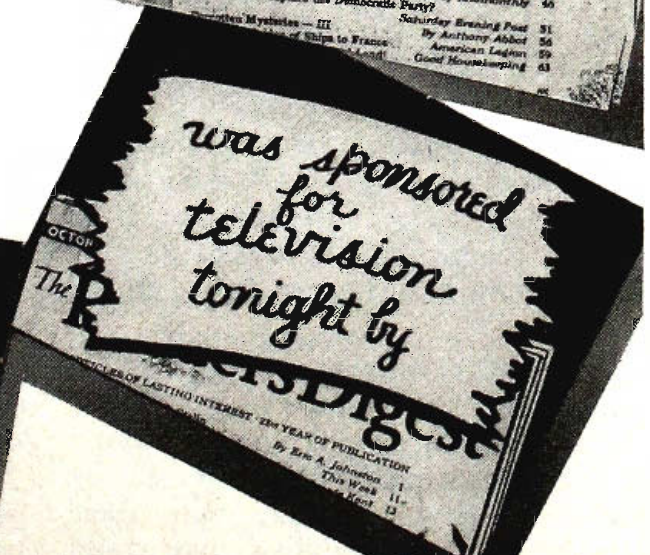
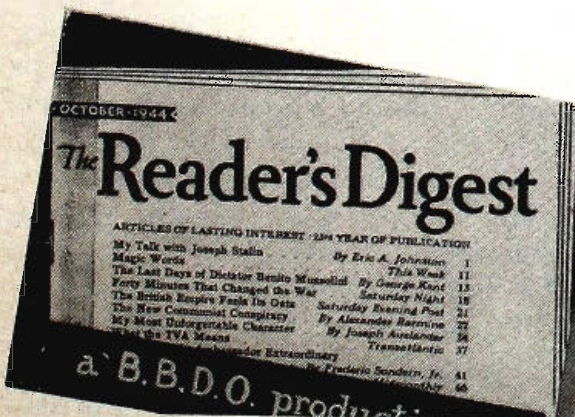
Geyer, Cornell & Newell, above, depicts milady's topper by Knox in a number of settings via WABD. Commercial emphasizes the right headpiece for the right occasion—park, museum, cocktails, football game. Hat on table is back home again; inset, at the race track. Prepared by Ted Estabrook.



Charles M. Storm Co., at left, puts on a between-the-act commercial at DuMont for *Esquire* magazine's musical comedy, *The Boys From Boise*, which ran two hours and 10 minutes. Danton Walker, Broadway columnist and emcee of the program, explains how the magazine cover and pages are assembled.



BBD&O has the Town Crier chant his familiar refrain in a twin video-and-radio stanza of *America's Town Meeting of the Air* for *The Reader's Digest* over WRGB. Sponsor's visual message unfolded in a blowup of the publication and slides, which are partly reproduced below. Prepared for television by Ted Long.



Music education

by OLGA SAMAROFF STOKOWSKI

Application of visual-audible methods to music education is pointed out by the writer, who holds the honorary degree of Doctor of Music from the University of Pennsylvania. Her background includes service on the piano faculties of the Juilliard Graduate School of Music and the Philadelphia Conservatory of Music. Author of four books on music, she is now conducting her sixth season of music courses at New York's Town Hall.

IF we analyze some of the early mistakes in the field of phonograph recording and radio, we become aware that one unmistakable cause was the lack of judgment resulting from the conviction entertained in responsible quarters that the United States of America was at that time inhabited by a race of morons. That misconception should be avoided in television.



Olga S. Stokowski

In connection with anything of an informative nature, such as so-called music appreciation, it was assumed that the buyers of records and the great radio public were allergic to education outside the schoolroom. This view implied that the public was only willing to accept information about such things as art music, if presented in a form so skillfully disguised as to insure the listener against any possibility of learning something.

It is because I believe that the great new medium of television may be spared similar mistakes that I am glad to participate in discussions of its potentialities in my field: music education.

