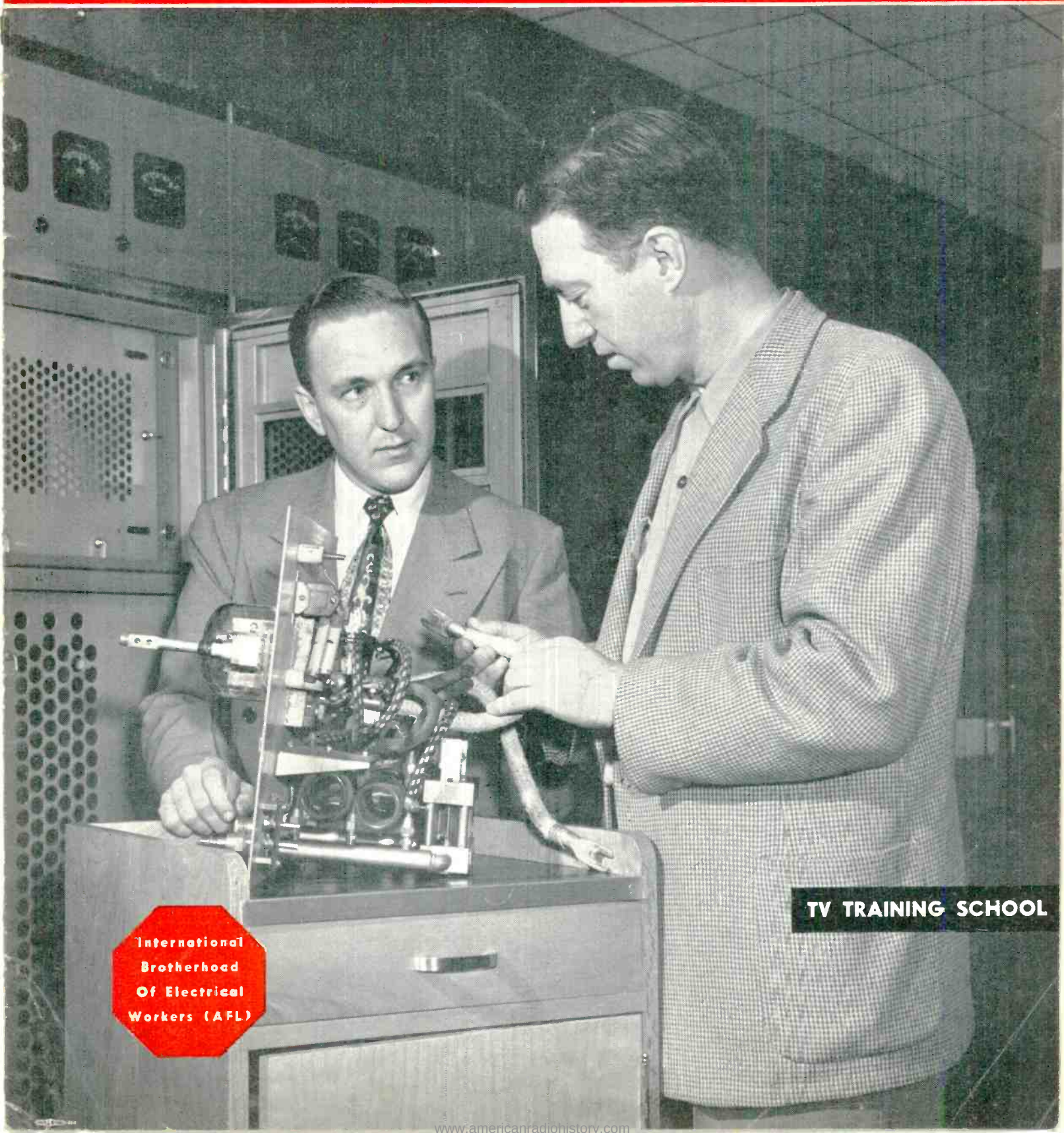
RADIO, TV and RECORDING

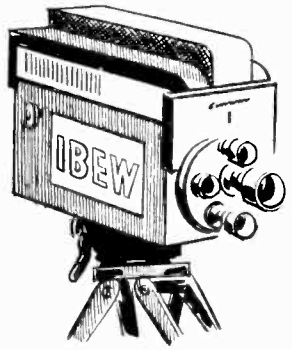
TECHNICIAN-ENGINEER

MAY, 1953



TV TRAINING SCHOOL

International Brotherhood Of Electrical Workers (AFL)



"I will support and strengthen, not weaken, the laws that protect the American worker."

President Eisenhower's Campaign Pledge . . . *Will it be Fulfilled?*

LABOR leaders are still hoping for Congressional action this year on the Taft-Hartley Act. But many are pessimistic about chances of success under a Republican-heavy Senate and House. Although President Eisenhower, in his Message to Congress, early this year, called for revisions in the law, it appears that prolonged hearings on the Act will stalemate it for this Congressional session.

Labor's hopes are based upon what General Eisenhower told organized labor in his many speeches during the campaign and on what he told AFL leaders since the November 4 election.

In his speech to the American Federation of Labor last September, the Republican candidate said, "I have talked about the Taft-Hartley Act with both labor and industry people. I know how the law might be used to break unions. That must be changed. America wants no law licensing unionbusting, and neither do I."

On November 1, in Boston, he stated what labor has come to accept as his campaign pledge:

"I pledge that I will support and strengthen, not weaken, the laws that protect the American worker. I will defend him against any action to destroy his union or his rights. I will enlist every resource—of private industry and of the Federal Government—to protect him against the awful consequences of depression and joblessness. I will work unceasingly to build an economy that will maintain for him a high level of wages with steady purchasing power so he and his family can share in the comforts of American living. Finally, I pledge that I shall strive to conduct myself so that at the end of my service the workers of America can honestly say:

"He has been fair.

"He has been my friend."

It is to early to predict exactly what Congress will do with regard to Taft-Hartley. The labor committees of both the House and Senate have held public hearings, and it may take weeks, even months, before legislation takes final form. Long ago, labor formulated its wishes for repeal of the vicious law. Today it is listing the evils of the act which should be revised or abolished.

In the President's first message to Congress he called for no let-up against communist aggression, a strong Korean policy, a re-energized NATO, elimination of waste, plans to reduce the budget, ultimate tax reduction, a crack-down on corruption, retention of social gains accomplished during recent times, and firm loyalty demands upon Federal workers.

It is the hope of the American Federation of Labor that before Congress adjourns this year a new labor-management relations law will be enacted which will be fair to both workers and employers and fully protect the public interest.

It is hoped, too, that the Republican administration will find some speedier method for the National Labor Relations Board and other Federal agencies to pass judgment on labor-management disputes, which frequently must wait for months of indecision because of loaded dockets.

HAVE YOU SENT IN YOUR RESERVATION FOR THE PROGRESS MEETING?

