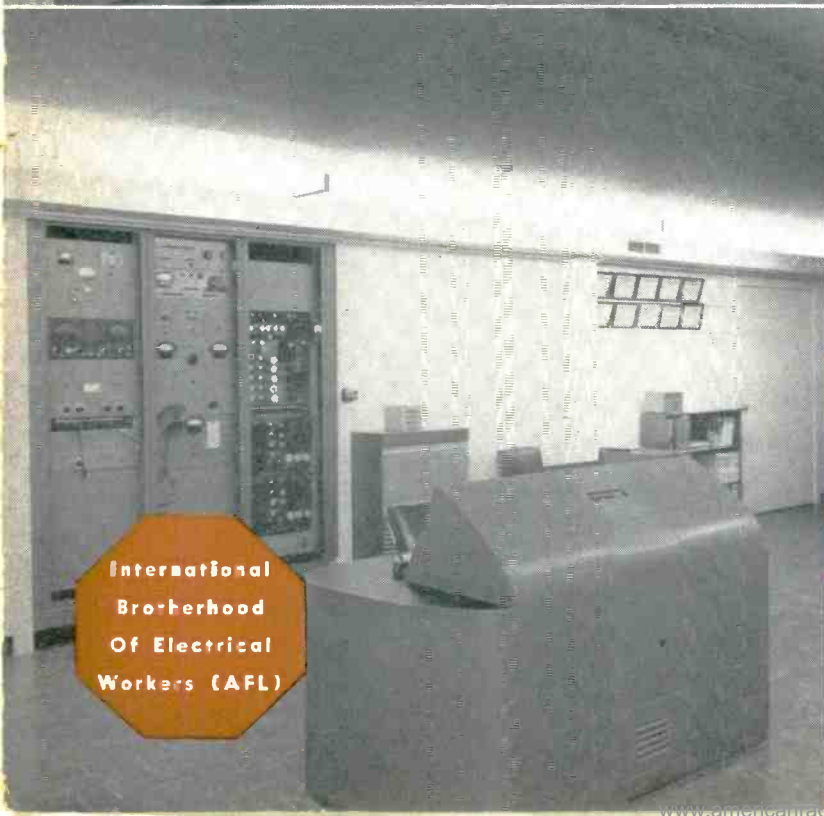
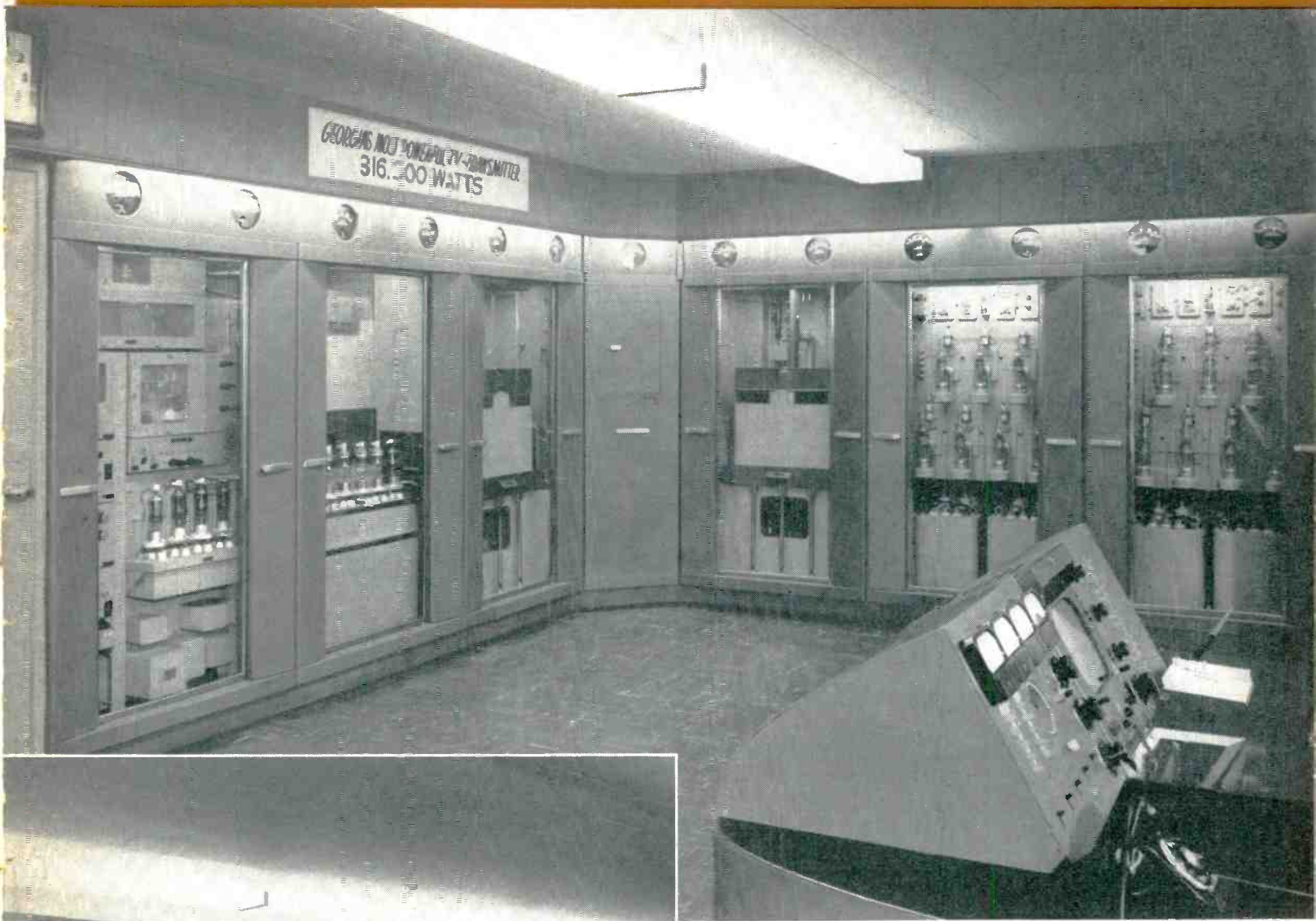


RADIO, TV and RECORDING **TECHNICIAN-ENGINEER**

OCTOBER, 1954

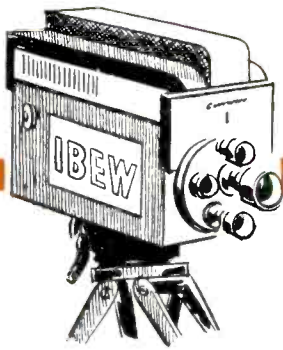


▲ Power supply for the power amplifier of Georgia's most powerful television transmitter (operating on 316,000 watts).

Atlanta TV Station Is Staffed by IBEW

◀ The WLW-A transmitter room, looking toward the audio and video racks from the central position of the station monitor.

International
Brotherhood
Of Electrical
Workers (AFL)



COMMENTARY

Double-Talk About Job Security

A RECENT issue of a house organ, published by a large manufacturing company for its employees, features an editorial on the subject of job security. We find the article especially interesting because of the long-standing policy of the Company with respect to this important principle of union agreements.

