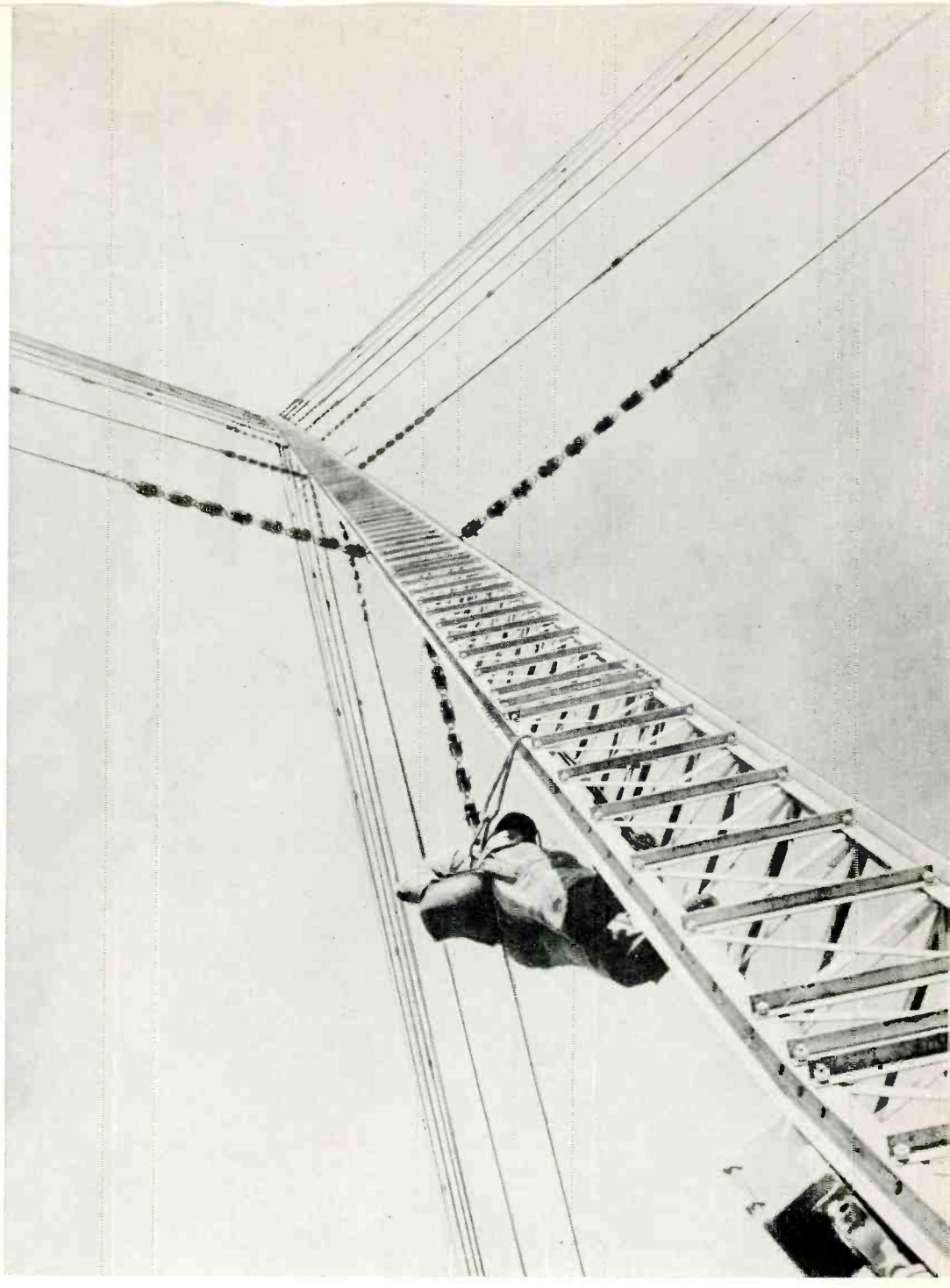
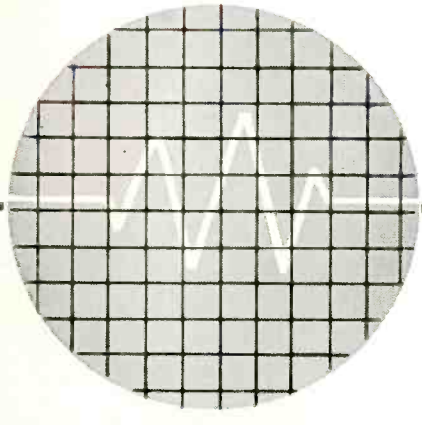




TECHNICIAN ENGINEER

JUNE, 1961

Published for the Employees of the Broadcasting, Recording and Related Industries