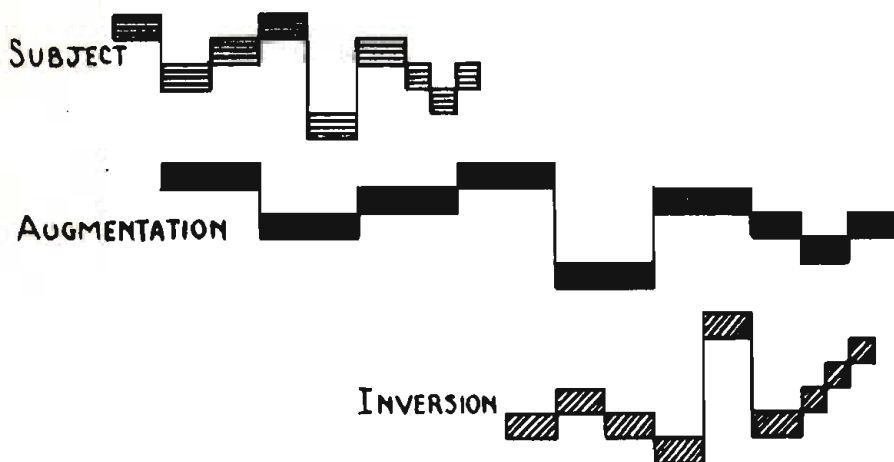
A series of video programs in which the fundamentals of music and the techniques of singing, or playing instruments, could be projected by master teachers working with their students is a possibility that could

greatly benefit musical standards throughout the country. Such programs would, of course, appeal to a limited audience. But it is my firm conviction that there is an *unlimited* audience for *listener development* in music by visual and audible methods, which teach the individual how to listen to and enjoy music more understandingly.

Animated by a faith in the effectiveness of the visual element in listener education, I have gradually built a collection of musical illustrative slides running into the thousands. The most valuable slides in the collection have proved to be those that make ordinarily unapproachable musical technicalities clear in a flash. For instance, a simple diagram I used in my recent television program, *What Does Music Mean to You?* over WRGB in Schenectady, enabled me to talk about the nature and origin of polyphony in a very simple way. The dramatic fact that the discovery of the possibility of singing different tones simultaneously forms the very cornerstone of Western musical civilization was simply and quickly demonstrated. It was done by showing the slide, explaining that the lines represented simultaneously moving melodies, and *at the same time listening* to a record in which a simple Gregorian melody was followed by the addition of a second one, the two vocal lines progressing simultaneously like the visible lines on the slide.

This is just one example of correlated visual, audible and informa-

THE WELL-TEMPERED CLAVICHORD ~ J. S. BACH
BOOK II ~ FUGUE IN C MINOR



Graph is designed to promote technique of theme recognition by the viewer. A layman can thus follow the rise and fall of the music and sense the shape of a theme.

tive experiences given throughout the program. Another feature of this approach to listener development is the use of analogies with other arts and with scientific progress that bring to life for the listener the element of *evolution* that has played such a great part in the history of musical art. Such slides as those showing the small group of obsolete instruments used in the first important opera in 1600, followed by a flash of a modern symphony orchestra, will drive home a concept of all the ingenuity, inventive genius and scientific skill that have gone into something that even music-minded people take too much for granted, while some anti-highbrows even dismiss the whole thing in a spirit akin to contempt. These slides, of course, are only effective when the music they illustrate is heard.

My video program over WRGB was a televised version of a single lecture I have given in many different cities. As the title, *What Does Music Mean to You?* indicates, this lecture is built around a question. The nor-

mal length of the lecture with appropriate musical illustrations is one hour. For the video program I had the dual problem of condensing the material and retaining sufficient interest to hold a television audience.

It was fortunate that for this television program I was able to consult a video-wise, young actress-director, Josephine Lyons, whose work as assistant television director of BBD&O has given her a widely varied experience. She advised a short sketch as a prologue to the informative part of the program. The object was to introduce me as a personality and also to provide some human interest in the shape of a young wife who loved music and a husband who was indifferent to it. At the wife's request, I undertook to try to arouse the interest of the husband. The actors playing these parts then took their places in the audience. This sketch was true to life. I have often had such requests. In fact, I once had a whole evening class of unmusical husbands at the Junior League in New York!