The author of the article states that there is nothing more important than job security, in the opinion of most people who work for a living. While the Company is "confident" that its workers are intelligent enough to know that no union and no company can GUARANTEE job security the writer goes on to say that job security is derived only from the ability of the Company to sell its products at prices which its customers are willing to pay. Such is a fact—but fact and fiction are employed so interchangeably in the remainder of the article that one begins to feel doubts of even that basic premise.

Insult to Intelligence

At the outset, the readers are assumed to be intelligent but the article does its best to insult that intelligence. The general argument of the article bears on the theory that the employees should trust the Company to provide job security with a blind faith that the Company knows what is best for its employees and will take care of them.

A side line of this Company is its operation, through a subsidiary corporation, in radio and television broadcasting. Certainly the intelligence of its employees in broadcasting has reason to feel insulted; no agreement ever negotiated by this Company has contained a provision for real job security. "Company policy" forbids recognition of layoffs in the inverse order of seniority; "Company policy" precludes recognition of the usual industry standards of jurisdiction, union shop, binding arbitration, premium pay separation from overtime, etc.—quite a list can be compiled. Job security is played up in the printed word but carefully avoided in a collective bargaining agreement. Even a simple statement which would provide that its own Technicians shall exclusively perform technical work for the Company is greeted like a fire cracker in a funeral home.

Arbitrary Attitudes

The Company's newspaper deplores the fact that two of its manufacturing plants have been crippled by recent strikes and that even the THREAT of a strike has resulted in seriously endangering its business. In the latter case, "undoubtedly" there are customers unwilling to risk delivery delays if a strike should occur and who place orders with the Company's competitors instead. It never occurs to the hierarchy of the Company that the loss of business could be attributed—even in part—to the arbitrary attitudes of the Company itself nor can they accept the argument that the security of their position could, in large measure, be a reflection of the security and well-being of their employees.

We can be thankful that the broadcasting subsidiary owns only a few stations. We could be sure of more trouble, more bickering and more sub-standard operations if it owned more. The only job security which this Company appears to offer to working people is to a select group—union leaders and attorneys—every negotiation with this Company offers plenty of work for both of the latter professions.

VOTE!

ELECTION DAY—NOVEMBER 2ND!

You owe it to yourself to express your opinion at the polls on Election Day. See to it that you and the members of your family are represented by people of your choice.

RADIO, TV and RECORDING
TECHNICIAN-ENGINEER

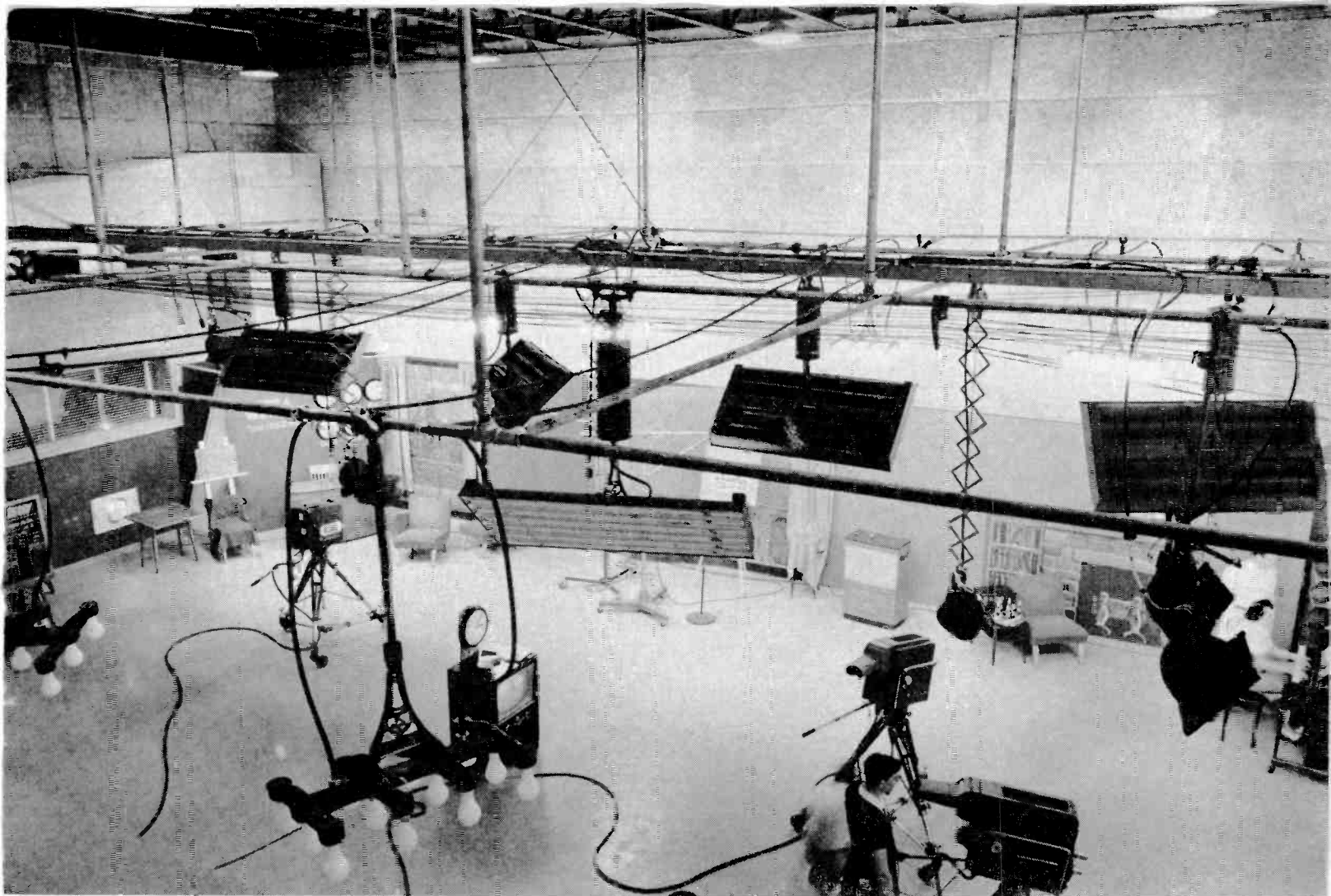
VOLUME 3 17  17 NUMBER 9

PRINTED ON UNION MADE PAPER

Published monthly by the International Brotherhood of Electrical Workers, AFL, 1200 Fifteenth St., N. W., Washington, D. C., for the men and women in the recording, radio and television industries.

J. SCOTT MILNE, *President* • JOSEPH D. KEENAN, *Secretary*
ALBERT O. HARDY, *Editor*

Entered February 20, 1952 as second-class matter at Washington, D. C., under Act of August 24, 1912. Subscription Price: United States and Canada, \$2 per year, in advance.



Two IBEW cameramen, at lower right, working a local show in a new WLW-A studio. Note the availability of sound and light units and the spaciousness for floor work.