See the Agenda and More Details on Page 3

RADIO, TV and RECORDING
TECHNICIAN-ENGINEER

VOLUME 2 NUMBER 5

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

D. W. TRACY, *President* • J. SCOTT MILNE, *Secretary*

Entered February 20, 1952 as second-class matter at Washington, D. C., under Act of August 24, 1912.

PRINTED ON UNION MADE PAPER

Agenda for Kansas City Progress Meeting, Schedules Discussions of Major Issues

Hotel Bellerive
Kansas City, Mo.
June 18, 19, 20, 1953

THE progress meeting offers representatives of all local unions an opportunity to meet each other, discuss mutual problems and solutions and to talk to the International staff.

International President Tracy, International Secretary Milne and the representatives from the Vice Presidents' districts will be on hand and will participate in the inevitably complex discussions. A dinner is scheduled for 8:00 o'clock p. m., June 19, at the Hotel Bellerive (speaker to be announced).

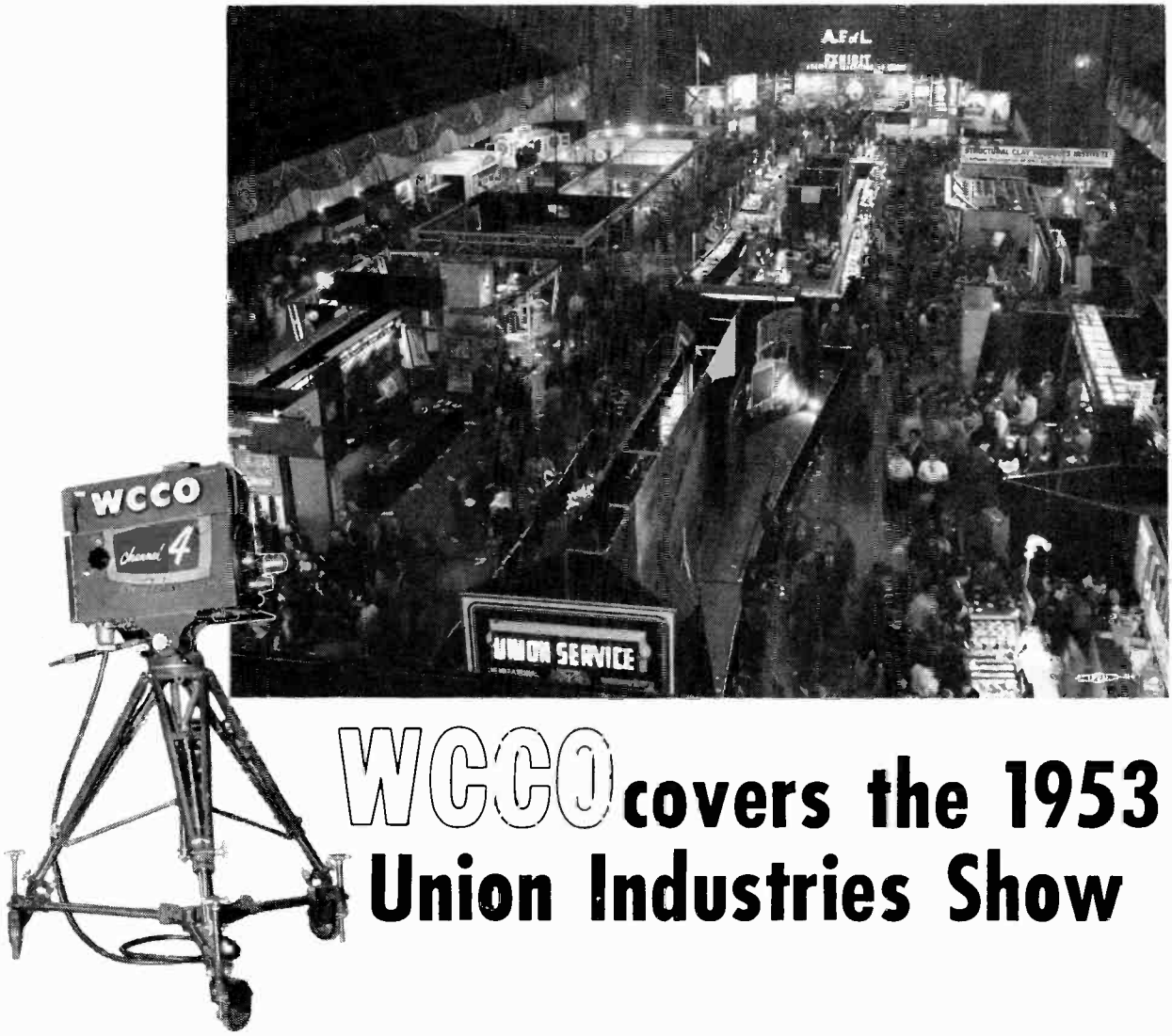
The proceedings will begin at 10:30 a. m. on June 18, with the hour from 9:30 to 10:30 being allocated for registration and similar preliminaries. On the 19th and 20th, proceedings will begin at 9:30 a. m., recess for lunch from 12:30 to 2:00 p. m. and conclude at 5:30 p. m.

Subjects which have been suggested so far include:

1. Jurisdiction
   Jurisdiction clauses, relationships with other unions, etc.
2. Operator's rules and regulations
   Rule relaxation, remote control devices, Conelrad, unemployment
3. New organization
4. Television
   New equipment, training programs, relationships with schools
5. The IBEW pension plan
6. "Pool" pickups
7. Local Union Stewards' Progress meetings
8. Radio—AM and FM
   Progress or retrogression?
9. Union Labels
10. "The Technician-Engineer"

No set schedule has yet been evolved, nor will any fixed schedule be resorted to—some subjects in the list will consume more time than others and additional subjects will undoubtedly be added as the meeting develops. Reports from Local Unions should be limited to approximately ten minutes, however, so as to permit more time for floor discussions—as those who attended last year will recall, time ran out on the last day.

Reservations to date indicate an even larger participation this year—35 local unions participated, with 46 delegates present. It is to every member's interest to see that his local union is represented. It is not too late to plan NOW for participation. See you in Kansas City!



WCCO covers the 1953 Union Industries Show

EACH spring the international unions of the American Federation of Labor stage a labor-management exhibition of union products and services in some major city of the nation. The show is of the "super" and "colossal" variety and a big attraction in any host city it visits. Staged by the AFL Union Label Trades and Services Department, it invariably accomplishes its major objective — impressing thousands of show visitors with the fact that the union label stands for quality merchandise or quality service, done by workers who receive union-scale wages under union-contract working conditions.