INTERNATIONAL BROTHERHOOD OF ELECTRICAL WORKERS — AFL-CIO

ERDMAN ARBITRATION ACT JUNE 1, 1898

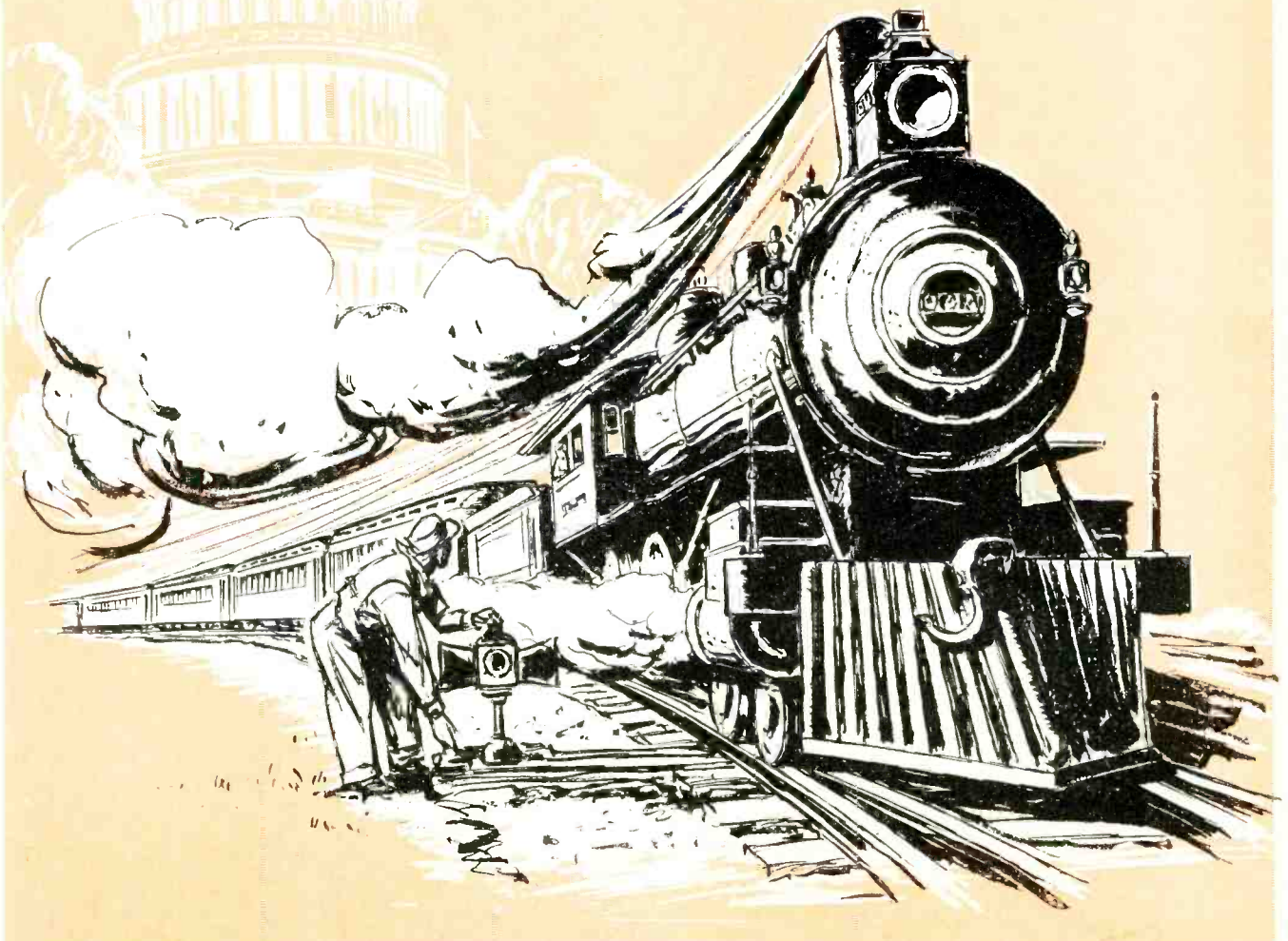
LANDMARKS
OF LABOR
No. 25

Railway unions have worked energetically for legislation in the railroad industry. The history of labor legislation has many statutes which have resulted from the foresight and ability of railroad unions to persuade Congress to place on the statute books beneficial laws.

The Erdman Arbitration Act of 1898 is an early illustration of railway labor legislation. This law authorized Government mediation between interstate carriers and their employes. The act also forbade carriers in interstate commerce to blacklist union people or to indulge in discrimination.

The Erdman Act was in force until it was overturned in 1908 by the United Srates Supreme Court on constitutional grounds. Congress, however, replaced the Erdman Act with the Newlands Act in 1914 which set up a mediation board.

Although the Erdman Act was nullified, it represented an early and significant landmark in labor, especially in railway labor history.



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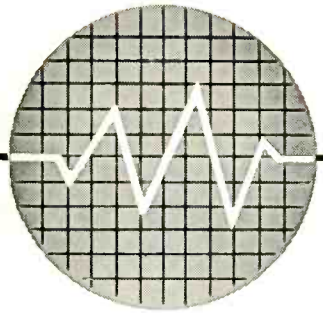
The INTERNATIONAL BROTHERHOOD OF ELECTRICAL WORKERS
GORDON M. FREEMAN — International President
JOSEPH D. KEENAN — International Secretary
JEREMIAH P. SULLIVAN — International Treasurer



TECHNICIAN ENGINEER

VOL. 10, NO. 6
ALBERT O. HARDY, Editor

in this issue

the cover

The busy Voice of America is the central theme of our June cover. The large picture at right shows a technician making repairs on a transmitter tower. Other views, reading from the top, include: (1) Voice of America Reporter Ishtiaq Ahmad interviewing Sayed Ehsan Kabir, vice president of an overseas Rotary Club for VOA's Bengali program; (2) The Quincy Jones Jazz Ensemble broadcasting from VOA studios; and (3) VOA Correspondent Stuart Finley interviewing Ayo Bello of the Press Department of the Northern Region of Nigeria.

index

For the benefit of local unions needing such information in negotiations and planning, here are the latest figures for the cost-of-living index, compared with 1960 figures: April, 1960—126.5; April, 1961—127.5.

indices to key cities

As we go to press, the Bureau of Labor Statistics has released the city Consumers' Price Index for April, 1961. They are as follows:

Boston	*130.0*
Chicago	*130.1*
Detroit	*125.6*
Kansas City	*129.5*
Los Angeles	*131.1*
Minneapolis	*129.0*
New York	*125.8*
Philadelphia	*128.0*
Pittsburgh	*129.2*
Portland, Oreg.	*128.3*

COMMENTARY

A self-styled "rugged individualist" recently fired a red hot letter to Ohio's junior U. S. Senator, Stephen M. Young.

"You New Deal spenders spend and spend—tax and tax—you sicken me . . . I stand on my own two feet, don't ask any favors from Washington, am against creeping socialism, against handouts and aid for the aged," he wrote.

Sen. Young ran a check on the "rugged individualist" and reported he found that the letter writer "enjoyed the federal school lunch program in high school, received educational training as a GI and college education under the GI Bill of Rights, bought his farm with an FHA loan, enjoyed checks from the Eisenhower soil bank program for not raising corps and used the farm supports to help him receive more for his farm."

Oh yes, the senator also found his constituent's "father and mother are receiving social security checks each month."

He and the government did it all by himself.

—COPE Memo

Published monthly by the International Brotherhood of Electrical Workers, AFL-CIO, 1200 Fifteenth St., N. W., Washington, D. C., for the employes of the broadcasting, recording, and related industries. Second class postage paid at Washington, D. C. Subscription, $2 per year.

Re-education Fund Established As Answer to Automation Threat

Retraining of Displaced Broadcasting Employees Negotiated: IBEW and IGM Announce Pact as Automated Services Increase

INTERNATIONAL GOOD MUSIC, INC. (IGM) of Bellingham, Wash., and the International Brotherhood of Electrical Workers (IBEW) announced the signing of an agreement—the first of its kind within the broadcasting industry—which establishes a re-education fund for the training and retraining of employes displaced as a result of the installation and operation of automated equipment and program services made and sold by IGM to the industry.

The agreement was negotiated on the basic principle, as stated in the agreement; "Automation will create more income and wages than it destroys, while creating new channels of employment and destroying old ones," and that "it is reasonable to establish a fund to lessen the shock to those employes displaced by automation."

