

# TECHNICIAN ENGINEER

MAY, 1959

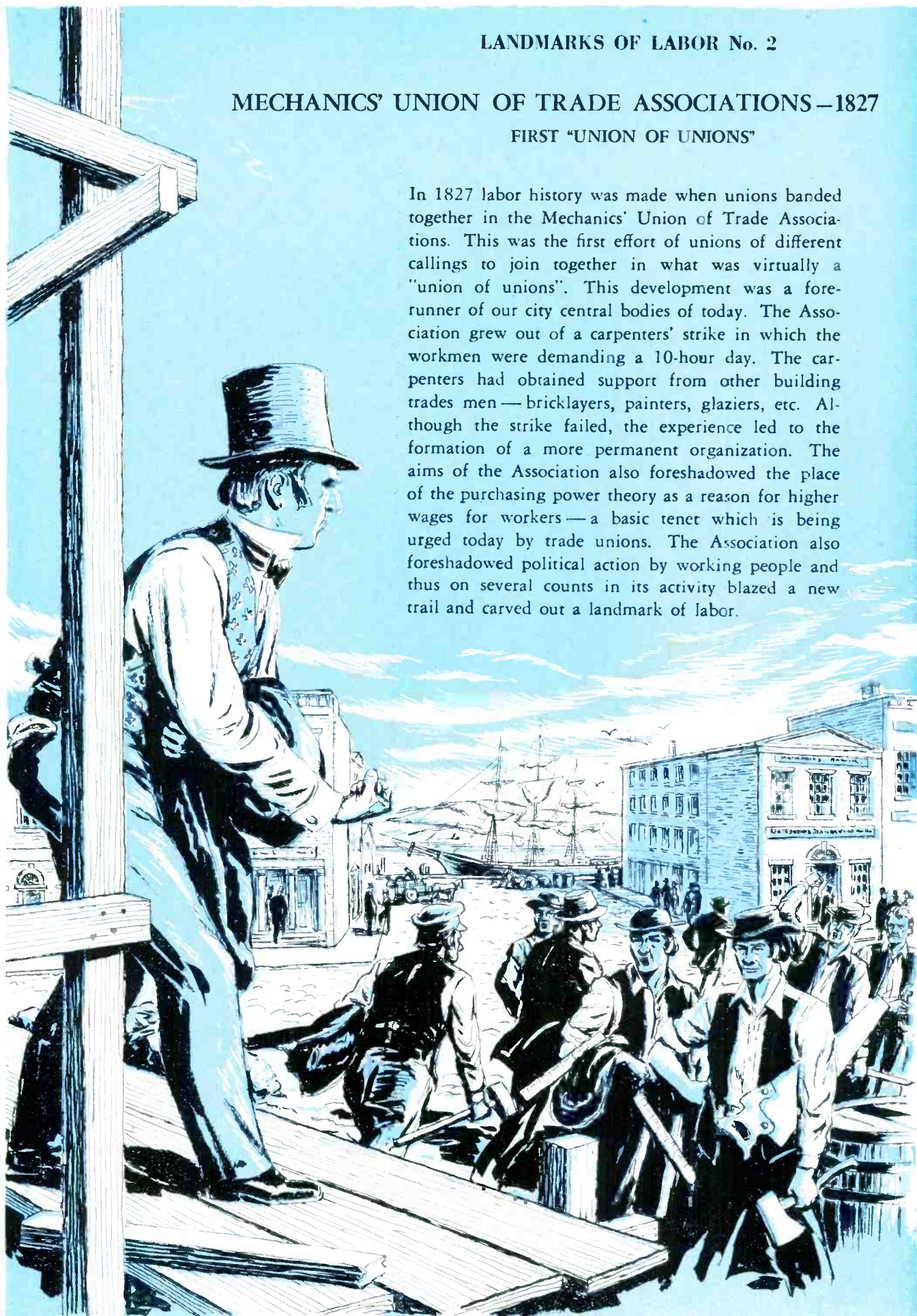
*Published for the Employees of the Broadcasting, Recording and Related Industries*

INTERNATIONAL BROTHERHOOD OF ELECTRICAL WORKERS — AFL-CIO



MECHANICS' UNION OF TRADE ASSOCIATIONS—1827  
FIRST "UNION OF UNIONS"

In 1827 labor history was made when unions banded together in the Mechanics' Union of Trade Associations. This was the first effort of unions of different callings to join together in what was virtually a "union of unions". This development was a forerunner of our city central bodies of today. The Association grew out of a carpenters' strike in which the workmen were demanding a 10-hour day. The carpenters had obtained support from other building trades men—bricklayers, painters, glaziers, etc. Although the strike failed, the experience led to the formation of a more permanent organization. The aims of the Association also foreshadowed the place of the purchasing power theory as a reason for higher wages for workers—a basic tenet which is being urged today by trade unions. The Association also foreshadowed political action by working people and thus on several counts in its activity blazed a new trail and carved out a landmark of labor.