Last month, the 1953 show opened in Minneapolis, with bands playing, a ribbon-cutting ceremony, visiting dignitaries, and 40,000 visitors on opening day. By April 25, the final day of the eight-day show, more than 400,000 Mid-Westerners had been through Minneapolis' big Municipal Auditorium, seen the $16-million worth of union-made equipment exhibited, received scores of free gifts, taken free chances on scores of prizes, and watched union bakers, bricklayers, butchers, sheep shearers, and other craftsmen perform their daily tasks.

• Charles Kunze of WCCO-AM tapes an interview with a show visitor.

All in all, it was as highly successful as the previous six Union Industries Shows have been.

Covering the big event in a complete roundup style were the remote crews of WCCO-AM-TV, IBEW-contract station in the Twin Cities. Technicians of IBEW Local 1216 ran tape, focused TV cameras, gave demonstrations, and in other ways took an active part in the show. They are to be highly complimented for an excellent public demonstration of skilled broadcast engineering, a credit to the Brotherhood.

THE best bricklayer apprentices from AFL locals all over the nation assemble at the annual Union Industries Show for the final contest to find the top apprentice of the year. Here they busily compete. Contestants lay identical brick units. Judges select the best.

THE Minneapolis Letters Carriers Quartet harmonizes on a barber shop favorite, as Minnesoto's Democratic senator, Hubert Humphrey, listens. The union letter carriers set up an actual city mail delivery section at the show, postmarked and mailed letters.

A SHOW stopper was the Bakers and Confectionery Workers' carousel, which turned slowly so that show visitors could watch cake decorators at work. Cakes were given to onlookers.

NEWSPAPER columnist and radio-television commentator Cedric Adams broadcast his regular program from the AFL booth. Will Hartman, a member of Local 1216, at the WCCO-TV camera.

WILLIAM RING, director of public relations for the Bakers and Confectionery Workers', presents a birthday cake to WCCO's women's show personality, Arle Haberle, as Jerry Baumann watches.

JOHNNY stopped calling union-manufactured Philip Morris for a moment to investigate a TV camera. Giving him the run-down are Henry Shepherd and Bernard Rent, both members of Local 1216.

Salt-water Ground System Ups 202 Station's Output

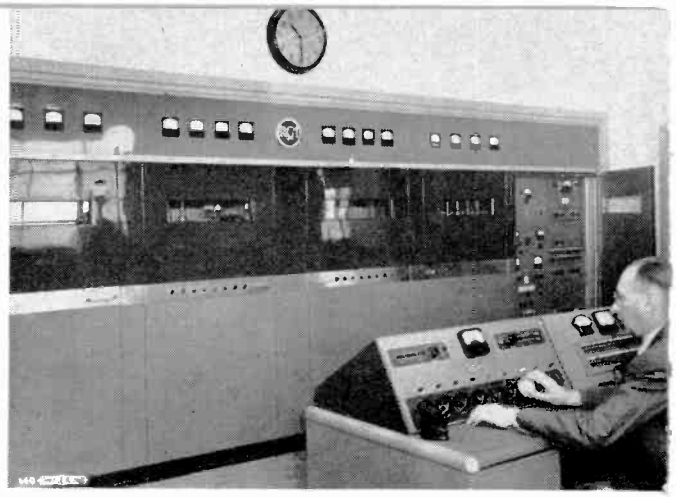
MEMBERS of IBEW Local 202, employed by KLX, Oakland, Calif., are now transmitting from above the briny deep. Their signal strength is up and beaming directionally.

Radio Station KLX, 910 kilocycles, an IBEW-contract station, is now Oakland's most powerful radio station and the only independent station in the Bay area broadcasting with 5000 watts of signal strength both day and night.

Several years of planning and months of work were climaxed when KLX recently increased its power to 5000 watts.

The new transmitter building at Point Isabel houses the latest in radio transmitting equipment, and the two 270-feet towers were designed with a salt-water ground system to give the strongest signal possible.

Great care was taken in selecting the Point Isabel site, in order that a salt-water ground system could be used. Engineers made certain that the towers themselves would be over water. The two 270-foot towers stand on pilings that are sunk 60 feet into the bay. The big pilings are 18 feet above the water to give support to the three feet of each tower.



• Ross Smith, KLX chief engineer, at the Pt. Isabel console.

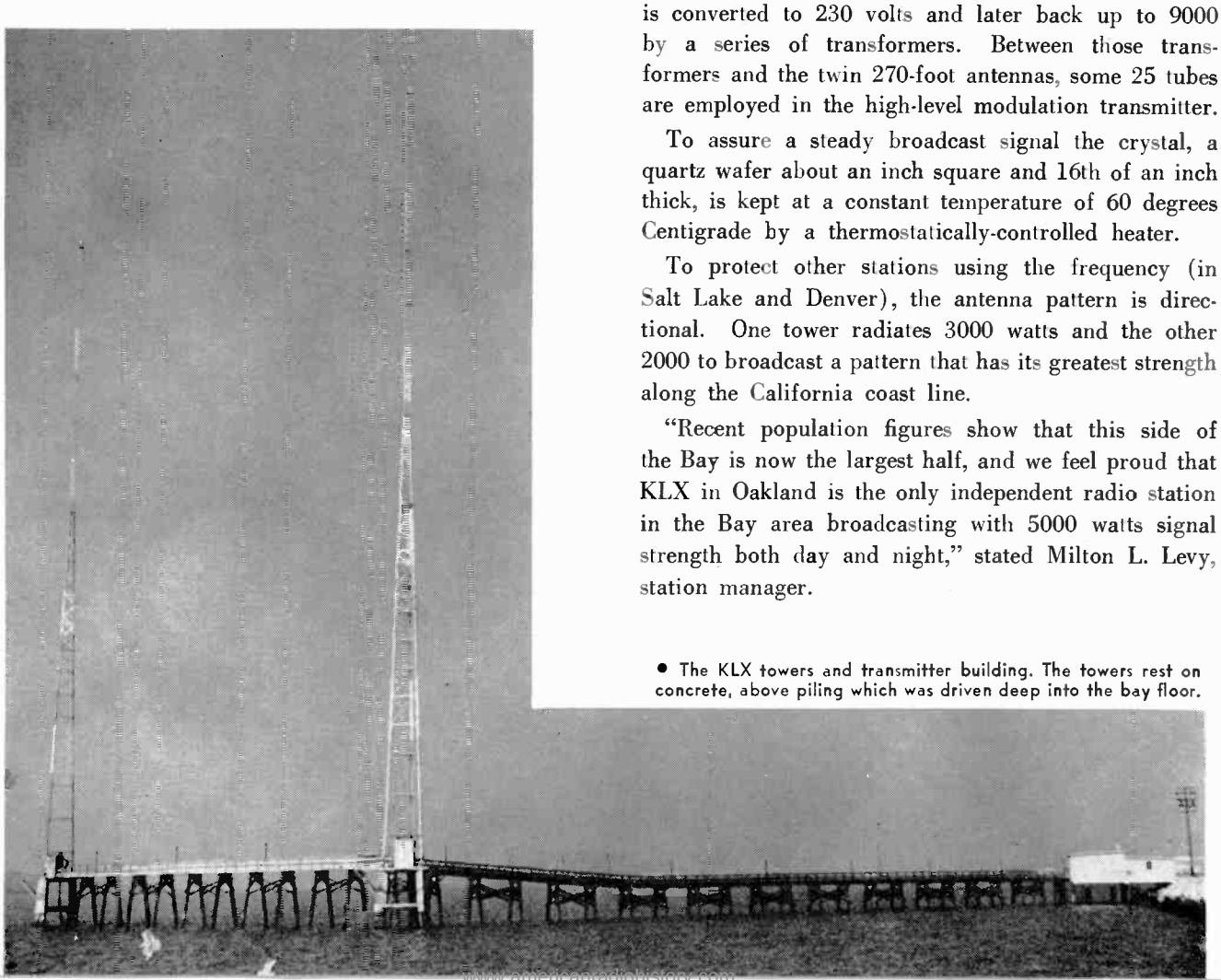
A crew of Local 202 engineers will be employed keeping the complex and intricate equipment operating from 6:00 a. m. to midnight daily. Two special telephone lines link the new transmitter and the KLX headquarters in downtown Oakland, 24 hours a day. Within arm's reach of the main console control board are two transcription turntables and a tape recorder capable of playing an hour of recording material at a time. The switchboards and control panels of the new transmitter cover equipment that includes the latest innovations and developments. The new equipment is so up-to-the-minute that it includes devices not built when the transmitter was first purchased. They were bought later and the transmitter modified to include them.