The re-education fund, based on projected sales of IGM automated equipment, when augmented by federal funds available for re-education under the Smith-Hughes Act, the George-Barden Act and the National Defense Education Act of 1958, will exceed one-half million dollars. The establishment of this fund by IGM and the IBEW provides for a single trustee, having no connection with either the company or the union, to administer the fund.

Displaced employes qualifying for benefits available from the fund will not receive cash payments but will receive educational training or retraining from established schools, the cost of which will be paid directly by the fund to the schools. The specific type of training provided each individual will be determined by the results of aptitude tests given the applicant by the United States Employment Service and by other criteria set by the trustee.

Both IGM and the IBEW agreed that unemployment, as a result of automation, can only be solved by American industry assuming a responsible role in educational retraining of employes displaced as a result of the automated equipment made and sold by American industry.

Appropriately, on the heels of NAB President LeRoy Collins' speech to the Broadcasters' recent convention in Washington, this re-education program establishes another facet of the industry's responsibility to the public interest. "You must help Americans and others to understand better this complex, rapidly-changing world and show them how they can be a more significant part of its movement," Mr. Collins told the NAB convention. Industry editorials supporting the need for retraining displaced workers can now be backed up by that same industry's deeds as well as words.

Commenting on the agreement, Mr. Rogan Jones, president of IGM and a pioneer broadcaster in the Pacific Northwest said, "Re-education of employes displaced by automation is really a form of profit sharing. Having practiced this in my own business for a number of years, I very much believe that this is a step in the same direction. Good management never finds that good wages are a bar to profitable operations. We hope this will have the same effect."

Gordon M. Freeman, International president of the IBEW, said, "We do not feel that the worker should bear the full impact of automation. We think that management and society, which stand to benefit from technological change, have responsibility to the worker directly affected. The substitution of machine skill for human skill must not result in reduced living standards for a large number of workers, even over the short run."

NEW OFFICE SET UP:

Government to Act on Automated Jobless

LABOR SECRETARY Arthur J. Goldberg has outlined plans for "energetic" action by the Labor Department to help workers displaced by technological changes and to expand the job-finding and guidance functions of the U. S. Employment Service.

He told the House Labor Subcommittee on Unemployment & Automation that one proposal being considered by the Administration would enable the government to pay the transportation costs for unemployed workers referred to jobs in other communities.

Goldberg also announced that he has set up a new Office of Automation & Manpower within the Labor Department which will keep abreast of fast-changing technological developments and "develop proposals for both training and retraining" of workers.

He called for the cooperation of states, cities, labor and management, declaring that all these groups as well as the Federal Government have been "derelict in the past" through "indifference to the plight of the displaced worker."

He told the subcommittee, headed by Rep. Elmer J. Holland (D., Pa.), that "we must consider many more measures of longer terms and even greater depth to tackle the hard-core unemployment generated by technological change."

Defending "automation and other technological advancement as an essential and desirable development for maintaining the strength of the U. S. economy," Goldberg said productive capacity now idle could be utilized in meeting the nation's needs for slum clearance, highways, public buildings and other public works projects, all of which he emphasized would provide more jobs in private industry.

Warning that 1.8 million persons face technological displacement during the coming year, Goldberg said management must do more than it has in the past to meet its responsibilities to its workers. He declared:

"Management has got to stop automatically resisting proposals to ease the human burden of automation, whether they are made by labor unions or public officials.

"Retraining programs, allowance payments, vesting of pensions, care in the location and relocation of plants, and a host of other schemes should receive management's most serious attention."

Goldberg added that "labor, for its part, must meet management half-way. It must abandon restrictive practices . . . Both sides must concentrate on devices to increase labor mobility. Both sides must jointly explore these problems."

Labor and management together, he declared, "must now make a major contribution to ending hard-core unemployment. I feel they have made only a minor contribution thus far."

For the states and communities, particularly in the depressed areas, Goldberg outlined a two-part program, with federal assistance.

Local and state governments, he said, "must be ready with plans and projects for the development of their own economic life. They must have on the shelf important public facilities and natural resources programs."

He called also for improved educational facilities and standards "to educate young men and women to the needs of a technological society."

To re-shape the U. S. Employment Service into a more effective job placement and guidance agency, Goldberg emphasized, the cooperation of the states is essential since the network of employment offices throughout the nation is state-operated, although federally subsidized. He said the Labor Department will shortly propose a reorganization of the employment service but "it is not my intention to federalize it."

Goldberg said the new Office of Automation & Manpower, to be headed by Deputy Assistant Labor Secretary Seymour Wolfbein, will be "a very energetic office" which will examine "all phases of employment and unemployment."

He said it will "serve as a clearinghouse for materials on technological developments, hold conferences with employers and workers affected by technological change, and prepare information materials."

LABOR SUPPORT

What's It Worth?

BY

SENATOR PAUL DOUGLAS,
US Senator from Illinois

Excerpts from a speech by Senator Douglas to the Illinois State AFL-CIO

SENATOR DOUGLAS

OUR opponents often try to suggest that there is something unworthy about labor support. Corporation presidents running $100-a-plate dinners for the support of their candidates are the heighth of respectability in their eyes. But the working men and women who give their dimes and dollars through the political education committees and the candidates who receive their help are constantly blackened by propaganda.

Let me say this quite clearly for myself. I am proud to have the support of working men and women—and of the organizations they have set up to improve working conditions and community life.

It is high time our opponents grew up and learned that labor is people—just like everyone else. They serve in the country's armed forces, pay taxes, help in the upbuilding of private business and community institutions, have the same personal and family problems and share the hopes and dreams of a better tomorrow just like everyone else.

And in my opinion they should not be down-graded just because they try to do something about it.

There are enough forces in American life spreading apathy and complacency. We need instead informed and active citizenship. And the labor movement—despite its occasional shortcomings—is one of the best hopes for developing such citizens.

Organized labor has not made heavyhanded demands on me as a Senator as our opponents charge. You have never asked for "blank check" support and I have never given it. We have aired our differences frankly.

I have found labor willing to take criticism and suggestions, when they knew it was fairly balanced and directed at employer shortcomings as well as their own.

My own investigation of the welfare and pension funds, which pulled no punches, had your full cooperation and has remedied abuses. You have supported us in our efforts to apply the same principle in accounting for union funds. Would that the Chrysler Company could say the same.

And I can further testify that in my 12 years in Washington I have found your legislative representatives far more ready than those of business groups to work for legislation to benefit underprivileged and unorganized groups (like migrant workers, and consumers) and the people generally. This has been evidence to me that with your growing power you recognize you have great responsibilities as well as opportunities.

It has been organized labor which has fought for effective civil rights bills. It was the AFL-CIO which early fought Hitler and Mussolini, and who were among the very first to understand the evils of the Communist movement.