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



VOLUME 8  NUMBER 5  
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The INTERNATIONAL BROTHERHOOD of ELECTRICAL WORKERS  
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## ... the cover

KFMB-TV covers a sports car race for its San Diego viewers, as three spectators, foreground, cluster about a shaded receiver. The station's mobile unit, described in detail elsewhere in this issue, is a custom job, built under the direction of KFMB-TV engineers. A war surplus bomb hoist mounted on the bus assists in getting equipment to its roof. Also part of the contained equipment, the microwave dish stores nicely in the rear of the converted Greyhound bus. (Photo courtesy KFMB-TV)

## commentary

Your eye may have caught this news item when it appeared in *The New York Times* a few weeks ago:

The theoretical groundwork reportedly has been laid for the design of machines capable of learning from experience and adapting to circumstances.

And when that happens, the battle between men and machines will be raging full tilt. But for a time, at least, mere men still have the upper hand and we might as well make the most of it.

There's consolation in this: At thirty-five, a mere machine is on its last legs whereas a man of similar vintage is just entering the prime of life.

Not so much consolation in this: a machine can go out of date without a qualm. You and I can't afford to.

—FORTUNE.

## the 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 1958 figures: March, 1959—123.7; March, 1958—123.4.



*In spring our fancy  
turns to* **MOBILE UNITS**

BELOW: The KFMB-TV unit, showing connectors and terminal blocks where luggage was once stored.



### **New Buses and Trucks are Adjuncts to Field Broadcasting Activities**

**O**NLY a few years ago field pickups for television were somewhat novel and scarce. With improved know-how, improved equipment, and, now, with tape recording available, it seems likely that the quantity of field pickups will appreciably increase. The IBEW's interest in this activity is admittedly selfish: more work for our members. Additionally, the details of how-it-is-done are interesting and, in some cases, downright inspiring. As can be seen from the accompanying pictures, there has been a definite application of superior ingenuity (as a lawyer-friend of ours would say).

Aside from commercially available mobile units, one of the pioneers in the field of do-it-yourself units is KFMB-TV, San Diego. The ingenuity involved has stood the test of more than three years. With substantially little change, the original design speaks for itself. Starting with a surplus Greyhound bus, Chief

Engineer Charlie Abel and his astute crew in San Diego designed and built a mobile unit *par excellence*. It seems that you can pay more but can hardly do it better. Some stations have paid as much (or more) for a bare truck (sans equipment) as the complete KFMB-TV unit cost.

Modifications to the body included paneling-in the rear windows, replacing the inside luggage racks with suitable metal facia and conversion of the floor heat ducts to cable and wiring raceways. The air conditioning unit was changed over to electric motor drive, and it performs very well. The 3-ton unit has to dissipate a great deal of heat generated by the equipment.

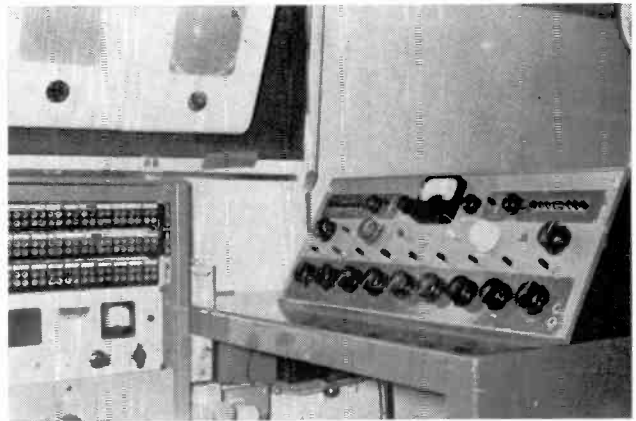
Storage space and storage cabinets are liberal and are adequate for cables, cameras, microwave equipment, etc. A war surplus bomb hoist has been found to be very useful in lifting equipment to the reinforced

roof and the hoist, too, has a special storage space. Mike and power connectors, audio terminal blocks and the like abound on the side of the bus, just under the hinged covers which once enclosed luggage space. The original luggage space in the rear is especially convenient for camera cables; a short lift from the ground for these heavy cables is a boon to an aching back. Where commercial power is not available, a trailing motor generator set is towed to location.