While I was at first somewhat alarmed at the prospect of playing a part (even myself) before the television cameras, I took refuge in Greer Garson's suggestion that appearing upon a moving picture or television screen does not require acting so much as the "art of being natural." This thought effectively banished terror.

Video Problems

There were two rather difficult problems for the program director as well as for me which had to be solved at a single rehearsal. I am accustomed to ad lib in all my lectures, but I am always within reach of the screen on which my slides are shown, and I frequently resort to pointing out certain features of them. For technical reasons this proved to be impossible for this particular program. I was therefore invisible during the informative part of the program. From the microphone before which I sat I could signal for change of slides or for musical illustrations as I talked. I think the program director shared my fear that the teleshow under these conditions might become too impersonal to hold a mixed audience accustomed to continuous action on the screen, but I was relieved to receive a letter from him a few days afterward, containing the following significant lines: "The program received a far better rating from our (largely unmusical) televiewing audience than any previous experiments of ours in music appreciation." Apparently the television audience can take it even when a speaker resolutely refuses to talk down.

The other main problem was the introduction of musical excerpts illustrating certain points. One of the most lamentable of the musical atrocities occasionally perpetrated in radio broadcasting is the mutilation of great masterpieces. If I may quote from my own address before the

Northeast Radio Council in April: "To chop up musical scores into arbitrary time lengths, like so much kindling wood for fireplaces, and then to have the effrontery to submit the result as an authentic performance of the work out of which they have been cut, is like throwing an assortment of features—one eye, one ear, and a nose—on a television screen and labeling it President of the United States."

At the same time, every music lecturer is forced to use brief musical illustrations under certain conditions. In general, there are two ways of combining music and musical information, namely: to use brief remarks as an elucidation of a complete performance of a musical work, or to use brief musical examples as an illustration of informative verbal material.

Musical Flashes

The subject I chose for my first television program, *What Does Music Mean to You?* necessitated the latter method. As I followed the broad lines of the evolution of Western music, asking my titular question of men of different periods and racial types, brief excerpts of appropriate music served as living milestones in sound. The problem of inserting these flashes of music was solved by having the excerpt fade out as I resumed speaking. In this way the sound of my voice overlapped the musical excerpt and avoided an impression of incompleteness in the music or lack of continuity in the narrative. The three elements—visual impression, musical sound and informative speech—merged as the gradually fading record formed a sound background for my voice, while the slide illustrating the point under discussion could still be seen. This method, expanded and organized, could bring music and the pages of musical history to life in television in a dramatic and unprecedented way.



ONE MAN'S REFLECTIONS

A Regular Feature by DR. ALFRED N. GOLDSMITH

Logical Changes

Some people never wish to change anything—and these ultra-conservatives merely retard progress. Other people wish to change everything and, by creating confusion and disappointment, they equally retard progress.

It is desirable to make a change only when it is of such a type and magnitude that it is obviously worthwhile. A picayune change is often an unjustified inconvenience and expense.

Every art, including television, has faced and will continue to face the problems of change. Consider, as a typical example, the proposed change from six-megacycle channels for 525-line pictures on frequencies between 50 and 300 mc. (in round numbers), on the one hand, to 20-mc. channels for perhaps 800-line pictures on channels between 425 and 1,000 mc. Each type of picture would be black and white, initially at least.

Such a change is illogical at this time, and indeed perhaps at any time. The probable television picture would not be sufficiently superior to warrant holding up television now. The writer hastens to add that he is expressing *one man's reflections* and that his views are not necessarily those of any board, institute, society or organization with which he may have an affiliation.

A singular lack of imagination has been shown. Why point our guns toward an intermediate goal? To this particular man, at least, a logical change, and one which the public would understand and approve, would

be of an entirely different character.

Let us change at the right time from 525-line black-and-white television below 300 mc. to an indisputably superior type of picture. Let this better type be an approximate 800-line color-television picture, using 40-mc. channels and located on frequencies say between 3,000 and 15,000 mc. approximately. Let it further be a simultaneous type of transmission in which colored action fringes will not rim the borders of rapidly moving objects in the field of view. Let it preferably be an all-electronic system capable of producing large pictures in color without any mechanical moving parts. And let it perhaps contain not only the usual red, green and blue pictures for each frame but also, as a means of still further improving delineation and gradation range, a key image in gray and white.