A year ago it was the Eisenhower-Nixon Administration which invited Mr. Khrushchev to our shores—an invitation which, I may remind you, I openly opposed at the time. And while our big business friends were gladhanding him, it was the leadership of American labor which stood up to him and caused him to threaten to leave. It is indeed interesting that Mr. Nixon and Mr. Lodge seldom mention this fact.

So I hope labor will not be intimidated by the attack upon its political education and legislative work. I prize your support and will not sit quietly by while others try to consign you to second-class citizenship.

Delegates from United States unions attending the Constitutional Congress, Costa Rica: Left to right, Bob Gilbert, counsel, Screen Extras Guild; Mort Becker, counsel, AFTRA; Don Conaway, national executive secretary, AFTRA; Dick Walsh, international president, IATSE; George Smith, international president, NABET; Jackie Bright, executive secretary, AGVA; Fred O'Neil, executive secretary, Actors Equity Association; Milton Weintraub, executive secretary, Theatre & Box Office Managers; Al Hardy, Radio-TV director, IBEW; Stanley Ballard, secretary, A. F. of M.; Herman Kenin, international president, A. F. of M.; George Chandler, president, Screen Actors Guild; Pat Somerset, secretary, SAG; O'Neil Shanks, executive secretary, SEG; Alex Cohen, labor attache, U. S. Embassy, Costa Rica. Absent when the picture was taken was Hy Faine, executive secretary, American Guild of Musical Artists.

Founding Congress for Federation of Inter-American Entertainment Unions Held in San Jose, Costa Rica

Furtherance of Free Trade Unions Discussed

REPRESENTATIVES of organized entertainment workers in 17 North Central and South American countries recently met in San Jose, Costa Rica, to explore the feasibility of establishing an Inter-American Trade Secretariat for the entertainment industry. Fostered by unions in the United States and encouraged by the International Confederation of Free Trade Unions, the Founding Congress was held in the belief that an interchange of information and the discussion of problems common to unions in the Western Hemisphere would serve the causes of trade unions and make some contribution to solidarity.

By utilizing simultaneous interpretation facilities and the translation of all papers and reports, the language problems were largely overcome, although the plenary sessions were unquestionably lengthened by them. With the exception of a few dissidents—largely from South America—the conference was quite orderly and productive.

Final, corrected copies of proposed Constitution, By-laws, Principles, etc., will be mailed to all participating unions for their consideration in the near future. Only there can a determination be made as to the feasibility of permanently establishing an Inter-American Federation and an International Trade Secretariat.

The Congress was greatly assisted by the presence of Mr. Albert Heyer of the ICFTU and U. S. Embassy personnel and encouraged by the recently-appointed U. S. Ambassador to Costa Rica, Mr. Telle. This, the first meeting of the unions involved, was spearheaded by Mr. Herman Kenin of the American Federation of Musicians and Mr. Stanley Ballard, president and secretary of that organization, respectively.

from the first grunt to the first da-dit was a big hurdle

THE ABILITY to reason, develop ideas, and communicate them to others is the ability which sets man apart from all the other animals on earth. The history of man's development of an efficient communications system is one of the most fascinating of subjects for in it is contained the story of how man established his mastery over all his fellow creatures.

By imitating the sounds of nature, man gradually developed a language. The "grumph" wrested from him as he struggled to roll a log gradually became "grunt" in our language. Finally, one man could communicate his ideas to another, and language had been born.

For centuries it was man-to-man in the language department, but man discovered that he sometimes wanted to communicate with others who were at a distance. Many ways were evolved to communicate at a distance. First then was the spoken word, given to a runner. This messenger would trot off and, later repeat the message to a recipient. Some time later came the evolution of a written language. This was an immense barrier to surmount, as spoken words were put down on a flat surface with symbols, then later reconstructed to spoken sounds. This was a momentous development which, for all our electronic marvels of today, has never been excelled.

Drum made by hollowing out a log, used by primitive people for sending messages, is still in use by backward tribes in jungles.

Later, when the horse was domesticated, riders carried messages, written or verbal, faster and farther. Codes were developed for sending messages by drums, fire signals, and smoke. Torches and fire towers figured in Greek and Roman military campaigns. Agammemnon sent the news of the fall of Troy to his wife, Clytemnestra, by means of flares along the way. Cyrus, king of the Persians, stationed leather-lunged men on hilltops with megaphones made of hides to relay military orders. Saladin, the Ottoman ruler who fought against the crusaders, dispatched messages by carrier pigeons. Communication at a distance became very important to all military activities.

For daytime signalling, the ancients used burnished metal to reflect the sun's rays. Today this same principle is used for short-distance signalling aboard ships, but electric lamps have replaced the sun's reflected light. Later came semaphore signals; these were the first means of communication across the English Channel. Napoleon used the devices with moveable arms to direct troop movements.

The pony express took 10½ days to gallop from St. Joseph, Missouri, to San Francisco. It became obsolete in little more than a year when a telegraph line was completed. The first stage between New York and Philadelphia was established in 1756 and took three days for the trip. Today, trains do it in under two hours; planes do it in about half an hour terminal to terminal. In 1492 it took Columbus 70 days to cross the Atlantic. Now jet planes do it in five hours. Since the orbit of the earth by Russian Gagarin, in a ground-controlled satellite, there doubtless will be a pilot-controlled satellite in the near future.

Many people believed, when the electromagnetic telegraph was developed by Professor Samuel F. B. Morse, "the millenium" had arrived. He developed the principle in 1835. In 1838 he gave a public demonstration. Then, in 1843, Congress appropriated $30,000 to construct an experimental line from Baltimore to Washington. Early in 1844, members of Congress witnessed the sending and receiving of messages over a part of the line. Before the line reached Baltimore, the Whig party held its convention there, nominating Henry Clay. The news was rushed to Annapolis Junction (the end of the line between Washington and Baltimore) where Alfred Vail, Morse's partner, wired it to the capital. Less than a month later Morse's famous message "What hath God wrought?" officially opened the line on May 24, 1844.

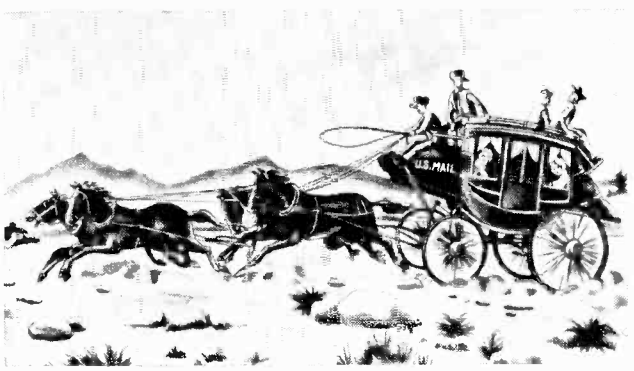
Three days later the Democrats convened in Baltimore and the news of James Polk winning the nomination, telegraphed to Washington, astounded the populace, who were "sure" it would go to Martin Van Buren. Some "insiders" refused to believe the new-fangled telegraph and only when arrivals from Baltimore by train confirmed it would they believe.