Twelve thousand volt lines lead to the station from the Eastshore Highway nearly a mile east. The power is converted to 230 volts and later back up to 9000 by a series of transformers. Between those transformers and the twin 270-foot antennas, some 25 tubes are employed in the high-level modulation transmitter.

To assure a steady broadcast signal the crystal, a quartz wafer about an inch square and 16th of an inch thick, is kept at a constant temperature of 60 degrees Centigrade by a thermostatically-controlled heater.

To protect other stations using the frequency (in Salt Lake and Denver), the antenna pattern is directional. One tower radiates 3000 watts and the other 2000 to broadcast a pattern that has its greatest strength along the California coast line.

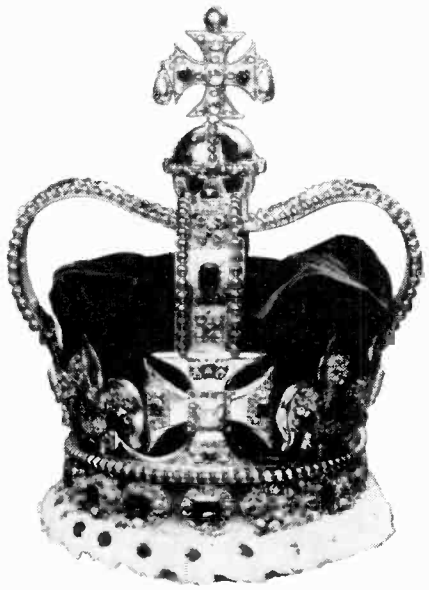
"Recent population figures show that this side of the Bay is now the largest half, and we feel proud that KLX in Oakland is the only independent radio station in the Bay area broadcasting with 5000 watts signal strength both day and night," stated Milton L. Levy, station manager.



• The KLX towers and transmitter building. The towers rest on concrete, above piling which was driven deep into the bay floor.

Fast-Flown Films and Direct
Broadcasts Highlight Network
Plans for June 2, London

Coronation *Plans*



• The historic crown of St. Edward, with which all British monarchs are crowned. Formed of "massy gold," it is encrusted with diamonds, sapphires, emeralds and pearls. The two central arches symbolize heredity and independence. This ceremonial crown is worn but once in the lifetime of a sovereign and then only for a few moments.

THE major television networks are planning bonus packages for American TV viewers on Coronation Day.

NBC and CBS got off to their usual highly-competitive race for advantages early in the year, and, as a result, all the TV nets will enjoy the results.

CBS-TV originally planned to convert a British Overseas Airway's Stratocruiser into a flying laboratory which would accommodate electrical and editing equipment and process television recordings of the big London event "in 58 seconds" en route. A school teacher's guide distributed by the net's special events staff even described the flight of the plane from London to Newfoundland to New York, with the plane landing in time for an 11 p. m.-12 midnight, EDT, presentation.

NBC, meanwhile, cast about with several ideas, including direct relay via plane stations.

BBC to Supply Films to Nets

The way things finally worked out, however, the old and haughty BBC of Her Majesty's government will supply films to American telecasters on a "pool" basis. These films, the first expected to reach our shores, will be super-delivered by British Royal Air Force jet bombers, which will make two flights—one a few hours behind the other. ABC-TV, CBS-TV, NBC-TV, and DuMont have all scheduled showings of the first BBC films at 6 p. m. EDT on Coronation Day. Later in the evening, each net will show the films of the second flight.

Not to be dismayed by the early restrictions placed upon American TV coverage, the U. S. networks will have camera crews on hand for their own film coverage, and these will be shown to American audiences, too.

Sig Mickleson, CBS-TV's director of news and public affairs, was in London several weeks ago supervising arrangements for his net's coverage.

To supply public demands for pre-Coronation features NBC Radio, on three successive Sundays, May 17, 24, and 31, will present special programs narrated by news commentators in London. Morgan Beatty will be featured May 17, narrating "A History of the Coronation." Merrill Mueller, on May 24, will present "Who is Queen Elizabeth?," and George Hicks will narrate "London on the Eve" the following Sunday.

NBC Plans Announced

NBC Radio has also made plans for the origination of many of its network news programs from London, starting May 25 and continuing through June 3.

Another NBC plan announced last month was one for Paul Mantz, the noted speed pilot, to fly NBC films from London for presentation by the network "hours after the event."

Back in the television camps, CBS-TV plans to go

on the air at 5:30 a. m. on Coronation Day with film clips from New York and direct pickup of audio portions from London. Similarly, ABC-TV tentatively has scheduled a June 2 morning telecast at 8-9 a. m. NBC-TV is pondering counter measures.

Some other highlights of the coronation broadcasting plans:

● James C. Petrillo, president of the American Federations of Musicians (AFL) wrote the British Musicians Union that it "would interpose no objection to distribution of TV films containing music of the Coronation within the U. S. and Canada." Cooperation was extended out of deference to Queen Elizabeth II and "to aid in furtherance of international good will," Petrillo added.

● Some British subjects will see the big event on color TV. Chromatic Television Labs, Inc., which developed the Lawrence color tube, and Pye, Ltd., which has made special color video cameras, will combine forces to give color demonstrations Coronation Day.