At once the question of timing such a change arises. It is clear enough that many years must elapse before this change can take place, since much research in color television, as well as tube and circuit design and propagation phenomena on the frequencies between 3,000 and 15,000 mc., must be carried out before such a change would be safe.

A change of this kind would be something the public would readily understand and greatly appreciate. It would willingly accept the jump from our good pictures of today in black and white to the truly outstanding color pictures of tomorrow.

Special effects

by BUD GAMBLE

Television program consultant for Farnsworth Television & Radio Corporation, the author is president of the Television Producers Association. He has the distinction of being the first to have made a nationwide demonstration with a mobile electronic television unit (Farnsworth, 1939-1940). Past associations have included periods with the late Dr. Francis Jenkins, television pioneer; Atwater Kent, and RCA Victor. For the latter he also managed a tour of the Philadelphia Symphony Orchestra. At present he is producing video programs regularly with his Sketch Book company over WABD (DuMont), New York.

SPECIAL effects in television should not be considered trick camera technique. They serve a very definite need in the video art as we know it today.

As compared with motion pictures, television programs tend to become static for a number of reasons. Main reason is the limitation of space and cameras. Most action takes place on one set, which remains throughout the entire program. In motion pictures a film can be edited so that the audience never sees the players from the same angle for more than three or four seconds. In a love scene the actors may be seen for maybe four or five minutes, but no one shot of them is on for more than a few seconds. The result is stimulating entertainment.

A television studio today has only two cameras—three at most. Due to the heavy coaxial cable, which trails behind, they cannot be moved rapidly. Therefore, the number of different shots that can be taken of any one scene are not enough to hold an audience. This is where special lap-dissolve effects can come in to hold interest and still maintain the thread of a story. Television has the advantage of being able to create these lap dissolves simply and inexpensively. In motion pictures superimposing is a costly process.

Some of the special effects from my own television programs are explained in these pages. Suggestions are also made for varying their use.

On one occasion I had the problem of creating a dream effect. The story called for a little girl to fall asleep and dream about a canary bird that escaped from its cage. Told in ballet form, the plot required the little girl to be transformed into the canary. I had the problem of keeping her on the set and yet she had to change into a bird costume. I finally hit upon the solution.

First thing I did was to take a still photo of the girl asleep on the set just as it would be when it came on the receiver. In my experiment I had the sleeping girl in front of camera one. I then took the still I had taken of the girl on the set and placed it in front of camera two. I then cut from camera one to camera two, and the little girl was able to get off the set to change while the audience was



Bud Gamble

looking at the photograph. It was impossible to detect the difference. I was even fooled myself during rehearsals. I screamed for the studio director to get the girl off the set. He told me that I was looking at the photograph.

Having thus succeeded in giving my little dancer time to change, I found that the scene was on too long. It became static. As it took at least 15 seconds to make a change I had another problem. How to make it interesting for the public? I tried music—it didn't help much. Movement was needed, but how to get movement in a photograph? Finally, the solution came to me. I mounted the photograph on a revolving disk. This time, when I made the cut from camera one to camera two, I had cigar smoke blown in front of the camera to create an effect of mist. The photograph was revolved slowly at first, then faster and faster, until only a whirling blur was visible. Through the whirling blur the free camera picked up the little girl who was, by this time, in a large bird cage and the scene dissolved through the whirling disk. Suitable music helped create the mood.

This type of illusion can be used for all kinds of dream and supernatural effects. Imagine the villain being hit by the hero and the entire room spinning as he falls to the floor. Or picture again the spirit of a dead man leaving his body to carry on a story of the hereafter.

In another ballet program I wanted to show the dancers in Hades. The method in shooting a production of this kind is to design two sets. One background is the large studio set where the dancers perform. The other set is exactly like the large one, only built in miniature. In the miniature, fire is created by soaking pipe cleaners in kerosene and lighting them. Of course, the miniature set is fire-proofed. When the dancer is performing on the large set in front of camera one, camera two is trained



Off-the-screen shot of girl falling asleep illustrates simple effect developed by mounting a photo on a revolving disk to give the player time to change.

on the miniature, which is on fire. By lap-dissolving the two cameras the dancer appears to be right in the midst of the flames.