ATLANTA'S NEWEST LANDMARK

New WLW-A Facilities Operating from Peachtree Street Address

IN APRIL, WLW-A moved into its new quarters on Peachtree Street and thus justly claimed honors as Atlanta's most powerful station as well as having the South's largest TV studio. The functional, attractive building is in keeping with the services rendered by the station and in the tradition of the Crosley broadcasting organization.

Originally licensed as WLTV, the station was purchased by the Crosley Corporation coincidental with a period of great union activity in 1953. Several months of Labor Board proceedings resulted in the election of the technical employees to be represented by IBEW Local Union 1193. Hence, all the Crosley properties, Cincinnati, Columbus and Dayton, Ohio, and the Atlanta TV Station employ members of the Brotherhood, as does

the International short-wave facility at Bethany, Ohio—for the Voice of America.

Standard Electronics manufactured the WLW-A transmitter—a model TH-652. This is the interesting transmitter which is completely self-contained, having no separate vaults or enclosures, features inter-unit cabling without trenches, has individual chassis construction and is completely air-cooled. As can be seen in the accompanying pictures, all tubes are visible from the front of the transmitter.

With an alert and competent staff and the know-how of the Crosley organization behind it, WLW-A operating on Channel 11 and an affiliate of the American Broadcasting Company Television Network, is a potent advertising medium in the greater Atlanta area. The Chief Engineer is Harvey Aderhold and his assistant is Wilbur Fattig.

ATLANTA'S NEWEST LANDMARK, Cont'd



View of a WLW-A studio during a farm telecast. Engineer John Moulson is manning the camera. The announcer is Joe Reaves.



A portion of the transmitter; monitor in foreground.



Transmission line and air-conditioning units installed.



STRING SECTION—Maestro Dimitri Mitropoulos gives a signal to the strings in rehearsal of a dramatic passage by the New York Philharmonic Symphony. In the foreground are the first violins, in the background the second violins and violas. The string group is the foundation of the orchestra, and includes more than half of its players.

NY Philharmonic Marks 25th Radio Anniversary

The broadcasting of America's oldest orchestra began October 5, 1930, on the Columbia network

BASEBALL has long enjoyed recognition as America's national pastime. Last year, some 15,000,000 people, one-tenth of the country's total population, attended major league baseball games.

But during that same year twice that number of people, 30,000,000 actively participated, either as spectators or as performers, in serious music, according to the 1953 bulletin of the National Music Council. This adds up to one-fifth of our national population.

This huge public has grown so gradually over the past quarter-century that it has been hard to realize the spread of music over the land. The people in the business have realized it, though; and they point with



FLUTES AND OBOES—John Wummer, the New York Philharmonic-Symphony's solo flutist, owns three flutes for concert work, one each of gold, silver and platinum. Because the oboe retains pitch better than any other orchestral instrument, it is the job of the solo oboist to give the correct pitch to all the other instruments before a concert.



DOUBLE BASSES—This is the giant of the string family and has the deepest and most resonant tone. There are nine double basses in the New York Philharmonic-Symphony.

FRENCH HORNS—The New York Philharmonic-Symphony has six French horn players, who play the modernized version of the old French horn of the chase, with the same flaring bell and complicated coils of tubing.



pride to figures which show that good music, which in the first quarter of the century was chiefly the province of the blue blooded, is honeycombed nowadays into the daily lives of ordinary people everywhere. One indication is in the increase in the symphony orchestras, the kingpins of our whole musical system.

At the turn of the century, there were two professional orchestras in New York City, and one each in Boston, Chicago, Cincinnati and Philadelphia. By 1920, there were six more, all guaranteed by private philanthropy. But during the 1930's, there began one of the most remarkable amateur musical growths in the history of music. Beginning with the founding of a very few amateur and school orchestras, this number has increased until in 1954 there were 938 professional, community and youth orchestras in this country, and more in Canada. Almost every sizeable U. S. town now has its own orchestra, and supports it. Twenty-five years ago, there were four organizations producing opera in this country; in 1954, there were over 300. We now have 750 music critics and 1,196 writers on musical subjects, and 150 music periodicals. Classical record sales last year totaled \$60,000,000 amounting to 24 per cent of all record sales.

Causes of Development

This musical development, both of audiences and of orchestras, has doubtless many causes. One is certainly the growth of a new public, which, although it may never have seen an orchestra, has learned about symphonic music through the broadcasts of the New York Philharmonic-Symphony. This orchestra on October 10 celebrates the beginning of its 25th consecutive year of broadcasting over the CBS Radio Network. It is the oldest musical program in the country. Through radio, every man's living room has become an orchestra seat at Carnegie Hall.

The broadcasting of America's oldest orchestra, which started October 5, 1930, was the idea of William S. Paley, who had acquired control of the Columbia Broadcasting System shortly before. He proposed to his board the idea of broadcasting the entire season of Sunday afternoon concerts of the Philharmonic.

His co-directors protested that there was no audience for fine music. Mr. Paley answered that he would make an audience, and forthwith went to the Philharmonic board and closed the deal. It is interesting that the first contracts stipulated that no commercial sponsorship of the programs would be allowed. It was only some years later that the orchestra's directors broached the idea to CBS of selling its programs to a commercial sponsor. During the past 10 seasons, the Philharmonic broadcasts have been sponsored by some of America's foremost industrial organizations.

During this quarter of a century, staying at home and listening to the Philharmonic broadcasts has be-

come a happy Sunday afternoon custom throughout the nation. A poll last winter revealed that as many as 11,800,000 different listeners in this country heard the Philharmonic broadcasts in a single month. They are also heard by shortwave in Hawaii and Alaska and relayed by the Voice of America to the Far East. It is a statistical fact that on a single Sunday afternoon more people hear one Philharmonic broadcast than the total of all those who have attended in person the more than 5,000 concerts which the orchestra has given in the 113 years of its existence.

This is the external picture. What is actually going on in the millions of homes of these radio listeners? Fan mail, station reports and phone calls give an inkling.

A letter from a private in the U. S. Army stationed at Fort Richardson in faraway Alaska described how he and his bunkmates, as well as their company commander, had enjoyed the Philharmonic's performance of Berg's complicated modern opera "Wozzeck." A Brahms "Requiem" program conducted by Bruno Walter brought letters from a professor of Latin at Harvard College, a California race track promoter and a forest ranger in Oregon, who packs a portable radio set on his horse when he sets out for his isolated post.

Many schools and colleges as well as local music clubs schedule regular sessions for Sunday afternoon listening. When farmers, cowboys, office workers, as well as seasoned concert-goers take the trouble to write in about their response to a symphony, it is time to overhaul the cobwebby notions about the appeal of "good" music, for radio has made good music popular music.