Monitors, distribution amplifiers, audio equipment to cover every conceivable need, sync generator, etc., etc., etc., are all a part of the fixed installation—cameras (normally four) taken from the studio shop as required. Thus, quite literally, it takes only a matter of minutes for the bus to be fully equipped and moving.

Mobile? You bet it is—and versatile, too. The “8 Ball” insignia of the station is certainly inappropriate to this field unit—KFMB-TV will never be behind it when programs take the bus and leave the driving to the Engineering Department.

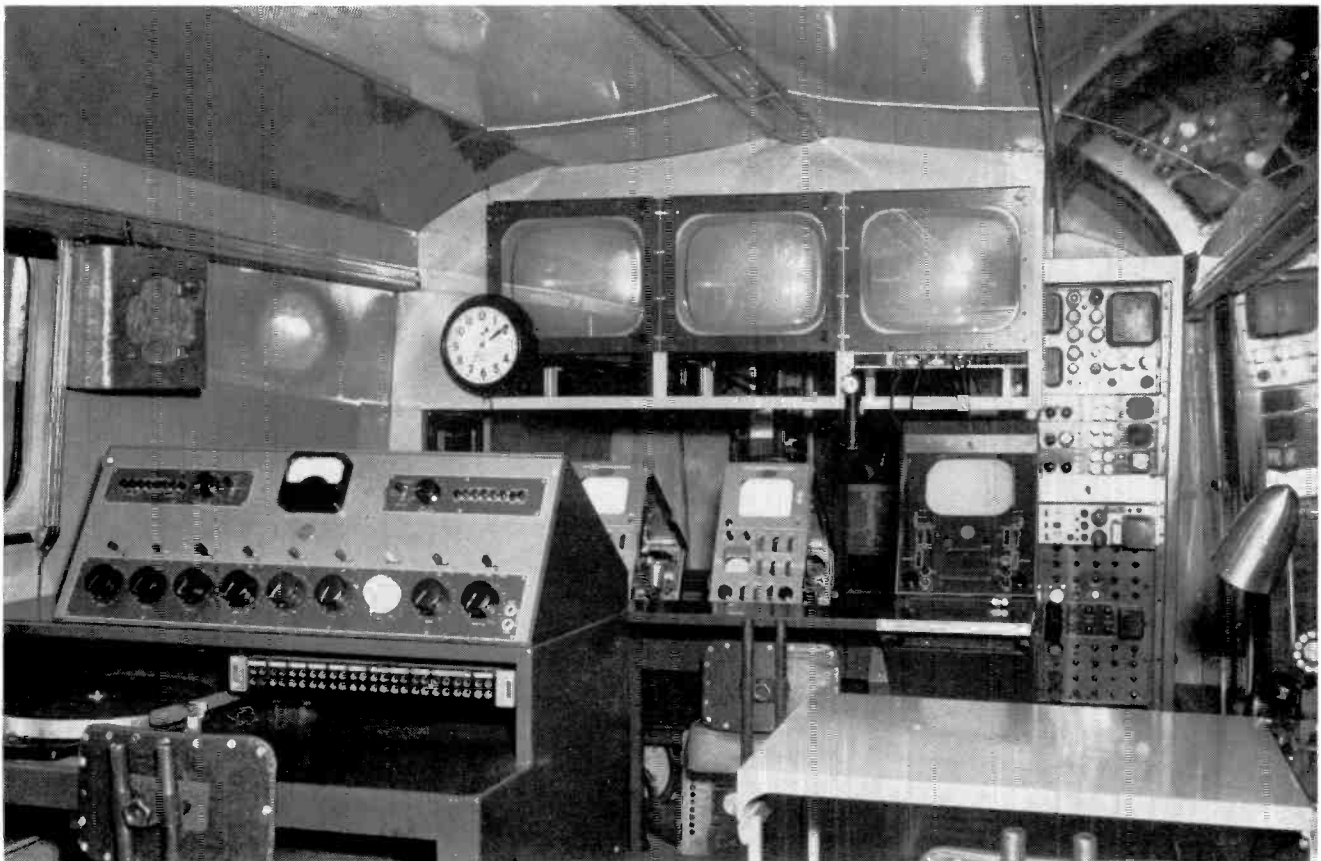
*EDITOR'S NOTE: For more on mobile units, turn to Pages 6, 7, and 8, where you will inspect Jack Linkletter's caravan and WXLW's Traveler.*



ABOVE: A view of the audio control position as modified after original installation. (Compare with the picture below.) Note addition of small rack to left with extensive jack fields, distribution amplifier, and impedance-matching devices for complicated audio feeds.