In planning an effect of this kind, similarity of scene is essential. The large set, which can be a painted drop or a built-up affair if desired, must conform exactly with the miniature.

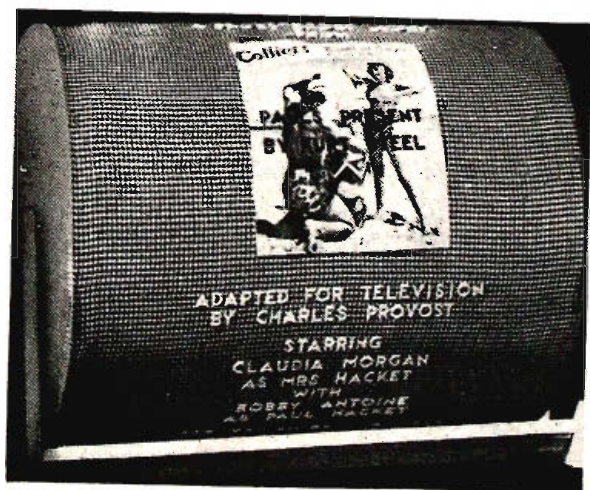
This technique could also be utilized to create a fire in other locales. For instance, if you wanted a scene, taken in the woods, to end with a forest fire, you could simply dissolve the large set and actors into the blazing miniature. It is a comparatively simple and inexpensive effect. I have used this particular fire illusion a number of times. On one occasion I dissolved a tap dancer's feet into fire that spelled *Sizzling Slippers*. This was done by writing the words with pipe cleaners and giving them the kerosene treatment. It was then a simple matter to dissolve the flaming words through the second camera. A large imagination can overcome the limitations of a small budget.

Without quenching any ardor for special effects, I have used water in

simple measure to create stimulating undersea scenes. In such a case it is a matter of matching the large set to blend with a fish tank. Actors and fish seem to be side by side when the dissolve is completed. I have done the same thing with clouds. Using dry ice for mist and cotton for clouds, the audience has viewed a program of ballet in the clouds.

Although titles cannot be considered special effects in the true sense of the word, they can have a special effect on the audience. By that I mean a television program can be interesting from the very beginning if an unusual method of title introduction is used. Here, as before, I find that movement is essential for an interesting picture. Another point is that titles can and should prepare the audience, or rather set the mood, for the show.

On several occasions I have used moving titles with mood scenes behind them. One of these was the bird ballet I mentioned previously. To introduce the program I used a title that moved upward, with an aviary in the background. With the birds hopping about in the trees and the proper music, the audience was conditioned for the type of show that followed. Once again I used this technique when I presented an under-



Cloth-covered drum is used for producing moving titles. There is plenty of room for credits and still photos, if desired, to create a mood for the show.

water ballet. This time the titles moved in front of a fish tank, with tropical fish and floating seaweed for a mood background.

The method I have found most successful for creating moving titles is the drum type. This drum is a very simple affair. It is merely a wood or cardboard drum about 20 inches in diameter and two inches wide, with an axle running through the center. Mounted on legs, with a handle for turning, it is ready for operation. The circumference of a drum this size is not only ample for almost any amount of credits you may wish to show, but can be also used for pictures or illustrations that create a mood for the show. I find that this type of title is more effective than using title cards and dissolving one through the other, because it can be done on one camera, leaving the other camera free to pick up the opening scene. Proper presentation of titles is the mark of a professional-looking show. Eventually, I think that all titles will be made on film, but until then I am sure some of my suggestions can be of use.