And this varied audience has heard the best con-



GENIAL MAESTRO—Greek-born Dimitri Mitropoulos is Musical Director of the New York Philharmonic-Symphony, who opened orchestra's 25th season on CBS Radio on Sunday, October 10 with a concert featuring a long excerpt from Richard Wagner's "Die Walkure."

temporary renderings. Arturo Toscanini was first heard on the air in America with the Philharmonic; such conductors as Sir Thomas Beecham, Bruno Walter, Leopold Stokowski, George Szell, Walter Damrosch and Dimitri Mitropoulos have been introduced to the radio audience on these broadcasts. It is clear that Mr. and Mrs. America have had first class musical interpreters. During the coming 25th season Musical



IN THE CONTROL ROOM—Backstage at Carnegie Hall at every CBS Radio broadcast of the New York Philharmonic-Symphony, IBEW engineer Harold Bridges, a member of LU 1212, and music commentator James Fasset sit in this tiny control room facing the stage. For the past five years, Mr. Fasset's commentary and interviews with personalities in music have been a feature of the broadcasts.

Director Dimitri Mitropoulos will have as guest conductors Bruno Walter, George Szell and Guido Cantelli.

Intermission commentators have played an important part in the success of the Philharmonic broadcasts. The first was Olin Downes of *The New York Times*. Next came Leonard Liebbling, who was succeeded by Lawrence Gilman. Deems Taylor took over in 1936. James Fassett, who for the past five years has served as intermission commentator, has introduced to the radio public such personalities as Grandma Moses, Dame Myra Hess, Jascha Heifetz, Jack Benny, Boris Karloff, Marian Anderson, Lily Pons, Dag Hammarskjöld—all talking about music. Mr. Fassett has also wandered around the country chronicling local musical events, and interviewing some of the personalities who are making the musical map of America come alive. In dozens of small towns, he found that listeners to the Philharmonic broadcasts have been inspired to start their own orchestras.

Last year, for instance, Mr. Fassett went, for a program feature, to Banner Elk, a town of 334 population in the mountains of North Carolina. Every year, the little North Carolina Symphony Orchestra wends its way by bus over the winding roads to give a concert at this tiny settlement and in many others like it. Benjamin Swalin, its conductor, believes in taking concerts to the people and covers some 8,000 miles each season, in North Carolina, Tennessee, Georgia, Florida.

Towns Knew in Advance

"Conductor Swalin explained that he let the towns know some months in advance the music that he was going to play," said Mr. Fassett. "Then at school the children became familiar with the symphonic themes, danced to some of the tunes, modeled musical instruments out of clay. When the big moment arrived and the orchestra arrived in its bus, it was as exciting as though the circus had come to town. Later, walking through the streets, I heard a tiny tot in blue jeans whistling a theme from the Beethoven Fifth Symphony—something he'll never forget."

In another Philharmonic feature, Mr. Fassett visited Waukesha, Wis., a farming community of 22,000 inhabitants, which produced for its people and from its people a full-fledged symphony orchestra.

"There are dozens of other towns which are pulling themselves up by their musical bootstraps," he says. "There is no adult orchestra in Lexington, Ky., but there is a lively and lusty Central Kentucky Youth Orchestra, made up of public school kids. The Chattanooga (Tenn.) Philharmonic has 200 complete orchestral scores in its library, representing 91 composers. In Phoenix, Ariz., a 95-piece youth orchestra, including young people from 22 schools, was organized in six weeks and now serves as a springboard and training group for the Phoenix Symphony itself."

Most of these community orchestras tour in their



SOLO TIMPANIST—Saul Goodman, timpanist of the New York Philharmonic-Symphony, was the youngest member of the orchestra when he joined it in the autumn of 1926. Today, two of the players in the Philharmonic's percussion section are his pupils. The timpani Goodman uses were designed and built by him 11 years ago. He does all the machine work himself, and constantly fills orders from other orchestras.



TROMBONES AND TRUMPETS—A section of the New York Philharmonic-Symphony's brass section includes (left to right) a tuba, trombones and trumpets. In the background are six of the orchestra's nine double basses.

states and play in small towns which have never before actually seen a symphony orchestra, but which know the symphonic repertoire through radio broadcasts.

Perhaps the highest tribute to the Philharmonic's broadcasts is paid by the community orchestras themselves. Many of them have their weekly rehearsals on Sunday afternoons. But when the Philharmonic broadcast time comes around, it is a common practice to put aside the instruments so that their players can listen to the Philharmonic—and hear how one of the greatest orchestras in the world does the job.

Mutual Network Marks Its Twentieth Birthday

The world's largest broadcasting network, Mutual, with 572 affiliates, celebrated its 20th birthday, last month.

Originated by WOR, New York; WLW, Cincinnati; WGN, Chicago; and WXYZ, Detroit as the Radio Quality Group, the network in a matter of days changed its name to conform to its type of organization and became the Mutual Broadcasting System.

Individual stations were soon added to the net—WBAL, Baltimore; WCAE, Pittsburgh; WFIL, Philadelphia. Then came regional networks—the Colonial Network in New England, the Iowa and Central States Networks in the Midwest, and, on December 29, 1936, the Don Lee Broadcasting System on the Pacific Coast. The latter addition made it a coast-to-coast net like its older rivals, NBC and CBS.

By January 1, 1937, Mutual included 38 stations in this country plus KGMB, Honolulu. The affiliation of the Texas State Network in 1938 pushed the total past 100, and by 1940 there were 145 MBS affiliates.

In 1935 Mutual broadcast its first World Series. During the same year a Mutual moneymaker, The Lone Ranger, first called for Silver over an MBS station.

Today, Mutual is moving steadily ahead, holding its own in a strictly radio endeavor, proven suited to America's listening habits by 20 years of experience.



Al Fraiberg of LU 45, Hollywood, tape recording Harry Flannery, right, AFL commentator, in an interview with the AFL European Representative, Irving Brown. The tape was made in the Los Angeles convention hotel.

IBEW Technicians Cover AFL Conclave

The American Federation of Labor convened for its 73rd annual convention at the Ambassador Hotel in Los Angeles on September 20. For almost 10 days delegates from more than 100 international unions deliberated the plans and aspirations of approximately 10,000,000 union members—the sinews of American industry.

Covering the convention in efficient style were several members of our own IBEW, acting in their capacities as engineers, sound men, and cameramen for the various radio and television stations of Southern California and the nation. CBS news, Mutual, ABC and NBC were there. Members of Local 45 handled the broadcasts of Harry Flannery, official AFL commentator.

The convention called for wage increases and a full work slate. Particularly, it urged union members to get out and vote on November 2.



AFL President George Meany receives a standing ovation, as TV cameras cover his initial appearance at the convention.

Page 2
Form 3226
Rev. 5-50

Read the instructions on page 2 of this form.