Lawrence Tubes Demonstrated

Receivers with 22-inch Lawrence tubes will be placed in hospitals and public places for persons unable to see the actual ceremonies. The Lawrence tube has never been used in England, although it has been demonstrated frequently in the U. S.

● Meanwhile, our neighbors to the north, who recently achieved television on a network basis, are laying plans for Coronation enjoyment via the video tubes. Film will be flown to Canada the same day it is taken in London. It will be televised from Montreal that evening and relayed by microwave to Ottawa and Toronto. Receivers will be placed in about 150 schools in Ottawa and the surrounding area. Parents will then see the evening presentation. The school kids will see the films the next day.

Canadians Plan Participation

Canadians, who have fond memories of the visit of Elizabeth and Philip several months ago, are laying many plans for participation in the crowning ceremonies. Some 200 boys and girls from every part of Canada will attend the coronation wearing crimson blazers with a gold crown and a "Canada" shoulder patch. More than 700 officers and men of her armed forces will officially represent the Canadian military. The Dominion will send the biggest corps of official representatives and other dignataries than for any other coronation in history. Canada has been allotted close to 9,000 seats along the parade route. The Royal Canadian Mint is producing 3,000,000 Coronation Medals to be distributed to the Dominion's school children.

Other units of the Empire will add their delegations and color to the impressive ceremonies. Chances are the audience-rating firms will all rank Queen Elizabeth II above any other Tuesday night performer, June 2.

The traditional ceremonies by which Elizabeth I was crowned, shown above, will be largely followed to crown Elizabeth II, next month.

In the February "Technician-Engineer" the article shown at right appeared. It elicited the following historically-valuable response from a recording veteran of Local 1212.

By ATHAN COSMAS
Vice President, Local 1212

The Era of the TALKING MACHINE

Hard rubber hearing pieces attached to rubber tubes were a feature of the first juke box . . . Caruso demanded $4,000 for his first recording and 50c royalty for each record sold . . . Musicians crowded around recording horns.

WITH the year just ended marking the Diamond Jubilee of the phonograph, a glimpse back through the pages of history might prove interesting and informative. . .

1877: Thomas A. Edison invented the talking machine, a crude affair with a tinfoil coated brass cylinder on the first record. The first recording? "Mary Chichester Bell and cylinder for Edison's il arrangement. The oved but the level was heard through the use

1903: Dealers refused to sell the instruments—artists refused to sing into the "recording horns." Along with inventive talent Johnson had sales ability unmatched in that era—and still in great demand today. Not only did he break down dealer resistance, he persuaded Caruso to make records for him. Johnson had to pay Caruso $4,000 for the first recording session and reportedly had to guarantee the highest royalty fee ever paid, fifty cents a record.

Johnson spent twenty-four million dollars in 25 years making the Victor trade mark world famous. Do you remember? The dog listening to His Master's Voice.

Most [illegible] famous artists follo[illegible]

Dear Brother Cosmas:

READ with interest your article regarding the Era of the Talking Machine in the TECHNICIAN-ENGINEER. While I am not connected with recording and am not regarded as an expert in this field by any means, I do have a hobby closely related with recordings and records, and that is collecting cylinder machines and cylinder records. Of course, one thing leads to another so before I knew it, I was really steeped in the lore of Edisonia and the Talking Machine. Aside from this, I also acquired early acoustic flat records and have some as far back as 1896, turned out by Emile Berliner.

My hobby has carried me to many a strange place, just looking, and hoping that I may pick up that one machine or two lacking from my collection. Have met and made many friends, people who write for the music column of "Hobbies" magazine. They are doing a fine job of unearthing little-known facts about our little-known early recording artists. I've made a personal study of the chronological development of the many machines manufactured, going into the methods used for recording, and for the duplication of the records and cylinders. I still write to an old timer from the Edison Plant in East Orange, N. J., who moved to Wisconsin and managed to glean little known items of particular interest which some day might be sufficiently important to be published. Keep a scrap book loaded with pictures of the different types of machines made plus other types of information.

Early Edison Machines for Recording

I don't have too much to add to what you said in your article, as you covered the field pretty well, however, I have a few items which you might find interesting for light reading. I don't think many people know it but the early machines that Edison made were not only meant for listening entertainment but also for recording. Each machine has a "Shaving" attachment that shaved the surface of the cylinder before recording and after recording, if the tracks were no longer needed. I imagine that as many as 50 layers of recording could be made on one cylinder before it became too thin from shaving for any further use. The machine was so designed that various types of heads could be attached to the phono arm, if you want to call it that.

Ball Point Stylus of Sapphire

Edison made a head for the 2-minute cylinder with a stylus width of around 15 mills. He used a ball point stylus of sapphire—this in 1889! Later they were made of diamond. Then he had a 4-minute stylus of about 8 mills diameter and obviously, the cylinders time for playing was extended. His first speeds were around 100 rpm, and with each successive year and refinement he eventually standardized it at around 180 rpm. He also sold a recording head along with the machines if wanted. The families of that day had a grand time gathering around the "Morning Glory" horn to sing into and laugh at the playback. After all, as childish as it seems today, it was quite a gadget in those days. His machines were so well built that many are still in good operating condition today. I have around 12 of them; all working fine.

Many of the recording principles used today originated in the Edison machines. Hill and Dale, the Lead Screw, chip remover, hard types of stylus highly polished and many others, not to mention his LP's. Every one of his flat discs (later date) had embedded in them a design of his, which enabled the listener to determine optically the correct rpm (80) of his so-called Diamond Discs. So much on that.

I don't have the exact date offhand, but Edison marketed his machines before the turn of the century, after he discovered that his machine was being used lucratively for entertainment purposes—not as an office dictaphone, as he originally thought its ultimate purpose would be. He set up franchises in three districts—

Washington, D. C., New Jersey and New York. That's when the trouble started, as his machines did not sell. So he dissolved the partnership, started up the National Phonograph Company, and left one agent stranded in Washington. This fellow got his own franchise from the Bells & Tainters of Washington and started up a company of his own and called it the Columbia Talking Machine Co., taking the name from the District of Columbia and actually the beginnings of today's Columbia Records.

Infringement on Edison's Patents

That went on for a while, but Edison eventually put a stop to that by claiming infringements on his patents, even though he sold out his key patents. Nothing came of it except a lot of court action, as you state, in 1902 and he got around that by improving his machines with numerous refinements and barring these improvements from Columbia. They threw in the towel and later came back with the lateral type of recording of Berliners.

Al Capp, of renown, was one of the engineers for early Columbia Records. He devised a push-pull system to make two recordings on cylinders for every session, instead of the single one. Cylinder duplicates perfected by Edison were made in a clever but quaint way. The original wax was put into a vacuum jar, along with a piece of gold leaf. Then a high voltage was shot through the works as the cylinder was rapidly being revolved, and the gold leaf disintegrated and deposited itself in the grooves of the cylinder. Next step was to build up this deposit through chemical electrolysis and when it was thick enough, the wax master was melted out—leaving the negative mother for stamping. I use that word loosely.