*Photos courtesy KFMB-TV*

BELOW: An overall view of the control positions in the KFMB-TV unit—audio on left, video in center background, and hinged table on right for program director, with intercom, telephone, etc., to his right. In background can be seen one of several racks of distribution amplifiers, etc., installed in the bus hull.





CBS

*In spring our fancy turns to  
network mobility, too. Jack*

*Linkletter's show is a 'first'*



THE combined ingenuity of John Guedel Productions and CBS Television has resulted in three mobile units being tied together to produce the Jack Linkletter "On The Go" show. The regular Television City mobile unit supplies camera, switching and monitoring facilities, a Crown Coach-built bus houses two complete Ampex Videotape Recorders and a Ford truck provides a mobile "studio" production center.

The taped pre-recordings are made at all sorts of places and locations—some of the first programs were originated from Las Vegas and most of them, so far, have been taped in Southern California. According to Guedel Productions, geography will be no barrier.

The pioneer work of "On The Go" has clearly shown the practicality and the reliability of mobile tape equipment. Supplying program material five days a week, week in, week out, is not an easy assignment at best. This demonstration of daily production with minimal problems speaks well for the equipment—and the IBEW manpower.

*CBS Photos by Gabor Ronai, Art Lewis and G. Fitzgerald*

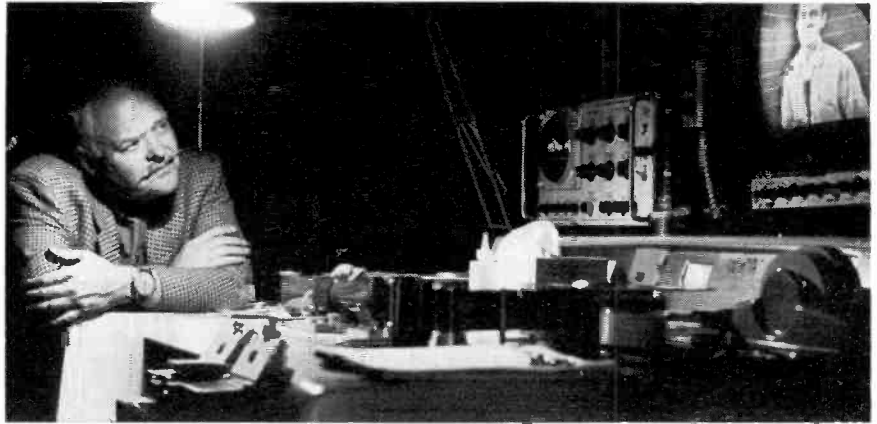
ABOVE: The star of the show, Jack Linkletter, son of Art Linkletter, waves hello on arrival at one of the "pick-ups." Linkletter interviews in "man on the street" style for this busy network show.

RIGHT: The Crown Coach housing the two complete Ampex VR-1000 tape recorders. Aluminum panels replace the usual bus windows.



# ON THE GO

RIGHT: Dolf Nelson of the Production Department, John Guedel Productions, casts a critical eye on a tape run-through.

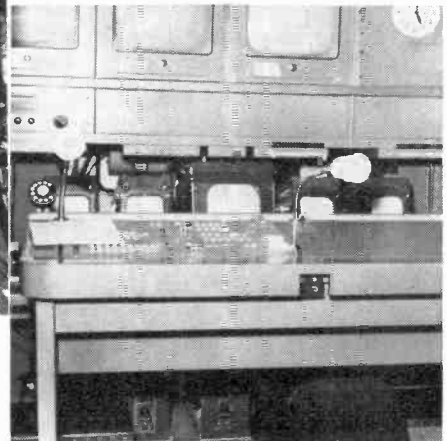


ABOVE: The beginning of a take—one of the many bits and pieces which will be integrated into a complete show.



LEFT: A camera takes a shot of the production control center in the "studio" truck.

BELOW: TD position in the Television City mobile unit.



BELOW: The two largest trucks—tape unit on left and camera unit on right.