Now that the skeptics were convinced, many small telegraph companies began to spring up all over the nation. Dispatching of trains by telegraph began in 1851. The company known today as Western Union commenced business that same year. Western Union built the first transcontinental telegraph line, mostly along railroad right-of-way, in 1881. Together, the railroad and the telegraph rapidly opened The West. The first telegraph machine printed code on tape but soon came the audible "bug" and operators could handle 50 words a minute. Automatic transmission, introduced in 1914, handled 100, and multiplexing made it possible to send eight mesages simultaneously on the same wire. "Varioplex" introduced in 1936 can handle 72 transmissions on one wire and in 1939 came a facsimile device called "telefax." The competitive Postal Telegraph, founded in 1881, merged with Western Union in 1943.

NEXT MONTH—*The telegraph, on its way up, is menaced by the emergence of "the talking telegraph"; the telephone.*

Columbus took 70 days to cross the Atlantic. Now jet planes do it in five hours. Today's wonders may yet be eclipsed by more marvels now unknown.

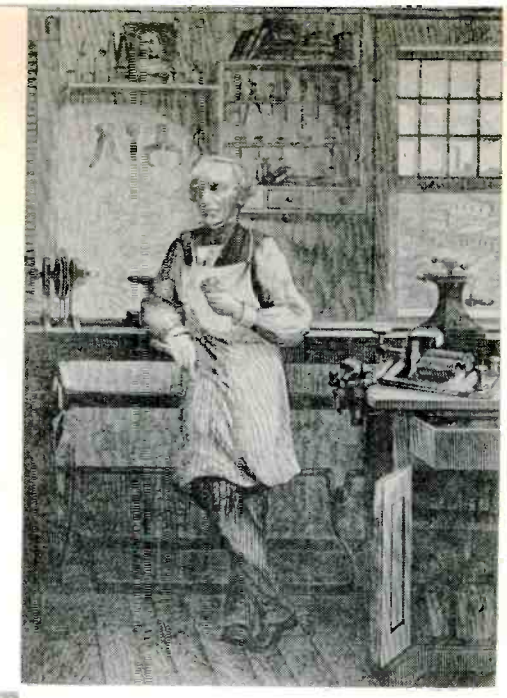
"Flying Machine" of 1766 went from New York to Philadelphia in fast time of two days. Now the trip is two railroad hours, 30 airline minutes.



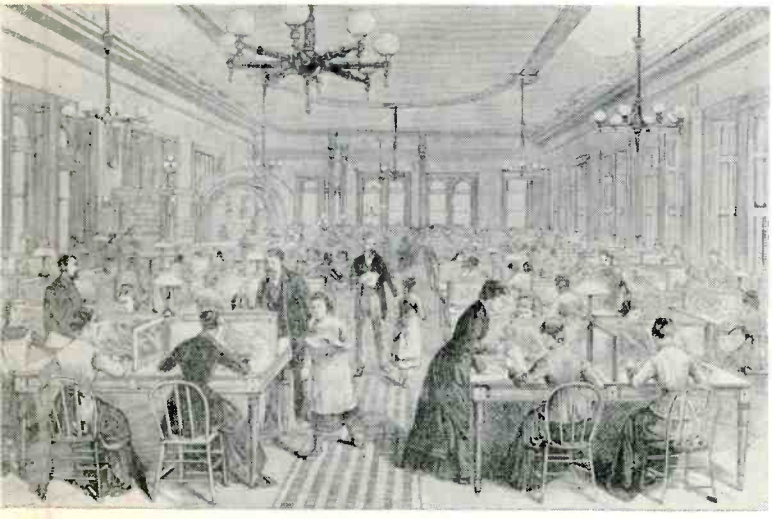
Above: Communications to The West before the telegraph were mainly by hazardous stagecoach mails.

Below: A radio truck of World War I. Modern electronic developments make 1918 devices obsolete.

The Heyday of the Telegraph



Samuel F. B. Morse sketched in his workshop by a contemporary artist. He leans on a treadle-operated lathe while a model of early type of telegraph sits on table at right.



Gas lamps illuminate this big central telegraph station as the industry burgeoned. Women were trained as operators and young girls were used to carry messages.

The Army realized importance of telegraphy, tried to make it mobile as possible. Truck rig was used by Signal Corps in 1904.

A war correspondent artist present at Battle of Fredericksburg, Dec. 13, 1862, sketched picture of Union soldiers rushing completion of field telegraph lines.

Messages at Fredericksburg were sent by soldier-telegraph operator.

NLRB Shifts Election Rule to Regions

The National Labor Relations Board in a major move to speed up its procedures has delegated to its regional directors broad powers to handle and decide representation election cases.

Subject to review by the NLRB on specified grounds, a regional director may order a hearing and issue an election order on petition of a union seeking to establish its bargaining rights for a group of workers in the face of employer opposition.

Employer petitions and decertification petitions also may be processed by regional directors.

In announcing the delegation of election powers to the 28 regional directors, the new chairman of the NLRB, Frank W. McCulloch, termed it "one of the most far-reaching steps ever taken with respect to election cases."

"It should provide a major speedup in NLRB case handling in line with the policy of President Kennedy for the independent regulatory agencies," he continued.

"By relieving the board of a substantial part of its total case load, the new plan will free the board to reduce its large backlog and dispose of its other cases involving unfair labor practices more promptly and carefully."

The order delegating representation election powers to the regional directors appeared to accept substantially the principles recommended by the AFL-CIO in a memorandum on the issue submitted to the labor board on October 15, 1959.

The Landrum-Griffin Act contained a section giving the NLRB statutory authority to delegate its representation cases to the regional directors. The section was written into the bill at the initiative of Senate conferees headed by then Sen. John F. Kennedy, when the final language of the legislation was devised in a joint Senate-House committee.

The AFL-CIO memorandum pointed out that Congress had granted the authority because of "concern over the slowness of representation proceedings," and urged the board to adopt rules and regulations to carry out "to the fullest possible extent the congressional intent."

The federation warned however, that new rules and regulations should be so devised as to "expedite" proceedings and not simply add "one more delaying step" by allowing the regional directors first to issue an order and then by administrative practice make the order broadly subject to review by the board itself.