The next few steps are obvious except for one point which had me puzzled for a long time. Hot wax was pouring into this negative and left to cool. But how did it get out? Well, by the simple method of shooting cold water into the mold the cylinder contracted and dropped out. Quite a process. Incidentally, all cylinders made are tapered internally so that they would slip onto the mandril just so far and develop a snug fit. The cylinders were not wholly wax, as there were many metallic elements in its composition. As a matter of fact, cylinders unearthed today which have been exposed to dampness have a layer of rust embedded in the grooves. At times just plain mold.

Scott's Discoveries of 1855

Edison might have invented the machine in 1877 but there was a Frenchman named Leon Scott who was able to record sound tracks on a paper roll covered with lampblack back in 1855, but was unable to play back. He called the machine the Phonautograph, which I saw at the Smithsonian Institute. Personally, I think it was Bell and Company, including Edison through his books, that learned about this machine and came up with the obvious answer to record on. Berliner studied it too while it was at the Institute. If Scott had been able to transcribe back, we should have today a wealth of voices from the past. The earliest I have heard was a recording of Prime Minister McDonald made around 1889.—J. F. GEILENKIRCHEN, *Card No. 993955, member of Local 1212, 14 Valley Road, White Plains, N. Y.*

PORTRAITS

You Have to Act

By James J. Metcalf

Washington Post and Chicago Sun Times Syndicate—Reprinted with permission

AMBITION is a noble thing . . . If you are aiming high . . . But action is your only way . . . To penetrate the sky . . . You cannot sit around and dream . . . With all your fierce desire . . . You have to gather logs and strike . . . The match that starts the fire . . . You have to fan the flames until . . . They blend into a blaze . . . You have to keep campaigning through . . . The weary nights and days . . . There must be every effort and . . . That unrelenting action . . . Before ambition can achieve . . . A worthy satisfaction . . . Regardless of your stature as . . . A giant or an elf . . . If you would move the world, then first . . . You have to move yourself.

Reading Time

The Radio Amateur's Handbook, *30th Edition. Published by the American Radio Relay League, West Hartford, Conn., 800 pp. $3.*

This is a paper-bound edition of the steadily-selling manual, described as the standard manual of amateur radio communication. In 27 chapters it shows more than 1,200 illustrations, including 95 charts and tables, 466 tube base diagrams and 85 basic formulas.

The Workers' Story: 1913-1953, *Labor Yearbook No. II, 143 pages, Government Printing Office, Washington, D. C., 45 cents.*

This is a special volume prepared by the U. S. Labor Department to commemorate the 40th anniversary of the department. It contains a historical summary of progress made by American workers in 40 years. Included in the volume is a list of important dates in the history of the American worker and a list of Department of Labor publications. It should be valuable for labor editors and for labor leaders who must make talks to civic groups.

TRAINING SESSION on the television camera in WCCO-TV's studio A: John Sherman, WCCO-TV chief engineer; Bernard Renk, business agent for Local 1216; Bert Coil, supervisor of the WCCO-TV transmitter; and William J. McGinnis, WCCO TV studio supervisor.

Local 1216 Prepares for Seven Channels

by BERNARD RENK, Business Agent, IBEW Local 1216

THE first session of a TV training course for members of Minneapolis-St. Paul Local 1216, IBEW, was held on April 4 in WCCO-TV Studio A.

Primarily for the benefit of the Local membership who have had no operating advantage with actual TV station equipment and also to meet the TV technical manpower requirements of Twin City and Minnesota TV Stations, the Local worked out with the management of WCCO-TV an arrangement to use the station's studio and camera equipment for the training program.

The course, which will familiarize the member students with TV studio and transmitting equipment, is being conducted by Radio Broadcast Technicians Local 1216.

Under the title "Basic Principles," the following statement is found in all IBEW contracts negotiated with Twin City Radio and Television stations: "The Employer, the Union and the Employes have a mutual interest in the Broadcast Industry." Ample proof of what can be done when the principle elements get behind this "mutual interest" theory is provided in this account.

For some time the officers of Local 1216 have been concerned with the future technical personnel requirements of the Twin Cities television industry. With only two out of the seven allocated television channels in operation, the problem confronting our organization is to provide suitably qualified technicians to satisfy the future requirements of the industry in this area. In our favor, we have one hundred seventeen members comprising our local organization, from which a tremendous wealth of first hand technical knowledge can be secured under proper direction. In addition, the Local 1216 members presently employed as television technicians, expressed their willingness to participate

• Bernard Renk, Local 1216 business agent, shows Clyde Green the first class licenses tacked to the bulletin board at the WCCO television transmitter.

• Bert Coil, WCCO-TV; Edwin Widekind, WDGY; and Hawey Headen, KEYD, all participants in the training school, gathered around a WCCO television console.

• Instruction in the vestigial side band filter—Gene Brantigan, WLOL, and Bert Coil of WCCO-TV. Below: Coil and Headen study the input system.

in some formal program whereby they might convey their knowledge and experiences to those members employed outside of a television station.

The major problem was not organization of a union-sponsored educational program, but the necessity of obtaining costly TV equipment that could be used to present a program of this nature. Our first step was the formation of a six-man educational committee within our organization. This committee received valuable suggestions from Leonard Brann, vice president of Radio Broadcast Technicians Local Union 1259 of Kansas City, Mo. The Kansas City IBEW union did have the experience of providing a similar program for their membership.

Our committee formulated a general outline of a technical TV course, calling for ten one-and-one-half to two-hour sessions to be held one night per week. The demonstrations and lectures on the operation of studio transmitter and micro-wave equipment were to be presented by William J. McGinnis, WCCO-TV studio supervisor, and Neil B. Coil, transmitter supervisor. Our program was then outlined before John Sherman, chief engineer of WCCO-TV, who after hearing the objectives of our program immediately offered his full cooperation. With his cooperation, the management of WCCO-TV granted our request to present our series of demonstrations and lectures with professional types of equipment at the WCCO-TV studio and transmitter locations. A poll of our membership at each Twin City station was taken to ascertain how many members desired to attend. Over forty members indicated their desire to participate. However, in order to present a smooth working program the class was limited to twenty students.

First meeting of our TV educational program was held Saturday, April 4, 7 p. m. at the WCCO-TV studio A. Chief Engineer John Sherman addressed the group, explaining it was the wish of the management that all students feel at home and that WCCO-TV was happy to cooperate in making the program available to the technical employes of other Twin Cities radio stations.

Woodrow Eberhard, RCA field representative in this area, has been of great help and encouragement in securing RCA instruction manuals of the equipment used in our program. While the course is not intended to present a highly technical analysis of the various TV equipment functions, the practical operation study provided in our program has proven very popular. Basically, our program is designed purposely to help our members to help themselves. The cooperation extended to our organization by WCCO-TV management has brought many favorable comments from other station managers who are aware of the technical personnel requirements in operating a television station.