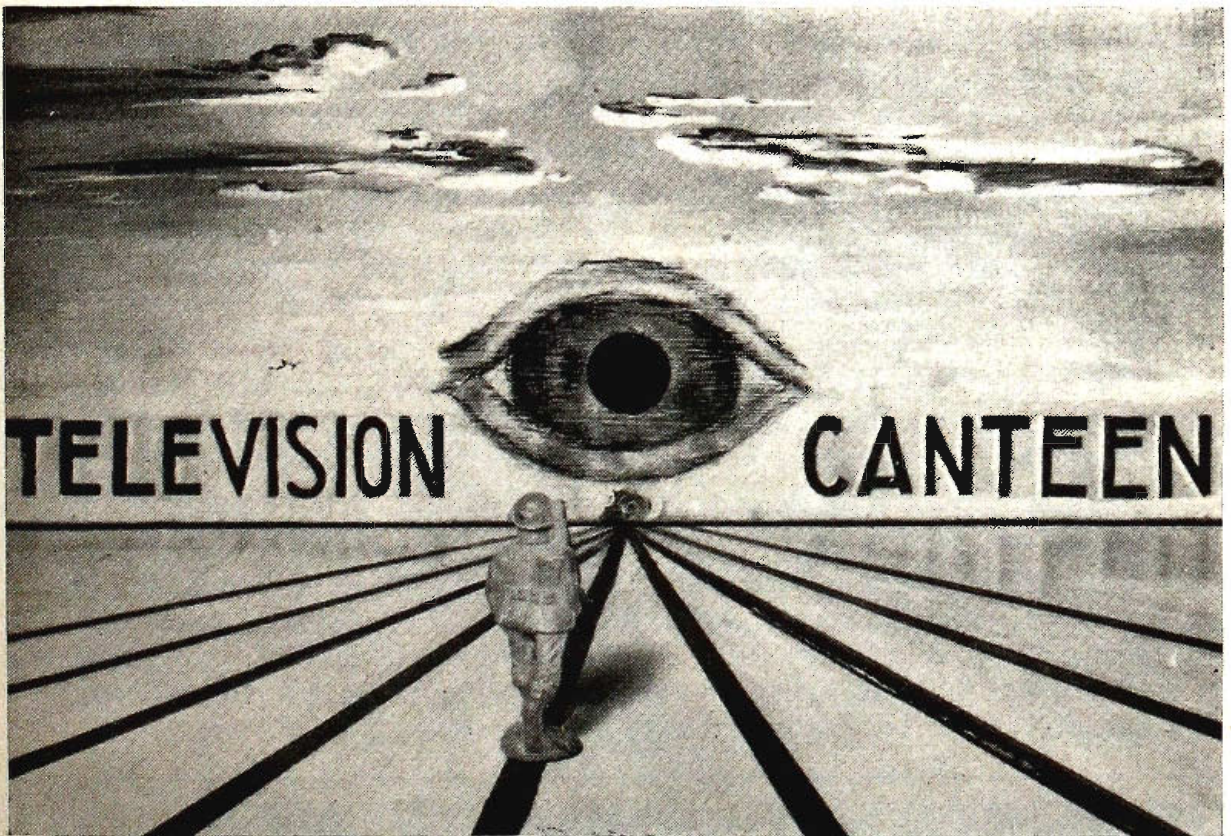
It is my belief that special effects will be used more and more in television as we progress into the commercial field. The obvious conclusion is that they offer the producer an opportunity to present products in an imaginative manner. A cake of soap is not a particularly glamorous object, but it can be made interesting. By dissolving through a cake of soap, say into a beautiful woman in a bathtub, which shows the proper cover of foamy white suds, the picture is bound to impress the audience.

(*Ed. Note:* The author has graciously consented to answer any questions, which he possibly can, on special effects. If you're interested, write to Bud Gamble in care of TELEVISION, 153 West Twenty-third Street, New York 11, N. Y.)

Photos are by the author from his own shows.



Undersea ballet scene is portrayed by a trick photo to visualize how this effect is contrived by dissolving from a miniature aquarium to a large set for action.



Surrealistic title effect seen above is designed to show perspective. Plastic figure of a soldier moves on a track toward the horizon, projecting a greater depth.

VIDEO VIEWPOINTS

Program Costs

An executive of a leading mail-order house, which sponsored a series of three television programs, has stated that live television shows are too expensive. This publication takes issue with such a superficial opinion.

How can anyone judge the value of a video program until its effectiveness as an advertising medium can be accurately measured in dollars and cents?

Television today is in an experimental stage, that is, until the green light of reconversion is flashed. Circulation is token. Sponsors and producers alike take part to gain *know-how*, to probe the medium's future advertising power.