McCulloch's announcement made it clear that the intent is to speed up procedures.

Stuart Rothman, NLRB general counsel, backed up McCulloch's viewpoint in a statement agreeing on "the importance and desirability" of the delegation of powers.

The board announcement said that review of a regional director's election order or denial of an order will be reviewed only on "restricted" grounds, which it limited to four.

These were spelled out as allowing review only if a regional director's order raised a "substantial question of law or policy" because of a violation of established precedents; a "clearly erroneous" decision on a "substantial factual issue"; "prejudicial error" in the conduct of a hearing; or the presence of "compelling reasons" for reconsideration of an important board rule or policy.

The NLRB, as formerly made up wholly of members named by then Pres. Eisenhower, asked for proposals on delegation of its representation cases on September 15, 1959—the day after the Landrum-Griffin Act was signed into law.

It was in response to this request that the AFL-CIO and other organizations submitted its recommendations on October 15 of the same year.

No decision was issued until after the advent of the Kennedy Administration and the President's appointment of two new members—McCulloch and Board Member Gerald A. Brown—to fill vacancies created by expiration of the terms of Eisenhower appointees.

Attention, All IBEW Hams!

The suggestion has been made to establish a network of amateur radio stations made up of IBEW members. The purpose: to exchange greetings with fellow members, handle traffic, be available in case of national emergency and, of course, to chew the rag.

If you would like to become a part of such a network, please send a card or letter to Brother Clifford C. Reed, K7NVE (a member of Local Union 357), 2704 St. George Street, North Las Vegas, Nev., advising him of your wish to participate. Indication should be made of the net frequency preferred, time and day of the week you would prefer the network meet and whether you operate phone or c.w.

Brother Reed has volunteered his services in organizing the net if there is a sufficient showing of interest. Participation is open to all members of the Brotherhood, regardless of branch of industry or type of card held. If response indicates a definte and sufficient interest, we will try to supply more details in an upcoming issue of the TECHNICAN-ENGINEER.

20 YEARS
with American Armed Forces
wherever they go
USO
1941 1961

LABOR REMEMBERS THE SERVICE MEN

IT WAS shortly after the start of World War II. Reyburn Plaza, in midtown Philadelphia, had always been a large, open area with benches and pleasant walks. But one day, early in 1942, Reyburn Plaza became a king-size, outdoor service club for the armed forces.

The AFL and CIO unions in Philadalphia had obtained use of the plaza from the city, closed it in with clapboard fencing, and installed a large sign across the front—"Labor—USO Plaza for Service Men and Women."

Last year, the AFL-CIO Executive Council voted a $10,000 contribution to USO to finance a special overseas entertainment unit to be called "AFL-CIO's Salute to the Armed Forces." The unit traveled 15,000 miles and played to 10,000 U. S. service men at 17 isolated bases. The tour was arranged as part of the continuing AFL-CIO Community Service—USO program on behalf of men and women in the armed forces.

Between the opening of the Labor Plaza in Philadelphia in 1942, and the USO show sent overseas last September, there is an unbroken line of outstanding labor support for USO, which this year celebrates its twentieth anniversary.

No less impressive is the year-round effort of the American Federation of Musicians, AFL-CIO, to provide music for servicemen's dances. Through its Music Performance Trust Fund, AFM makes it possible for locals throughout the country to sponsor dances at USO clubs all during the year.

And last spring, in Syracuse, N. Y., three AFL-CIO unions, Building Service Employees Local 200, IATSE Local 9, and AFM Local 78, helped plan and carry out USO-Religious Emphasis Day. Some 3,000 servicemen from bases around Syracuse came in to attend church and an evening Fellowship Rally. Electrical Workers, Musicians, and Stage Employees all volunteered their services for the rally. On April 16th, these same unions will join forces again to sponsor and help carry out Community-Military Sunday.

One of the most significant contributions of organized labor to USO is volunteer service on its administrative boards. USO estimates that over 100 AFL-CIO representatives are now serving on national, state, and local USO boards and committees.

As James A. Campbell, national president of the American Federation of Government Employees, AFL-CIO, put it: "To have played a part, directly or indirectly, great or small, in support of so vital a service to so many young people cannot help but be a source of deep satisfaction to all of us who have seen the effect of twenty years of conscientious endeavor."

READING TIME

Three Handbooks

Electronic Drafting Handbook

by Nicholas M. Raskhodoff, The Macmillan Company, New York, 400 pp., $14.75.

The meteoric growth of the electronics industry has created many new opportunities for draftsmen and turned many broadcast technicians into tinkerers and designers of gadgets and components.

For those in our midst who need to translate an idea to a working drawing, *Electronic Drafting Handbook* offers a comprehensive guide book of shortcuts, terminology, diagrams, symbols, and what-have-you. Mr. Raskhodoff, an engineering designer with the U. S. Naval Research Laboratory in Washington, D. C., shows how to prepare every kind of electronic drawing: schematics, wiring diagrams, working installation drawings of electronics and communication systems and equipment, tube-base diagrams, interconnection, and outline drawings. Finish sample drawings include: a harness assembly, a primary power distribution diagram, a switching-circuit schematic, a microwave circuit schematic, an audio system single line schematic, production line wiring diagram, industrial control schematic and wiring diagrams, and many more.

A section crammed with photographs and figures introduces the beginner to the basic electronic and mechanical components. Typical drafting room practices, techniques of drafting, and checking procedures for mechanical and circuit drawings are fully covered.

The price of the book puts it beyond the wallet of the browsing amateur, but it's an old adage that "you pay for what you get" . . . and in this case you get a handbook crammed full of valuable material for the electronic draftsman.

Radio and TV Alignment Handbook

Catalog No. RTH-1, Howard W. Sams & Co., Inc., 2201 East 46th Street, Indianapolis 6, Ind., 160 pp., $2.95.

This handbook is designed to acquaint service technicians with all the pertinent data they need to properly and efficiently align any radio or TV receiver. It was written by a practicing service technician who, through years experience, has accumulated a wealth of information on servicing techniques . . . and who talks to the reader in his own language.

The book fully explains how one can determine when alignment is necessary, what equipment is needed, and how to hook it up, how to follow alignment procedures outlined in service literature (and the purpose for each step), and how to evaluate results. Complete coverage of alignment is given, including VHF and UHF tuner alignment, alignment and adjustment of color TV circuits, and AM and FM broadcast receiver alignment.

Transistor Substitution Handbook

Catalog No. SSH-1, Howard W. Sams & Co., Inc., 2201 East 46th Street, Indianapolis 6, Ind., 96 pp., $1.50.