STATEMENT REQUIRED BY THE ACT OF AUGUST 24, 1912, AS AMENDED BY THE ACTS OF MARCH 3, 1933, AND JULY 2, 1946 (Title 39, United States Code, Section 233) SHOWING THE OWNERSHIP, MANAGEMENT, AND CIRCULATION OF

Radio, TV and Recording Technician-Engineer Published Monthly
(Insert exact title of publication) (State exact frequency of issue)

11 Washington, D. C. for September 2, 1954
(Name of post office and State where publication has second-class entry)

1. The names and addresses of the publisher, editor, managing editor, and business managers are:

| | |
|---|---------------------------|
| Name | Address |
| Publisher Int'l. Bro. of Electrical Workers | 1200 Fifteenth St., N. W. |
| Editor Albert O. Hardy | 1200 Fifteenth St., N. W. |
| Managing editor None | |
| Business manager None | |

2. The owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding 1 percent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address, as well as that of each individual member, must be given.)

| | |
|---|------------------------------|
| Name | Address |
| International Brotherhood of Electrical Workers | 1200 Fifteenth Street, N. W. |
| (an unincorporated labor organization) | Washington 5, D. C. |

3. The known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.)

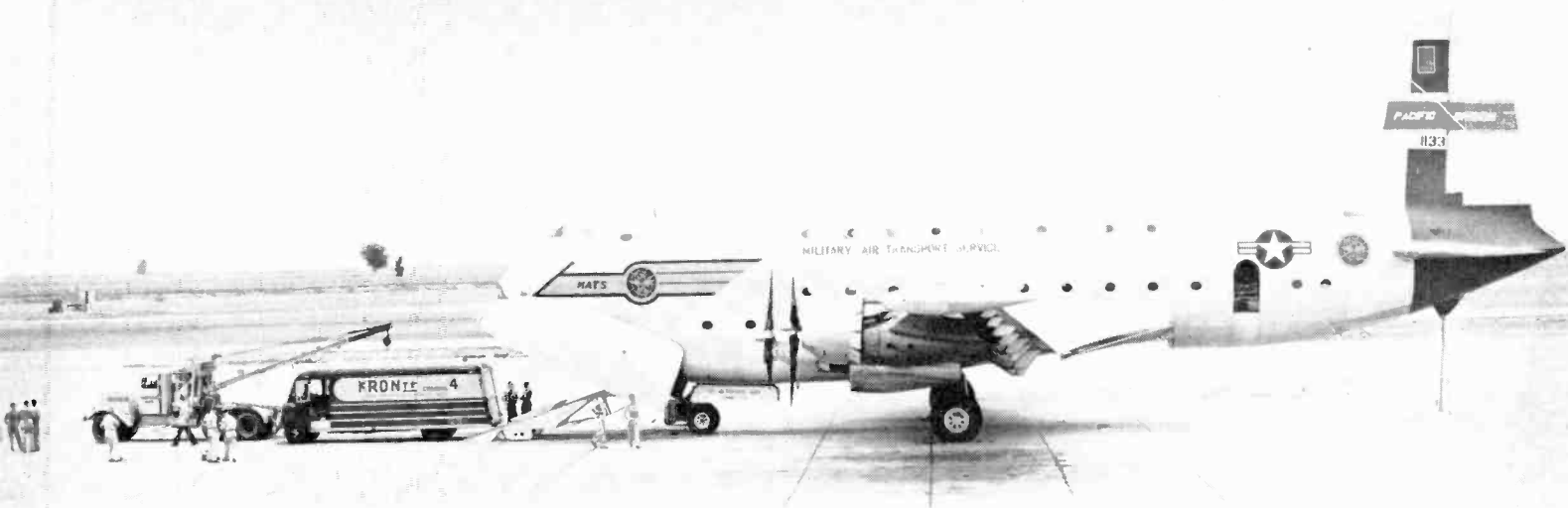
| | |
|------|---------|
| Name | Address |
| None | |

4. Paragraphs 2 and 3 include, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting; also the statements in the two paragraphs show the affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner.

5. The average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the 12 months preceding the date shown above was: (This information is required from daily, weekly, semiweekly, and triweekly newspapers only.)

Sworn to and subscribed before me this 10th day of September, 1954

[SEAL] *Lawrence A. Timmberly*
NOTARY PUBLIC
(My commission expires Sept. 30, 1957.)



The KRON-TV remote vehicle moves to the ramp of the big Air Force plane.

KRON-TV Engineers Beam Signal from the Clouds

From the innards of a huge Air Force Globemaster, IBEW engineers produce a television show for a West Coast audience.



While Air Force and station personnel watch, the mobile unit goes into the mouth of the big transport.



KRON-TV's mobile unit safely stowed away in the cargo compartment of the Douglas C-124.

TELEVISION and aviation history were made in San Francisco last fall when KRON-TV's Marjorie Trumbull went up in the air—literally—for an aerial telecast of her half hour "Exclusively Yours" program. Channel 4 viewers watched Marjorie riding comfortably in a giant Douglas C-124 Globemaster plane as it circled about 3,000 feet above the Bay Area.

Also shown were dramatic shots from the plane of San Francisco, with such prominent landmarks as the Bay Bridge, the Embarcadero and the Palace of Fine Arts easily recognizable in a picture of unusually fine quality.

The entire venture was a joint project of the Air Force and the station. These two combined equipment, personnel and knowledge to create a flying television station, the first known instance of its kind.

The air-borne studio consisted of the Globemaster, operated by the Military Air Transport Service out of Travis Air Force Base, and KRON-TV's mobile unit, which was taken into the plane's huge cargo compartment. The mobile unit weighs about 14,000 lbs.

The Globemaster's four engines develop a total of 14,000 horsepower, drawing fuel from tanks that can hold 11,000 gallons of gasoline. When fully loaded the whole works weighs around 185,000 lbs.

The problems of beaming a TV signal to the ground had Chief Engineer Lee Berryhill and his entire technical staff battling against noise, vibration and other

technical obstacles all of which were successfully overcome.

Contact with the ground was by means of a special microwave link and two AM radio frequencies, one of which carried program audio to the ground while the other was for ground-to-air communication. Signals for both sound and picture were picked up by a crew on the roof of the Chronicle Building in Downtown San Francisco, piped through the station's regular control room, and from there sent by normal means to the transmitter atop San Bruno Mountain.

The microwave "dish" and one camera were mounted at an open port in the aft of the plane—just below the insignia. The plane's regular transmitter was specially licensed for audio transmission and another transmitter was used on the ground for cueing. The plane flew in a 3-mile circle and was "tracked" with a revolving "dish" on the roof of the Chronicle Building.

With the entire technical staff working on the project, control of the unusual program was divided among three points: in the plane, where Dave Fulmer and Fred Street were in charge; on the roof of the Chronicle Building, where Roger Woodruff supervised activities and in the studio control room Bob Glassburn shared responsibilities with Granville Esch and Doran Ford.

One Moment Please



Even heroism will not salvage some situations. On a local station, a young announcer discoursed on the virtues of a certain dry cereal for kiddies. He threw some of the cereal into his mouth to prove it and started to choke. While frantic mothers watched, the announcer kept on gamely, just avoiding strangulation at the close. It is not known how much of the cereal he sold.

—Fred Harris in "Parade."

Reading Time

Principles of Transistor Circuits, edited by Richard F. Shea, 1953, 535 pages, John Wiley & Sons, Inc., \$11.00.

This is an integrated treatment of transistor characteristics and transistor circuits; it provides basic theory plus an explanation of techniques applicable in the field.