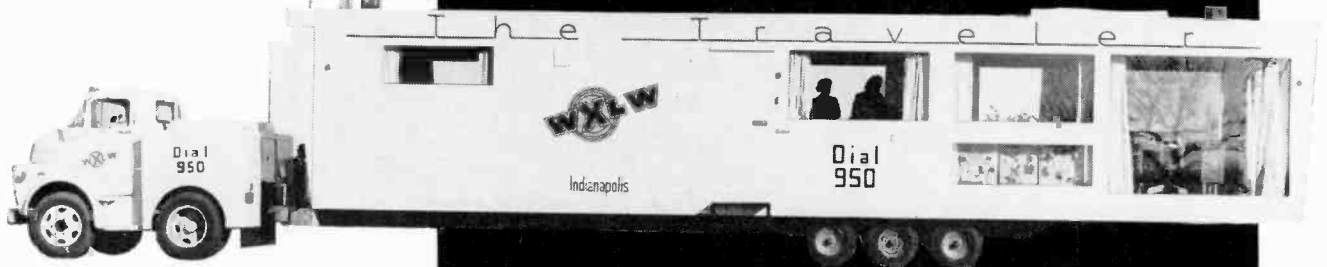
BELOW: When incidental light becomes a problem The All-Seeing Eye of CBS dons a black cloak.



May, 1959

7

# The TRAVELER



## WXLW'S plush unit manned by members of Local 1225

Station WXLW, Indianapolis, Ind., has a completely equipped, self-sustaining mobile radio station which is one of the finest of its type in the nation. The trailer unit was made especially for WXLW and is 45 feet long, 8 feet wide, and over 12 feet high. The towing unit was modified to specifications and is under 12 feet in length. It carries a gasoline generator capable of producing 10,000 watts of electrical power for the operation of broadcast equipment.

Some of the features that make "THE TRAVELER" unique are a studio 8 by 19 feet; a control room 8 by

10 feet; a bath 5 by 6 feet; a shop area 3 by 6 feet; and a luxurious lounge 8 by 10 feet. "THE TRAVELER" carries its own 250 gallon fresh-water supply and is equipped with a reservoir for storing excess used water. Floor heat and year-round air conditioning are added features. All window areas are one-inch Thermopane; windows in studio area are from floor to ceiling. "THE TRAVELER" has been especially insulated for Studio Broadcast Quality sound. The ceilings are acoustical tile; all floor area is carpeted.



ABOVE: A control console and turntable in the WXLW mobile studio.



ABOVE: Tape recorders housed under a counter. LEFT: A control console, jack fields, connectors.





**Union Said "Lockout,"  
Company Said "Illegal Strike"**

# NABET-NBC Dispute Settled

**T**HE NATIONAL ASSOCIATION of Broadcast Employees and Technicians struck the National Broadcasting Company networks at 7:00 a. m., April 27. Some 1500 NABET members are employed by the NBC radio and television networks and the O-and-O stations.

The New York Times quoted G. Tyler Byrne, NABET Director of Network Affairs as saying that NABET technicians declined to handle the program because of the manner in which Garroway's program had been recorded in Paris. Mr. Byrne added: "Our contract with NBC gives us jurisdiction over all company-owned programs. Recently, NBC assured us that in recording the Garroway show in Paris all basic operating positions would be covered by our members. Last Friday some of our boys in Paris notified me that some of the basic jobs were not being handled by our union. I have heard that some French technicians were used." Signs carried by the pickets proclaimed that NABET was locked out.

## Lawsuits Filed

NBC said that nine NABET technicians were sent from New York to Paris to work on the show. The company said that if the union persisted in its unlawful conduct, it intended to hold the union and its officials responsible for any resultant damages. A week after the dispute broke wide open, NBC filed a series of lawsuits against NABET, now totalling somewhat more than \$1 million.

The first program ostensibly consisted of interviews with the Mayor of Paris and Brigitte Bardot, in the vicinity of the Eiffel Tower.

A series of meetings scheduled to begin on Tuesday, April 28, at the NBC offices, called by Commissioner J. R. Mandelbaum of the Federal Mediation and Conciliation Service, were to no avail.

On May 5, NBC sent a telegram to the NABET New York office which reiterated its charge that the union had violated its contract by a work stoppage. The telegram said that, for this reason, it had rescinded the contract and all subsidiary agreements and invited the union to meet with it to negotiate a new contract. NBC also requested the union leadership advise its members to return to work. All wage rates and benefits that

were in effect when the work stoppage began would still prevail, the telegram said. Within a matter of hours, NBC also sent telegrams to the individual technicians in six cities, urging them to return to work. These telegrams bore the same notification sent to the union leadership.