Transistors, like most other electronic components, periodically require replacement, which presents no undue problems as long as the specific type number required is readily available. Often, however, the exact type number cannot be easily obtained. Further, due to the type-numbering systems used, it is sometimes difficult to determine if a different unit will serve the purpose.

Howard W. Sams Transistor Substitution Handbook has been prepared to minimize the problem of selecting suitable transistor replacements. Not only does it specify the manufacturer from whom each type is available (for over 2,700 transistor types), but also whether the unit is an NPN or PNP. Data is also given to enable the reader to determine the basing diagram drawings which are shown in a separate section.

The book lists over 6,500 direct transistor substitutions, including a separate section which shows 668 suitable replacements for Japanese transistors. Also included is a separate directory of semiconductor diodes and rectifiers, with recommended substitutes.

Accompanying text sections explain why transistor substitution is possible, when it is appropriate, how to choose substitutes, precautions to observe when substituting, etc.

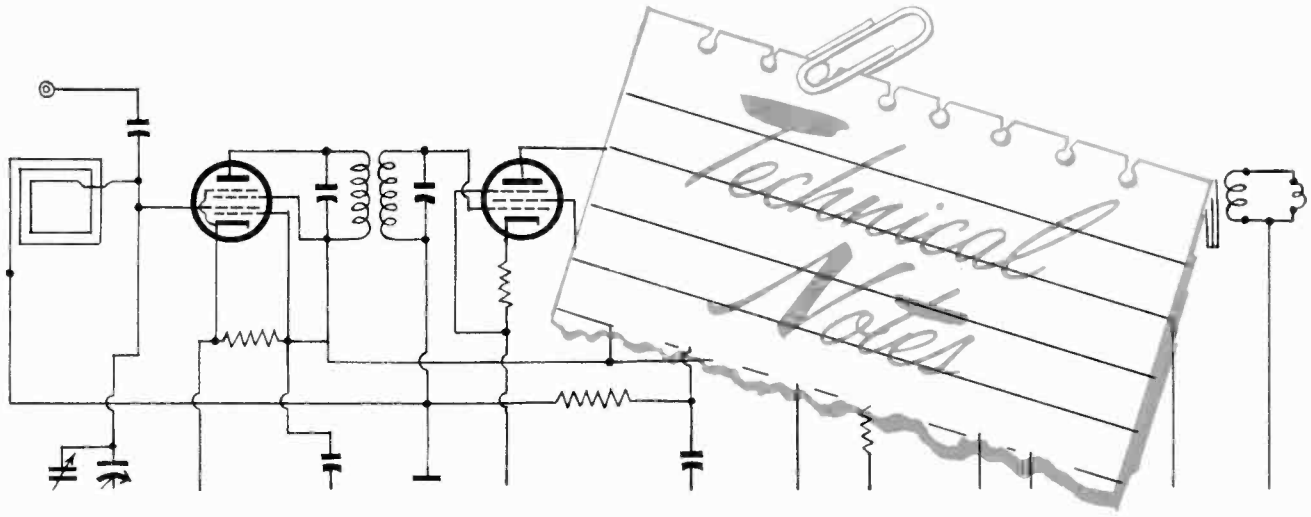
One Moment Please

Radio newscaster Tom Van Tol of Grand Rapids, Michigan, recently took to the air to reassure tornado-jittery listeners that they had nothing to fear.

His calm voice went out over the air: "There is no tornado in this area . . . I repeat, don't worry, you are in no. . . ."

At that point—silence. . . .

Then Station WGRD was besieged with telephone calls. It was several minutes before Van Tol could get back on the air to explain what had happened: lightning had struck the transmitter, causing a power failure.



ETV Goes Airborne

An airplane cruising in circles over Indiana began beaming education by television, May 15, to an estimated half million school children in six states.

The DC6 plane flying over Montpelier, Ind., was opening up a new era in education. The flight was the start of a test leading up to regular "cloud to classroom" which will begin in Middle Western schools next fall.

The flying classroom will telecast top-flight teachers giving instruction in elementary and high school subjects. Their taped lectures will be flashed onto television screens set up in classrooms in Indiana and parts of Ohio, Michigan, Wisconsin, Illinois and Kentucky.

Educators at the flying classroom's Purdue University headquarters said the first flight was practically a complete success.

Dr. B. D. Godbold, executive vice president of the Midwest Program on Airborne Television Instruction, said "I'm watching the television screen right now and the reception is perfect."

"We're getting reports of reception from as far away as 200 miles, Lorain, Ohio, and Berea, Ky.," he said.

What Do You Think

Recently we received a letter from a member which said in part: "Technical Notes should be expanded. At this time education is a must for our members . . . to help our members keep jobs and keep a healthy union."

He has a point well taken . . . but we wonder how our other readers feel. . . . Do you want more, or less, Technical Notes? Drop a postcard to the Editor, Technician Engineer, Room 610, International Brotherhood of Electrical Workers, 1200 15th Street, N. W., Washington, D. C.

Super-speed Semimetals

Metals that aren't very metallic, notably antimony and bismuth, may make electronic computers smarter than ever.

The nerve cells of computers are their vacuum tubes or transistors, devices that serve as switches for controlling the flow of electric current. The faster the switches flip, the faster a computer calculates, the National Geographic Society says in a recent news bulletin.

A new type of controlling device made of semimetal can theoretically operate in a billionth of a second, much more swiftly than present transistors, according to Dr. Benjamin Lax of the Massachusetts Institute of Technology's Lincoln Laboratory. Such switches, still in the experimental stage, may reduce operating costs and open up a whole new area for advances in electronics.

Semimetal regulators operate at supercold temperatures, perhaps 450 degrees below zero Fahrenheit. Atoms, which normally vibrate vigorously, are almost completely still at such temperatures, and an electric charge can pass easily through. At higher temperatures, the atomic jiggling prevents easy passage of electrons.

Only a tiny amount of electric or magnet force is needed to control the action of the electrons at very low temperatures. Thus they respond easily and instantly, like a wall switch that turns on the light when a finger barely brushes it.

Curiously, a slight amount of lead or tellurium must be added to the semimetal to enable it to operate as a controlling mechanism. The lead or tellurium enters into the crystalline structure, creating an electrically unstable situation in which a current can be easily induced.

Antimony and bismuth are the chief semimetals under study at present. They have long been known but were rarely in great demand for metallic uses. They are considered too brittle for working into ob-

jects, although the Chaldeans made vases of antimony thousands of years ago. Antimony had a moment of glory in Old Testament times when its sulfide was used for beautifying the eyes. Antimony compounds were used in medieval medicine.

Medieval men knew bismuth but often confused it with tin, lead, and antimony. Its existence as a separate element was not demonstrated until the middle of the 18th century.