ON THE FRONT COVER: Edwin Widekind and Bert Coil examine a 8D-21 vacuum tube.

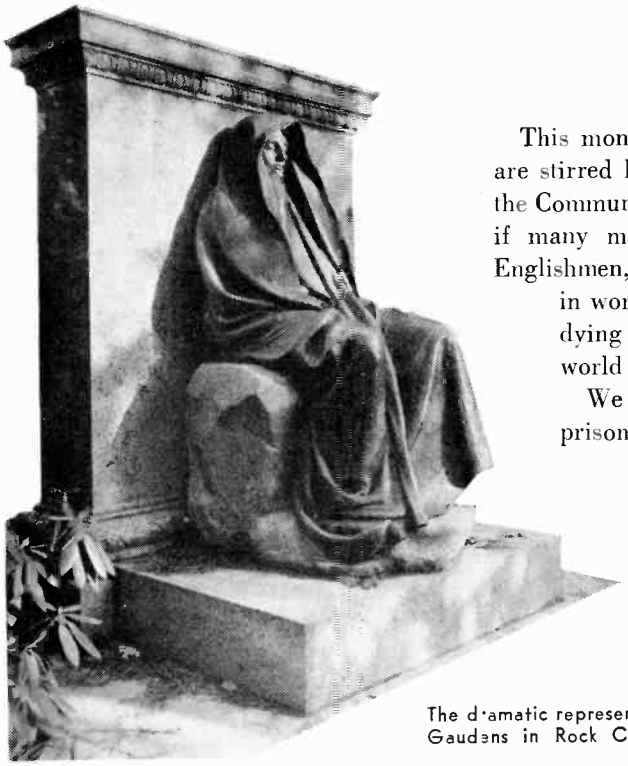
• E. F. Laker, H. W. Stephan, L. W. Euzent, L. L. Coffman, Wm. J. Jones, S. L. Hicks, President K. D. Cox, Recording Secretary J. A. Fels, Representative L. Wimberly, F. B. Seville, R. C. Shultz, L. W. Rice, L. W. McDonald, H. Kenneth Groom, Wm. J. Kriz and R. M. Bechtol.

Local 1215 Honors Its Ten-Year Members

Local Union 1215 presented certificates and ten-year membership pins to a group of members at ceremonies held on March 6, 1953, in recognition of long and faithful service. Several of the members so honored are charter members and some of them were members of the Brotherhood prior to the establishment of the Charter of the Local Union on December 2, 1940. Hence, some of these same members will be eligible for 15-year pins next year.

Assistant to the International President Lawson Wimberly presented the pins to the members and, during the ceremony, recalled many incidents long past and well-remembered. A light luncheon was served and much good fellowship was enjoyed by all.

Memorial Day, 1953



This month, as the nation honors its heroic war dead, we are stirred by the tragic reports of death and deprivations in the Communist prison camps of North Korea. We wonder, too, if many more Americans, Turks, Norwegians, Columbians, Englishmen, Canadians, Frenchmen, and South Koreans are not in worse concentration camps in Manchuria or elsewhere, dying each day, because of Chinese and Russian dreams of world domination.

We see the starved figures, the sunken eyes of returned prisoners of war, and we know that America has many heroes—in the past, in the present, and, inevitably, in the future. Many of these will be radio men, newsreel men, members of our Brotherhood. To these we owe a deep debt of gratitude. We pray, this May 30, that their deaths will not be in vain.

The dramatic representation of "Grief" by Augustus Saint-Gaudens in Rock Creek Cemetery, Washington, D. C.

Microwave TV Relay

Motorola, Inc., of Chicago has announced a new microwave television relay which is designed to transmit television signals to remote points up to 200 miles. The system can be used either for stub relay of network broadcasts to remote localities or as "STL" interconnects between centrally located studios and remotely located TV transmitters, a company spokesman said.

The system makes possible the transmission on a single microwave radio frequency channel of the video and audio signals, plus a two-way voice order wire or cue channel. All of the equipment except an amplifying apparatus at the receiving terminal is installed in weatherproof housing.

New Magnetic Recorder

A new type of portable magnetic tape recorder has gone into full-scale production at an Amplifier Corporation of America plant, company officials have announced.

Called the Magnematic, it is a 110-volt AC portable tape recorder weighing 19 pounds, and it is said to attain a frequency response of 50 to 15,000 cycles at 7½ IPS.

New Studio Turntable

A new broadcast studio turntable designed for playing the fine-groove 33 1/3 and 45-rpm records was announced this week by the Engineering Products Department of the Victor Division of RCA. The new turntable reproduces recordings with professional fidelity over the entire broadcast frequency range, the company stated.

Designated the RCA Type BQ-1A fine-groove turntable, it can be conveniently mounted in a studio's existing console, table, or bench, or it can be installed in the special cabinet assembly designed for it by RCA. This housing has space for mounting a booster or monitoring amplifier, and there is also shelf space for storing the records to be used during a program.

The turntable has several novel features, including a spindle hub which changes diameter simultaneously with a turn of the speed-change control knob; a quick-starting mechanism which attains full speed in one-fourth revolution; an "off-on" mercury switch which disengages the driving idlers when not in use.

A light-weight tone arm accommodating plug-in heads is provided on the new turntable. This 12-inch arm plays records with warp of up to ⅛ inch. It equals in performance the quality RCA tone arms in current use. A single reluctance torque synchronous drive motor is used in the BQ-1A equipment. A four-position reproduction filter permits selection of proper compensation over the full frequency range. Three controls regulate all functions of the turntable and provide ease of operation for the broadcaster. Easy cuing results from the quick start and disengaging drive features.

The turntable assembly is 18½ inches long, 14¾ inches wide, and 10 inches high, and weighs 31 pounds. The cabinet assembly to accommodate the turntable is 20 inches wide, 16½ inches deep, and 28 inches high, and weighs 45 pounds.

Seek Uhf Color Transmitter

The color problem is hitting uhf manufacturers, too. Manufacturers struggling to produce high power uhf not only have to worry about coverage characteristics of uhf equipment, but they must attempt to produce transmitters adaptable for color in uhf. This calls for wider band transmission.

With new incentives given to color in Washington, uhf laboratories are redoubling their efforts to achieve such a transmitter.

Playback Head Produced

A new playback head for magnetic recorders is expected to be on the market in the near future, according to an official of Armour Research Foundation of the Illinois Institute of Technology.

The device was described by John P. Skinner, the foundation's manager of magnetic recording, as a "major advance" in magnetic recording.

A single head serves both recording and playback purposes in most commercial units now used. The new device is intended primarily for playback operation but can be modified to serve a recording purpose.