There are too many alibis. It's easy to cook them up for a flop. Arguments run from limited budgets to no returns on program dollars spent. But these excuses look feeble when an occasional television show rings the bell—*on a very limited budget*. All of which leads us to

A Sober Appraisal

Let's not be led astray by the sheer novelty or technical wonders of television. Engineering excellence alone won't put the video art across.

How effective television will prove as an entertainment medium will determine how effective it will be as an advertising medium.

Much valuable pioneering in programming is being carried on now, demonstrating the promise of television. But that isn't enough. Television must prove its worth as an entertainment medium. It will be picked up in the home by

Antennas

The antenna bottleneck, which was analyzed in the last issue of TELEVISION, threatens to become a major stumbling block in the development of the video art. Unless this perplexing problem is solved before new receivers are released, the orderly growth of television will be retarded.

Here's one case in point. Recently, your editor had a television receiver installed in his New York apartment. The building manager granted permission to erect an antenna only after an agreement was made to dismantle it immediately on his request.

The lead-in wire had to be taped with tan binding, so it would blend with the brick. Reason for this, among other things, was that the landlord wouldn't allow more than one such antenna on the roof because he was afraid that, if the other tenants saw it, they would ask for the same privilege.

There are more than 60 tenants in that building. What's going to happen in crowded metropolitan areas when television really gets under way?

The welfare of the industry demands that a solution be found *now* before an impossible situation has a chance to develop. If expensive master-antenna systems are desirable for multiple dwellings, how will landlords be persuaded to install them? Or will built-in antennas serve the purpose? Answers to these \$64 questions must be discovered *very soon* to avoid a false start.

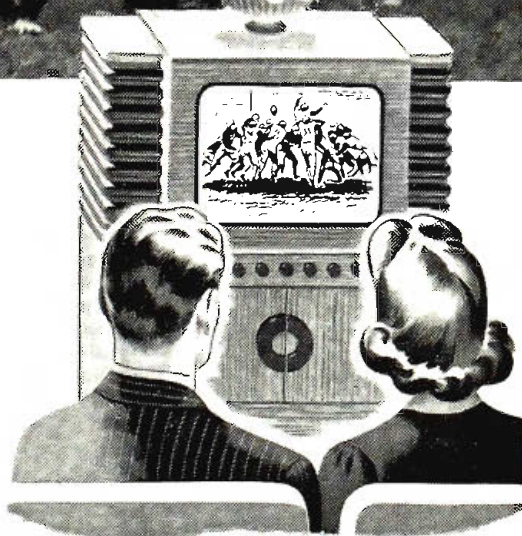
TELEVISION marks its first Christmas. With the season comes the thought—and the prayerful hope—that 1945 will bring peace to a world at war. Do your share toward speeding victory by buying more war bonds *now*.

FOOTBALL BY TELEVISION!



Again, for the season of 1944, Philco has televised the complete schedule of Penn football games from Franklin Field in Philadelphia, in cooperation with The Atlantic Refining Company. This is the fifth straight year in which Philco has conducted these remote television broadcasts direct from the scene of action.

Football by television serves as part of Philco's long-continued program of television research through which Philco engineers have made vital contributions to the progress of television transmitting and relaying techniques and the quality of television reception.