The treatment is general, built around generalized equipment circuits which are used to conveniently represent the majority of transistors. Each chapter is explanatory, demonstrated and illustrated. Resemblances to vacuum tube circuits are pointed out and current network theories are modified to fit transistor circuits. The book deals with operation at low frequencies, for both small and large signal amplitudes. There is included material relative to direct current, audio and ultrasonic amplifiers in various forms and combinations. Small-signal operation at higher frequencies is also treated, in the realm of 100 kilocycles to 10 megacycles, related to amplifiers and oscillators. A part of the book discusses large-signal and nonlinear operation, as utilized in such applications as flipflops, multivibrators and computers.

Television, The New Second Edition, by V. K. Zworykin and G. A. Morton. John Wiley & Sons, Inc., publishers, 440-4th Avenue, New York 16, N. Y. 1,037 pages. \$17.50.

This is an entirely new edition of a book previously published. It contains theoretical and practical information on such subjects as color television, the component elements of an electronic television system, industrial television, fundamental physical principles, and the basic principles of television.

The authors are well qualified. Dr. Zworykin is the inventor of the iconoscope. Dr. Morton has many publications and inventions in television, electronics, electronic optics, infrared imaging, etc. Both are now doing work at the RCA Laboratories, Princeton, N. J.

The book contains a good coverage of the two key elements of any television system—the camera tube and the cathode ray presentation tube. The fundamental physics which forms the background of these elements is discussed in the early chapters. The book presents the practical construction and operation of these tubes, plus an analysis of the fundamental processes involved in the picking up and presentation of images.

The book contains 723 illustrations to help the discussions along.

TECHNICROSSWORDS

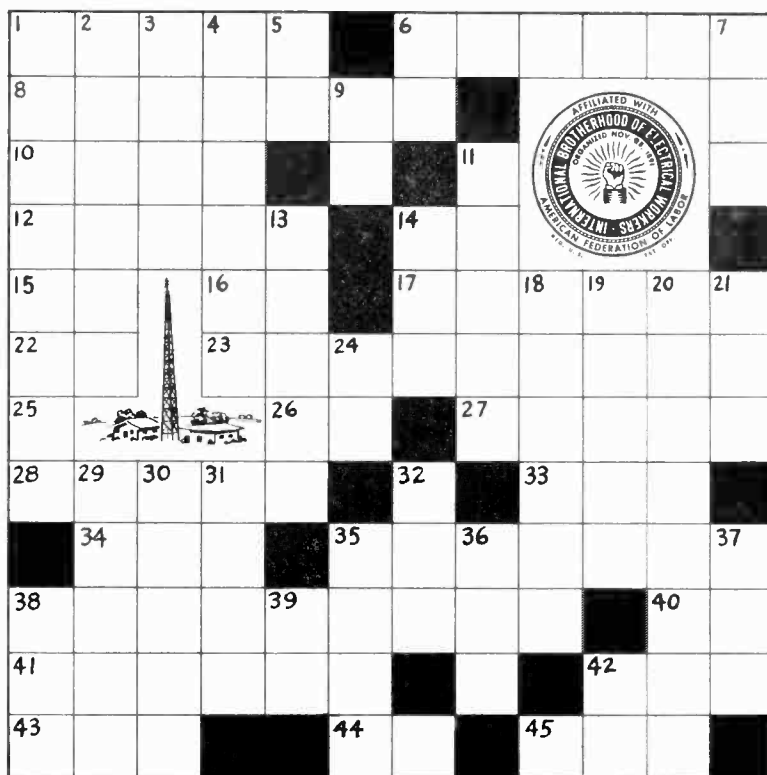
Using as many words synonymous with the broadcasting and electronics industries as possible, we have prepared for you a crossword puzzle. Try your skill with the "across" and "down," then turn to Page 16 for the correct answers.

ACROSS

1. Video's predecessor.
6. Local organizations represented by emblem illustrated.
8. Atrocious.
10. Periods of time.
12. Some technicians get this way on pay day.
14. Old Testament (abbreviation).
15. What Marilyn has abbreviated.
16. Dale's husband (initials).
17. An announcer in this condition is useless.
22. Chemical symbol for a metallic element resembling lead.
23. End.
25. Article.
26. The only kind of broadcasting before Armstrong.
27. Union men throw this brand of cigarettes away.
28. Broadcasting device illustrated.
33. A trick (obsolete).
34. Broadcasting apparatus (colloquial).
35. Familiar bird roost since TV.
38. Some commercials are used this way.
40. A unit of electrical energy (abbreviation).
41. How a disc jockey plays his records when he runs out of continuity.
42. "Who have lost our way, —, —, —."
43. Pairs (abbreviation).
44. Abbreviation for compass point at "ten o'clock" position.
45. What you should be earning instead of working this.

DOWN

1. A resistor for regulating a current by means of variable resistances.
2. Another word for 35 across.



3. A listener's defensive instrument.
4. To set into.
5. Combining form meaning an egg.
6. It's 178th birthday, this month.
7. Station (abbreviation).
9. World body (abbreviation).
11. Indifferent to pleasure or pain.
13. Gloomy.
14. Unit of electrical resistance.
18. A chaplet (poetic).
19. Spanish male name.
20. Movement of a ship backward.
21. Snakelike fish.
24. Ream (abbreviation).
29. Brotherhood.
30. These sometimes cause 28 across to go down.
31. Equal (obsolete).
32. A single unit.
35. Double prefix meaning "not with."
36. A small loop for pulling or lifting something.
37. An exclamation expressing triumph.
38. Unit of intensity of electric current.
39. — da, city in Japan.
42. Immortal soul to an Egyptian.



This is your IBEW union label for disc recordings. It identifies superior work done under fair working conditions at the union wage scale. Use it when you record. Copies of this label are available—free of charge—at the International Office. Have your local officer or business agent write for a supply today!

Technical NOTES

First Video Tape Buyer

The first Video Tape Recorder is set for delivery next month. The producers of the revolutionary instrument, Bing Crosby Enterprises, have received a contract from the Air Arm Division of Westinghouse Electric Corporation, and the VTR, which records video and radar signals on magnetic tape to eliminate time-consuming processing characteristic of film, will ultimately become the property of the U. S. Air Force. It will be utilized by Air Arm personnel in their airborne flight testing program, according to Frank C. Healey, executive director of the Bing Crosby electronics division.

Government adoption of the Crosby system should speed up commercial acceptance of VTR by broadcasting companies and industry, Mr. Healey predicted. He said that his company could now "hasten perfection of our color tape machine."

Paper Record Developed

A new process for pressing records on laminated paper has been announced by the Gotham Recording Corp. of New York City. The company says it permits "truer fidelity, a longer life-span for the record and a lower cost per unit than any of its predecessors in the field."

The record is called "Recocard," and it has been designed for users of color postal cards or similar mailing devices. The company says the records may be pressed directly over color pictures or on both sides of a postal card without eliminating the photo, art work, or copy on either side of the mailing piece. Records are of the 78 rpm type.