A 20-hour continuous meeting of NABET and NBC officials ended on Sunday morning, May 10. Another meeting was scheduled for Monday morning, May 11. The meetings were being conducted by Benjamin C. Roberts, described as an impartial umpire. Mr. Roberts is a New York lawyer and was formerly a member of the staff of the New York State Board of Mediation. It has been reported that Mr. Roberts' services have been utilized in disputes between NABET and NBC, in prior instances.

## Vote Five to One

Meetings continued during the week of May 11 to May 14 and a referendum vote was conducted on May 15. The settlement was reported to have been ratified approximately five to one.

According to the trade press the settlement included the principle that the company may process grievances to arbitration under the Master Agreement, which was reinstated and NABET relinquished its claim to jurisdiction over video tape beyond the continental limits of the United States. Among other interesting settlement terms included the agreement by NBC that it would withdraw its damage suits against NABET, finally estimated to be in the neighborhood of \$1,700,000.

It might be noted, in passing, that the May 10 issue of *Broadcasting-Telecasting* contained an editorial derogatory to all other unions. The editorial went on to say that "... the mere fact that NBC chose to resist a clearly extreme demand has benefited the long range development of television."

## Meeting Reminder

The Annual Progress Meeting for IBEW members in the broadcasting, recording, and related industries is scheduled for June 12, 13, and 14, at St. Louis, Mo. Your local union should be represented at this important annual gathering.

**Management Says  
'Labor Costs' Are  
Responsible, But . . .**

## **Are Union Wages Leading Inflation?**

*By Sidney Margolius*

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to us by L. U. 1343, Trenton, N. J.*

**C**ONSTANT REPETITION by businessmen and some government officials and newspapers of the claim that wage increases are responsible for today's high living costs has led the public to assume this.

In recent interviews with businessmen and business editors on the problem of the increase in supermarket prices, this reporter found they invariably blamed the recent price hikes on "higher labor costs."

One of the most damaging results of the success of businessmen in maneuvering labor into the whipping boy role, is that it has enabled them to raise prices with increasing boldness.

But now the propaganda is beginning to boomerang. Labor unions are vigorously attacking the widespread legend that wage increases have been responsible for the successive waves of inflation, and federal and state authorities are beginning to examine price boosts more closely. Recently when five major bread companies increased the price of a standard loaf by one-and-a-half cents wholesale and two cents retail, New York State legal authorities started an investigation. The bread companies were a little too brazen for the boost to pass unnoticed.

In previous articles, this department reported:

Union-made and union-sold goods in general cost no more than non-union goods made by cheaper labor. In fact, our surveys have found that union goods sometimes cost even less; that the union-made products tend to be better quality as shown by tests of independent laboratories; that living costs in low-wage, largely non-unionized areas as the South are often as high as in unionized cities in the North.

The proof is in the prices. Union-made cigarettes

cost no more than non-union Camels. Or take men's hats. Two of the lowest-priced standard-quality men's hats, generally considered by trade experts to be outstanding values, are union-made even though their price tags generally are much lower than other brands.

In a new investigation of the effect of wages on prices, especially on the present high cost of food, this department finds there is really little or no relation between wage increases and recent price increases. In the first four months of 1958, when the wholesale food price index went up 2 per cent, and retail food prices rose 3 per cent, average earnings of workers in the food-processing industry remained at exactly the same level \$2 an hour. Since the beginning of 1957, food-processing workers' earnings have gone up 4 per cent, while retail food prices have jumped 8 per cent, and wholesale prices, 7 per cent.

This simple comparison *does not* take into account the increase in productivity, which holds down unit labor costs—the actual labor cost of manufacturing and selling goods. In the supermarket industry, for example, productivity increased from 1950 to 1957 at an average rate of 5 per cent a year.

In industry as a whole, reports Solomon Barkin, Research Director of the Textile Workers Union of America, output per man-hour rose 40 per cent from 1947 to 1956, compared to an increase in real hourly earnings of 32 per cent. In other words, the record shows that real wages did not keep up with the increase in productivity, while prices have gone up faster than the increase in labor costs, Barkin points out.

Moreover, the labor cost of manufacturing an article is only a fraction of the price you pay. The retailer's margin is added on to the manufacturer's price. When you pay \$16.50 for a dress, the factory price is \$10, and the actual labor cost of manufacturing it is just \$2.20. If you gave the workers who make that dress a 5 per cent wage boost, the actual increase in the manufacturing cost would be 11 cents.