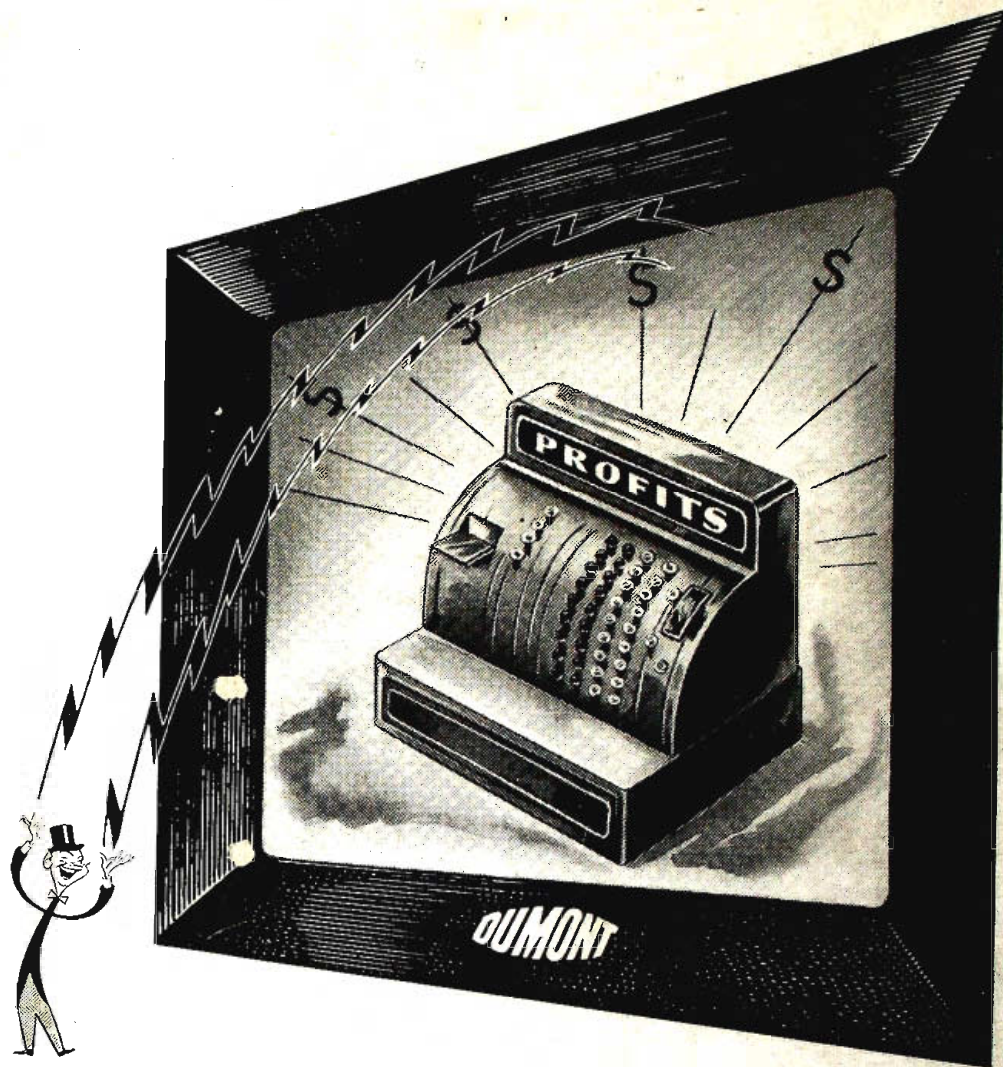


Philco Television Station WPTZ has televised movies, variety acts, dramatic shows . . . as well as sports and news events direct from the scene.

**Tune in the RADIO HALL OF FAME
Sundays, 6 P.M., E.W.T., Blue Network**

PHILCO

FAMOUS FOR QUALITY THE WORLD OVER



PROFITS Lie Where the Public's Heart Is

War, Love and Television share top honors in the talk of today. And you have the assurance of DuMont—acknowledged leader in Television—that public expectations will not be disappointed. A vast improvement over present-day video telecasting and reception waits only on the release of materials. DuMont's own contributions to this advancement are fascinating and impressive!

War halted Television expansion but not DuMont research. Just as DuMont's refinement and mass production of the cathode-ray tube (the heart of a Television set) made Television commercially possible...so has the groundwork for early postwar profits in this great new industry been laid by DuMont pioneering in *low-cost* station design, construction, operation and programming.

DuMont designed and custom-built 3 of the 9 Television stations providing service today. At Station WABD, New York, DuMont has kept "live talent" shows on the air steadily since 1940. DuMont collaboration with national advertisers has developed interesting and unusual commercial techniques. A complete pattern has been set for profitable station design and management...a pattern that is available to prospective station owners. NOW...is the "ground floor" era of this great new mass sales medium!

A copy of "Planning Your Television Station" is yours for the asking. This booklet outlines equipment requirements for a complete, low-cost telecast operation...and suggests plans for expediting postwar delivery of equipment and training of personnel.

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DUMONT



Precision Electronics and Television

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