The Recocard has been tested by Gotham recording engineers, who found that it will replay over 150 times without any loss of fidelity.

TV Studio Switcher

RCA, last month, introduced a compact new, self-contained, studio switcher (TS-11A) designed for the special requirements of color television broadcasts. RCA says it is also well-suited to monochrome telecasting.

The new device provides nine inputs, three outputs, and a previewing channel.

It handles camera switching, fading and lap-dissolves in the studio control room as well as remote and network signal inputs. It features a special rotary switch on the control panel which permits feeding the preview switching circuit into the program output channels. By selecting the correct circuits, the program director can preview super-impositions while the regular program is fed by direct camera through the preview channel.

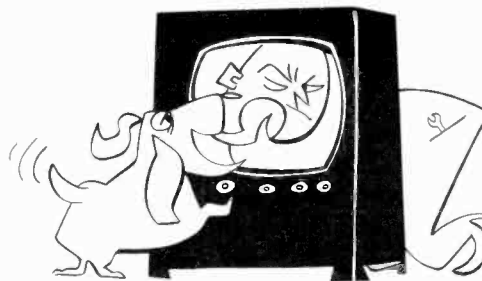
Manufactured for convenient, space-saving mounting in standard console control sections, the switcher houses the control panel, mixing circuits, output line amplifiers and terminal connections for power, tally and video circuits in a single console.

23 Kw Uhf Transmitter

General Electric now has a complete line of ultra high frequency transmitters — from 500 w driver, through 1 kw, 12 kw, 23 kw, and 45 kw. The first edition of the 45 is due for delivery by the end of the year.

Last month, GE announced the inclusion of the 23 kw unit, with delivery promised in 150 days. Equipment, comprising three operating klystron tubes (two visual, one aural) is priced at \$175,000, but it is \$130,000 if added to existing 1 kw uhf, or \$85,000 if added to GE 12 kw transmitter.

GE has also included in its uhf antenna line a new 50-gain helical radiator. The 14-bay, 110-foot-long antenna is priced at \$75,000, with delivery in six months. The other GE uhf helical antenna is 25 gain.



Les Krames, KRON-TV.

Canned Radio Increase

Canned radio programs are taking over the network, the magazine *Printers' Ink* recently reported. In 1946 the programs of all four major networks were 100 per cent alive, but a survey conducted by the magazine last March showed that 92.3 per cent of all Mutual shows were canned, 80 per cent of all CBS shows were canned, and NBC rated 73.3. Only ABC had live shows for the bulk of its evening programs (77.8 per cent).

Zenith Sound Scrambler

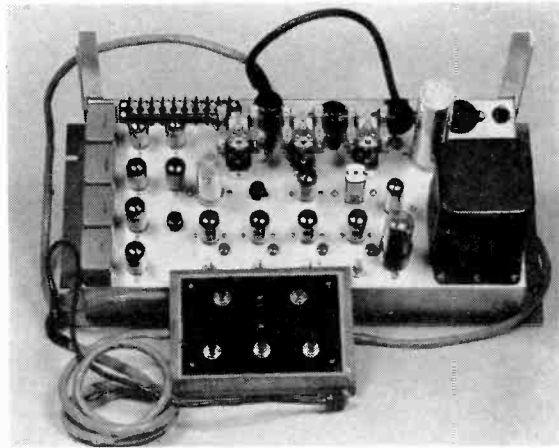
The Biblical Tower of Babel had its reputation shaken in Chicago recently by a series of experiments at Zenith Radio Corporation's laboratories that made complete hash out of 10 modern foreign languages.

The experiments came about through a visit to Zenith laboratories by Dr. Winfield Salisbury, research physicist. Commenting on problems of voice communication encountered by Arabian oil companies, Dr. Salisbury told Zenith technicians that in order to obtain secrecy in radiophone and telephone messages, the companies used a voice scrambling system. He told Dr. Alexander Ellett, Zenith vice president in charge of research, that the scramble method used made English unintelligible, but that Arabic came through the scramble in a reasonably intelligible form.

Dr. Ellett, who is directing Zenith's development of Phonevision, the company's method of subscription television, decided to find out immediately whether or not the Phonevision sound scramble was proof against foreign languages. The first guinea pig for the voice test was Nouriddin Al-Rubayi, one of Ellett's laboratory workers. Al-Rubayi's native tongue came through the Zenith scrambler like so much Sanskrit, or possibly some language written in Runic characters, he didn't know which.

In a search for other foreign tongues to use in the test, Ellett discovered that his own staff represented something in the nature of a scientific foreign legion. He quickly found natives of nine other lands in the group and put them up against the Phonevision scrambler. The end result was complete defeat for each one of the languages tested. The conclusion by Ellett's Russian engineer was that his native tongue was normally considered to be a bit difficult, but that when altered by the Phonevision circuits it became vocal borscht.

The experiment has had the effect of sending Zenith engineers off on a new track of investigation. While their sound scrambling methods were developed for use in connection with the company's systems of subscription television, it appears now that the circuits may have additional use wherever secrecy of communication is required. Inter-government secret calls, private commercial communications and kindred fields would seem to offer possibilities for use of the Phonevision voice scrambler, engineers now believe.



The chassis of the Vandivere Automatic Sequencer, which may bring remote station operation one step closer to reality. It permits inaudible cues to be placed on a tape recording to activate other program equipment. The block in the foreground is the control board by which tone signals are inscribed on tape.

Deduct One Engineer, Add One Sequencer

"The dream of programming a radio station for endless hours with machines doing the switching, the cut-ins, the station identifications, or of operating a TV outlet for hours with slides and film and nary an engineer in sight is not so far off," comments *Broadcasting-Telecasting* in a recent report on the Vandivere Automatic Sequencer.

The Vandivere A-S is one of the first machines for automatic station operation to be put on the market. It was designed and produced by Vandivere Labs, Inc., of Arlington, Va., a town just across the Potomac from Washington, D. C.

The equipment, now in commercial production, is said to integrate automatically two or more tape recorders, or a tape recorder and a slide projection machine, or a tape recorder and a film projection machine, or any combination of these.

To accomplish this, the instrument records a high frequency tone on tape to activate other apparatus. The device can be used to start, stop, or cue other equipment.

The machine comprises one panel, 8 $\frac{3}{4}$ inches high and 19 inches long. It contains 13 tubes, a self-contained power supply and three switches. A control board attached to the microphone line comprises five buttons—start, stop, tone, light (for cue station control room personnel that the program is near the end) and automatic stop.

The equipment sells for \$875.

Credit for initial development of the equipment is given to C. Richard Evans, general manager of KGMB-TV, Honolulu, who worked out the method of putting inaudible tone signals on tape recordings in order to speed up tape editing.

Station Breaks



30th Birthday for WCCO

In observance of its 30th anniversary WCCO Minneapolis-St. Paul presented a full-hour broadcast relating the station's history this month. The station is a CBS Radio affiliate and is partly owned (47 per cent) by CBS.