Or take a vacuum cleaner for which you pay \$50. The factory price would be about \$38, and the labor cost of making it about \$5.70. A wage boost of 5 per cent would increase the actual labor cost 29 cents.

To blame the recent food price hike on "labor" is false. Labor costs in food processing run from 8 to 15 per cent on various items. Labor costs in that industry went up 4 per cent from January, 1957, to April, 1958. Thus the actual price increase attributable to increased wages, without even considering increased productivity is about one-half of 1 per cent. But as noted above, retail food prices jumped 8 per cent in that period, or 16 times as much as the increase in labor manufacturing cost. If the price increase had been limited to the rise in processing workers' wages, your bill for a \$10 market basket of groceries should have gone up to \$10.05. Instead, it was \$10.80.

## ***The Pulse of Radar and Sir Robert Watson-Watt***



### **Autobiography of Radar's Inventor Is Published**

**S**IR ROBERT WATSON-WATT is 56 years old today —“five foot six, an unlucky thirteen stone (about 182 pounds, you might say), tubby if you want to be unkind, chubby if you want to be a little kind, fresh-complexioned, organically sound and functionally fortunate, if fat, after a thirty-year war of resistance to taking exercise.”

This is the picture we finally get of the man who helped to turn the tide of World War II, the man who stood fast under “blood, sweat, and tears” during the Battle of Britain and developed radar. It is a picture painted by the man himself in his recently published autobiography.

For some strange reason, Robert Watson-Watt has remained in obscurity while the developers of drugs, vaccines, and rockets have risen to prominence. At last, 25 years after the war is over, the turbulence clears and Sir Robert’s signal comes through.

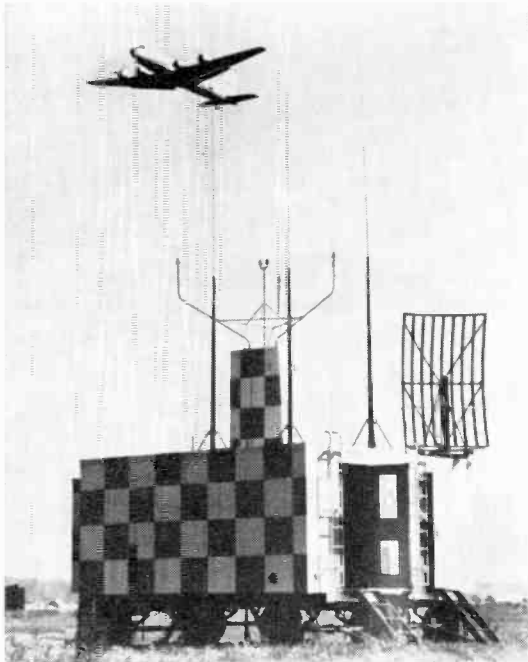
Sir Robert is a tweedy Scotsman, the son of a carpenter, and man with a long record of tinkering with the wireless.

During World War I he tracked thunderstorms as a meteorologist for the British Royal Flying Corps. Sitting beneath a 60-foot timber mast in a little hut in the midst of swampy wasteland near the military camp of Aldershot, he operated a small receiving station. His task was to unravel the story of radio “atmospherics” or static.

For the next two decades his life was wrapped up in attempts to pinpoint by radio the location of thunderstorms and other disturbances.

Life might have followed a serene course for Sir Robert or, perhaps he might have published a paper or two in the scientific journals—but one day in 1935 the director of scientific research at the Air Ministry asked him what he thought about the prospects for some form of “damaging radiation” in defense against enemy air attack.

Watson-Watt replied that he thought the prospects very poor but he’d look into the matter and submit a



A radar control trailer at Tempelhof Air Base, Berlin, Germany, where radar met the supreme test during the Berlin Airlift.



Remember F for Freddie and all those other chaps? This was a Civil Defense filter board at Los Angeles in 1943.



report. He began mulling over the possibilities of a radio "death ray."

Finally he submitted a lengthy paper, suggesting that a hypothetical death ray might be more destructive than man could control. He'd have to be able to aim it. He'd have to be able to detect hostile aircraft first.

In the concluding paragraph he said: "Meanwhile, attention is being turned to the still difficult but less promising problem of radio-detection as opposed to radio-destruction, and numerical considerations on the method of detection by reflected radio waves will be submitted when required."

The "numerical considerations" he had in mind had to do with wing spans of enemy planes as compared to intensity of radio signal, etc. This little germ of an idea got the wheels to turning, and before long Britain's Committee for the Scientific Survey of Air Defense went all out in a successful program of development.