Today bismuth and antimony are put into type-metal alloys, because they expand when passing from a molten to a solid state and thus capture the fine details of a mold. Bismuth is also extensively used in medicine. Antimony appears in battery plates, bearings, pipes, and cable coverings.

Antimony is produced mainly in China, South Africa, Bolivia, and Mexico. Little is found in the United States. But the United States is well supplied with bismuth. It is the world's largest producer as well as consumer.

Cent vs Corrosion

Want to stop corrosion of your battery terminals without smearing them with grease, washing with soda, covering with plastic, or other messy jobs?

It can be done in two seconds, and it will only cost you a penny.

Stick a penny into the soft mastic on top of the battery fairly close (couple of inches is close enough) to the positive terminal. Pretty soon the penny will gather all the corrosion and the terminal will remain clear. After a year or so, replace the penny.

CBS Plants to Close

Three CBS receiving tube plants with payrolls of 1,200 workers will close down the latter part of June, and Raytheon will buy part of the inventory. CBS Electronics, the CBS division affected, says it will concentrate on production of semiconductors and other microelectronic products. Two plants are at Danvers and Newburyport, Mass., with a leased plant at Windham, Me.

RCA Plans Satellite

RCA has received a $3,250,000 contract from the National Aeronautics and Space Administration to build an experimental communications relay satellite it hopes to get into space in about a year. The device would be designed to send telephone, telegraph and television signals across the oceans via an active repeater satellite containing electronic gear for receiving and retransmitting such signals.

Other major companies which have entered the space communications field include Westinghouse, Martin, and American Telephone and Telegraph.

Radio-Active Army

Just since 1950, a U. S. Army Infantry Division has 40 per cent more items of electronics and communications equipment—radios of all types have increased from 1,751 to 2,457. The Chief Signal Officer recently facetiously suggested that the active combat forces be renamed to "Radio-Active Combat Forces."

Financial Report Assistance At 25 Area BLMR Offices

This is the time of year when local IBEW unions are filling out their annual financial report forms under the Landrum-Griffin Law for submission to the Bureau of Labor-Management Reports. Local union officers can get assistance in completing these forms from 25 area offices maintained by the Bureau and should not hesitate to visit these offices, if advice is needed.

Location of these offices is as follows:

East

District of Columbia
Mather Bldg.
916 G Street, NW.
Washington 25, D. C.

Massachusetts

708 Province Bldg.
333 Washington Street
Boston 8, Mass.

New Jersey

Room 459
1060 Broad Street
Newark, N. J.

New York

664 Ellicott Square Bldg.
295 Main Street
Buffalo 3, N. Y.
233 West 49th Street
New York 19, N. Y.

Pennsylvania

227 Lafayette Bldg.
437 Chestnut Street
Philadelphia 6, Pa.
801 Victory Bldg.
212 Ninth Street
Pittsburgh 22, Pa.

South

Florida

1200 Bldg., Room 116
1200 S. W. First Street
Miami 35, Fla.

Georgia

1389 Peachtree Bldg.,
Room 308
1389 Peachtree Street, N. E.
Atlanta 9, Ga.

Louisiana

204 U. S. Customs
House Bldg.
423 Canal Street
New Orleans 16, La.

Puerto Rico

309 Condominio
Condado Bldg.
609 Condado Avenue
Santurce, Puerto Rico

Tennessee

423 U. S. Court
House Bldg.
801 Broad Street
Nashville 3, Tenn.

Texas

944 Rio Grande Bldg.
251 North Field Street
Dallas 2, Tex.

Midwest

Illinois

530 Bankers Bldg.
105 West Adams Street
Chicago 3, Ill.

Michigan

1906 Wash. Blvd. Bldg.
234 State Street
Detroit 26, Mich.

Minnesota

606 Calhoun Bldg.
711 West Lake Street
Minneapolis 8, Minn.

Missouri

303 Waltower Bldg.
823 Walnut Street
Kansas City 6, Mo.
1038 Arcade Bldg.
812 Olive Street
St. Louis 1, Mo.

Ohio

602 Engineers Bldg.
1365 Ontario Street
Cleveland 14, Ohio

West

Alaska

214 Willholth Bldg.
610 C Street
Post Office Box 1097
Anchorage, Alaska

California

506 Board of Trades Bldg.
444 Market Street
San Francisco 11, Calif.
1215 Western Pacific Bldg.
1031 South Broadway
Los Angeles 15, Calif.

Colorado

810 Denver National
Bank Bldg.
821 17th Street
Denver, Colo.

Hawaii

680 Ala Moana Bldg.
Room 306
Honolulu, Hawaii

Washington

409 Federal Court
House Bldg.
5th Avenue and
Madison Street
Seattle 4, Wash.

STATION BREAKS

Information on Wheels

Local Union 1281, Providence, R. I., uses the method above of advising the public of its impasse with Capital Cities Broadcasting Corporation and the unreasonable position of the corporation on basic issues.

WEFM Starts Stereo

At midnight, June 1, the earliest time authorized by the FCC, Zenith Radio Corporation's FM station, WEFM, Chicago, transmitted the first stereophonic FM broadcast on the new FCC standards.

These FM stereo standards were announced on April 20 this year, and are based on a system first developed by Zenith and experimentally tested on the air during 1959 and 1960 by WEFM, the nation's oldest FM station.

Those attending a special press demonstration in a nearby Loop hotel listening to stereophonic FM receivers heard the broadcast with the full depth, dimension and movement that makes stereo/FM such an exciting experience.

During the one-hour broadcast, WEFM's stereophonic FM programming ranged from South of the Border selections, Broadway show tunes, to concert music. WEFM closed with a recorded performance of Fritz Reiner conducting the Chicago Symphony Orchestra in a recorded performance of "Waltzes" from Richard Strauss' "Der Rosenkavalier."

For many years, WEFM has operated under an IBEW agreement with Local Union 1220.

Tiny Program Recorder

CBS has bought a record-breaking tape system for its seven network-owned stations from Soundscriber Corp. that can record an entire day's programming on a three-inch spool. The device, using a patented transverse recording track, takes up 2½ inches of tape a minute and is about the size of a table radio. To date about 20 are in use.

WINS Told to Bargain

Based on stipulations by radio station WINS, New York, and Local 1212, the NLRB directed the station not to refuse to bargain with the local, not to modify holiday wage rates, and not to restrain union organization. Wages ranging from $18.50 to $37 was ordered restored to 14 members for loss of holiday pay.

How Is That Again?

Kasavubu and Mobuto were chatting with Tshombe and one was saying: "Hasn't the President of the United States got an odd name—Kennedy!"

LAST LAUGH

"When I said the girls were fully covered, I meant by a union contract, of course."