The anniversary program traced the station's growth and development from a pioneer station, whose signal was scarcely audible beyond the Twin Cities, to a 50 kw outlet which currently serves about three million listeners in Minnesota, Wisconsin, Iowa and the Dakotas. Eddie Gallagher, CBS Radio personality and former WCCO staff member, served as narrator for the broadcast.

Color in Hollywood

Two Hollywood TV stations—KTLA (TV) and KNXT (TV)—began local colorcasting a fortnight ago. KTLA on October 7 presented a special 90-minute color salute to a Motorola dealers meeting, heralding arrival of that firm's first 19-inch color receivers in Los Angeles. CBS-owned KNXT October 19 broadcast from CBS Television City a 30-minute "KNXT Colorama," sponsored by Dawne Industries (Tint 'n' Set) through Lou Holzer & Assoc. Paramount Pictures, through Buchanan & Co., used color announcements for its new motion picture, "Rear Window," preceding and following the KNXT color program.

Electronics Progress Display

Color TV equipment of Chromatic Television Labs, new Bell Telephone Labs transistors and other equipment are on display at an electronics exhibit in the Department of Commerce Building in Washington. The display continues through November 5.

DuMont Labs built its display around cathode ray tubes and recent uses. Chromatic shows an exploded version of its new 21-inch rectangular color tube along with color bar patterns on a round tube driven by a Hazeltine receiver. Other exhibitors are Standard Piezo Co., Research Corp. and Western Union Telegraph Co. Western Union's exhibit includes a high-speed facsimile transmitter in operation.

KCCC-TV Joins IBEW Ranks

We commend the successful efforts of Business Manager John J. Dunn, Local Union 202 in adding KCCC-

TV, Sacramento, to the roster of stations under IBEW agreement.

New Agreement, WFLA, WLFA-TV

An eight-dollar increase in base pay, 10 per cent differential for night work and a \$1.50 daily allowance for TV transmitter travel was agreed upon recently at WFLA, WFLA-TV, Tampa, Fla. Representative O. E. Johnson assisted the bargaining committee, members of Local Union 108.

New Agreement at WCAU, Inc.

A new agreement, effective October 2 at WCAU, WCAU-TV, reflects very substantial changes in the wage rates for the members of Local Union 1241, Philadelphia. The new wage range effective immediately is from \$80 to \$152.50. Effective April, 1955, an additional \$2.50 "across the board" adjustment will be made and on October 1, 1955, the wage range will stabilize for the following year on the basis of \$82.50 to \$160. A separate agreement covering employees in the film operations department also has been substantially revised. Our congratulations to Local Union 1241 and to Representative Freeman L. Hurd, who assisted the bargaining committee.

KOMA, Oklahoma City Vote

As we go to press we are advised by Local Union 1141 that a representation election at KOMA resulted in recertification by the NLRB of the IBEW for the employees in the technical operations department. This we can assume means that the employees of KOMA have expressed their continuing satisfaction with being represented by the IBEW.

WKZO Case Dismissed

The NLRB has dismissed a petition filed by NABET-CIO at WKZO, WKZO-TV, Kalamazoo, Mich. The traditional bargaining unit has for some years included the employees of the same Company who are employed at WJEF in Grand Rapids. The Board agreed with the IBEW position that the appropriate bargaining unit is the over-all unit and accordingly dismissed NABET's petition, which was only for those employees at Kalamazoo.

KTLA, Hollywood, in Flux

Early this month three unions contended to represent 49 non-supervisory engineering and production workers at KTLA (TV), Hollywood, Calif., and the IBEW won out. The election was held October 6. It involved, besides the IBEW, the International Alliance of Theatrical and Stage Employees and the National Association of Broadcast Employees and Technicians. The vote was IBEW, 27 votes; IATSE, 22; and NABET, 0.

IBEW Local 45 petitioned the NLRB for the election, and when NABET intervened as an interested party, the three-way race developed. The vote count was delayed a bit October 6 while a Labor Board representative traveled to the KTLA transmitter atop Mount Wilson to ballot workers there.

Other news of interest from KTLA (TV) involves studio site on Sunset Boulevard which will house KTLA (TV) and Paramount Television Productions, Inc. The \$2-million earmarked for the development of a 10-acre which Paramount Pictures paid for the old Warner Brothers Studios last year.

Remodeling starts November 1. Control booths are being designed to handle both black-and-white and color. Among the engineering innovations will be a "peripheral type batten lighting system" in which less bats can be used by placing them in squares instead of utilizing the parallel system.

Three studios, covering 10,000 square feet each, two of which will serve theater audiences, are part of the initial project. To get "maximum flexibility" the three studios will open into each other to create studio shooting space of either 10, 20, or 30 thousand feet.

WDSU-TV Color Building

WDSU-TV, New Orleans, has purchased a new building behind its present studios to be used for local color-casting operations. The new studio, comprising 11,500 square feet of floor space, will be used for color telecasts only, and, according to the station, it is the first TV studio in that section of the country built exclusively for this purpose. Alterations of the building's interior are scheduled for completion within the next two months.

Columbia Records Dissolved

In a reorganization move by CBS, Inc., Columbia Records, Inc., has been dissolved as a corporate entity and, in the future, its activities will be carried on by the same organization as a division of CBS, Inc.

CBS President, Dr. Frank Stanton, said the move was "to permit greater integration of activities of Columbia Records with CBS, Inc., and to simplify the overall corporate structure. "Personnel will not be affected by the change, he indicated.

The change in the status of Columbia Records completes the reorganization of the major individual units of CBS Inc. so that all now are divisions of the parent

company, Dr. Stanton observed. The major division of CBS Inc. and their presidents are: CBS Radio, Adrian Murphy; CBS-TV, J. L. Van Volkenburg; Columbia Records, James B. Conkling; CBS-Columbia (radio and television sets), Seymour Mintz; CBS-Hytron (electronic tubes), Charles F. Stromeyer; CBS Labs (electronic research), Peter C. Goldmark, and CBS International (export sales), Lewis Gordon.

Military TV Vital—Sarnoff

Television will be a vital factor in all military operations and conceivably the public may watch on home TV sets if global warfare ever breaks out again, Brig. Gen. David Sarnoff, RCA board chairman, told an audience at Pennsylvania Military College, recently.

The RCA head asserted that electronics have become an indispensable ally in aviation, controls and atomics. He warned that no nation can relinquish its interest in the sciences and remain strong. When war comes, "it becomes a race of science against time, and America must be strong and 'at ready,'" he declared.

A Reminder to Vote

Let us urge you again to go to the polls and vote on Election Day. There are many political and economic issues of vital interest to broadcasting engineers and technicians which will come before the next Congress. You must help to get the best men elected to office. November 2 is an all-important day for every citizen, as well as for all members of the International Brotherhood of Electrical Workers.

Note to All Local Unions

In spite of our diligence in printing a new Directory, the changes have begun. Local Union No. 45 has moved to new quarters—7265 Santa Monica Boulevard, Hollywood 46, Calif. The telephone number remains unchanged—Hollywood 5-3129.

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