According to Dr. David Wiegand, Armour physicist who invented the device, the new head incorporates magnetic amplifier action, giving stronger signals than those obtained from conventional devices under similar conditions.

Tall Tower Situation

Out of 190 applications for tall antenna towers received last year by the nine regional Airspace Subcommittees, only 19 applications were turned down, the National Air Coordinating Committee indicated in its annual report for 1952.

The Air Coordinating Committee—composed of representatives of the State Department, Defense Department, Commerce Department, and the Civil Aeronautics Board—must okay all radio and television towers which go higher than 500 feet above the terrain. Because stations have been seeking to increase their coverage through higher towers, the work of the committee is becoming increasingly important. Aviation interests, meanwhile, are calling tall towers "flying hazards" and discouraging their approval as much as possible.

Three-Dimensional Television

The Bolex Company, Swiss camera manufacturers, has announced a three-dimension process for television, which it calls Bolex Stereo 3-D. The dimensional effect is achieved by a special stereoscopic lens placed on the camera. There will be little increase in production costs for stations using the process, the company claims.

It is reported that Telemount-Mutual Productions of Hollywood is preparing black-and-white films from the process, but, so far, the process hasn't been commercially presented.

For 3-D *color* video viewing (which we can't have anyway right now) audiences will need polaroid glasses, says a spokesman for Telemount-Mutual.

Industrial Tube Components

A package of five electronic components specifically designed to complement the RCA-6198 Vidicon industrial television camera tube has been announced by the Tube Department of RCA Victor Division, Radio Corporation of America.

The new components include a deflecting yoke (216D1), focusing coil (217D1), alignment coil (218D1), horizontal-deflection-output transformer (233T1), and vertical-deflection-output transformer (234T1). They are engineered to provide good sweep linearity, high deflection sensitivity, efficient coupling between circuits, proper focusing, and accurate alignment of the electron beam.

The Vidicon industrial television camera tube (RCA-6198), announced several months ago, is only one-tenth the size of a standard broadcast camera tube. It makes possible the design of compact, simple, lower-cost camera equipment for non-broadcast use.

TV Sales Jump in Canada

Now that Canada has established a television net of its major southeastern cities, sales of television receivers in the Dominion are zooming. Total sales of receivers in 1951 were about 5,000 a month; by the end of December, 1952, they had jumped to about 24,000 a month.

One Moment Please

Several years ago announcer Ben Grauer was anchor man in a big coast-to-coast hookup. All networks were linked for a broadcast by the Pope promptly at 11:04 on a Sunday morning. He would speak from Vatican City, but would be relayed by a more powerful station in Geneva.

On the nick of eleven, Grauer leaned toward his microphone. He described the nation-wide hookup, emphasized the importance of the speech, and concluded with, "We take you now to Vatican City. The next voice you hear will be that of His Holiness, Pope Pius."

The next voice they heard was singing, "I'll be glad when you're dead, you rascal you!"

Geneva had misread the timetable and was testing with a Cab Calloway record.

Later, someone asked Grauer, "What did you do, Ben?"

"What did I do? What could I do? Voom! We cut to the piano!"

EDITOR'S NOTE: Every station has its tales of last-minute woe . . . unexpected breaks of silence . . . listener complaints. . . . Send them to the TECHNICIAN-ENGINEER. We'd like to have the best ones illustrated and passed on to the membership. Mail them to The TECHNICIAN-ENGINEER, International Brotherhood of Electrical Workers, 1200 Fifteenth Street, N. W., Washington, D. C.

Station Breaks

First Korean Vet Graduate

A member of Local 1349, Rock Island, Ill., has just scored a significant first. He is Jerome Bloom, the first Korean veteran to complete vocational training under the new GI schooling bill.

Bloom, 24 years old and a native of Brooklyn, N. Y., started work as a cameraman at WHBF-TV, Rock Island (an IBEW-contract station) on his graduation day, according to the Veterans Administration. A former machine shop worker, he read of the FCC's authorization of 2,000 TV stations while stationed in Germany, and he decided to become a video cameraman and studio technician when he returned.

WHBF-TV, a CBS-TV basic station, recently increased its power to 100 kw.

KRLD Signs New Contract

For the first time in its history Local 1257 resorted to arbitration of its dispute over wages and working conditions with KRLD-AM-FM-TV. Negotiations began in July, 1952, and culminated with the arbitration award received in March, 1953.

Benefits gained by the local union were: seven per cent increase in wages in all wage brackets; five per cent additional increase in wages for work done between 12:30 a. m. and 5 a. m.; time and one-half for work done on six holidays; several changes in working conditions; and all provisions retroactive to August 18, 1952. The new pay scale range is from $69.34 to $108.28 over a five-year escalator.

The local expresses its most sincere appreciation for the long hours of study, research and patience of its negotiators—Jim Birdsong, E. E. Haddan, and Cecil Wallace, all members of the local union.

—H. E. Chamberlain, Recording Secretary, Local 1257.

Need 10,000 Specialists

By the end of 1953 the television industry may need 10,000 new people, John Paul Goodwin, president of Southwest Film Productions, Inc., predicted recently, as he addressed the Career Conference on Television and Radio at the University of Oklahoma.

Goodwin cited the shortage of trained video personnel as "the most serious problem facing television today." He estimated that each TV outlet will need 50 people, at least 80 per cent of them specially trained.

Reno Members Active

The 202 Radio-Television News, excellent news sheet of IBEW Local 202, San Francisco, recently praised the 202 IBEW broadcasting members in Reno, Nev. The Reno members were saluted "for their exemplary action in holding regular monthly meetings despite the fact that some representative of the union cannot always attend the meetings, for their regular attendance at Reno Central Labor Council meetings, and for the way they have kept up 100 per cent Union membership at the Reno broadcast stations despite the anti-labor Nevada laws which make this feat very difficult."

To this the TECHNICIAN-ENGINEER adds: Amen!

Overseas Crews for CBS

During recent months CBS-TV has been establishing a European organization for the network's new Newsfilm Department.

To install sound and camera crews in all European news centers, which will service CBS-TV News with daily news films, Sig Mickelson, the network's director of news and public affairs, recently made a tour of the continent. He visited Copenhagen, Hamburg, Frankfurt, Berlin, Vienna, Zurich, Milan, Rome and Paris.

CBS-TV is building its own worldwide news-film operations, Mickelson says, because television news calls for special handling and techniques that can be best developed by the network.

Color Delay Predicted

Color television is still five to ten years off, Dr. Allen B. DuMont, president of DuMont Laboratories, declared at a recent dinner given in his honor by the DuMont Radio-TV and Appliance Divisions at New York's Savoy-Plaza Hotel.

Dr. DuMont said that color tubes are the major problem, boosting costs of a 17-inch color set to $600 or $700, as compared to about $200 for the same size in a black-and-white receiver. He added one note of optimism: transistors offer great hope for future developments such as portable TV sets.