Watson-Watt relates what followed in a sometimes boring, sometimes entertaining style. He describes "Huff-Duff" which became the eyes of the fleet; "Oboe," which permitted amazingly accurate bombing; "Rebecca-Euraka," the most portable of all radar systems.

He tells how German pocket battleships ran the English Channel. He shows how Pearl Harbor could have been alerted by radar.

Sir Robert has been permitted to write in his own style, and he starts off slow, but he builds up to a good story.

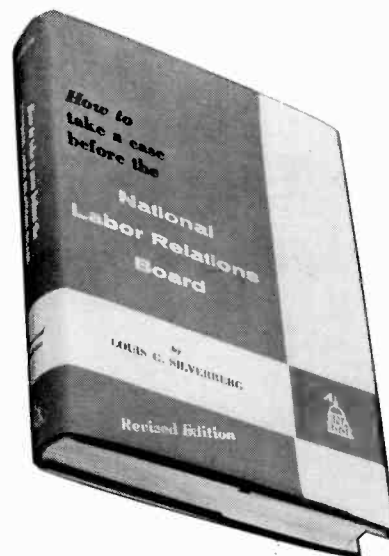
Where'd he ever get the name Watson-Watt? He says all Watsons and all Watts are descended from some fellow named Walter, "Wattie" in the Gaelic; and somehow some of the kissing kin got together back in the family tree and joined both names.

Here's how to get the book:

**The Pulse of Radar** by Sir Robert Watson-Watt, 438 pp. Published by Dial Press, 461 Fourth Avenue, New York 16, N. Y.

## Democratic Elections?

We are indebted to the *Radio Officers' News* of the R.O.U. for calling our attention to an election by the stockholders of a large corporation. It seems some of the stockholders were suspicious that the directors had sticky fingers. The former therefore introduced a vote on two resolutions which would restrict the amount of "bonuses" and "pensions" which could be extracted from the company till by the brass. Along with the ensuing ballot came an announcement in big, black bold type that the directors were "Against" the resolutions and the announcement stated that stockholders who did not cast a vote would be recorded as having voted *against* the resolutions. Can you imagine the screams from Capitol Hill if a labor union put out a ballot like that?



**How to Take a Case Before the National Labor Relations Board** by Louis G. Silverberg, Director of Information for the NLRB, Bureau of National Affairs, 1231 24th Street, N. W., Washington 7, D. C. \$7.85 per copy.

The Taft-Hartley Act is "the most extensive and complicated" piece of labor law ever to be dreamed up and adopted in United States history, says Louis Silverberg, author of the BNA, handbook, *How to Take a Case Before the National Labor Relations Board*, and he should know. For more than 20 years Mr. Silverberg has been Director of Information for the Labor Board. His office has been a clearing house of news for the press and a source of interpretations of Board statements for the general public.

About a decade ago Mr. Silverberg set about compiling a comprehensive handbook on NLRB procedures, which would answer questions frequently put to him. In 1950 the book was published by the Bureau of National Affairs. What we have with us now is a revised edition of this first volume, which has all the changes up to March of this year.

Silverberg's book is the authority in the field. Its 386 pages are loaded with the facts you need to fill out and file required forms, for appealing a ruling, etc. The twisted Taft-Hartley trail is charted from the regional office, where unfair labor practice charges and petitions are first filed, all the way through the general counsel's office and the 5-man NLRB itself.

Did you know that, before a union can bring charges or file petitions under Taft-Hartley, it must first file no less than seven technical documents? Some must be handed the Board; some must go to the U.S. Department of Labor; some must be filed with both. And until these seven papers are put where they belong the union has no standing whatever with the NLRB. This

is the process called "getting in compliance" with the Taft-Hartley Act.

What's more, it's not enough that these documents be filed by the international union; every single local union wishing to use the Board's services must be "in compliance."

Silverberg's thorough handling of this first problem includes an illustration of each of the seven forms and an explanation of how to file them.

There are facsimiles of 58 official forms in the book, altogether. These are forms needed for petitions, charges, notices, orders, and ballots.

The full text of such documents as the Taft-Hartley Act, the Rules and Regulations of the NLRB, and the Official Memorandum describing the functions of the General Counsel, are included in the book.

### Aid to Understanding

Organizations and flow charts which diagram procedures help you to understand how some things wind up before the Board and others get sidetracked or solved in lower bodies.

You'll find a step-by-step account of the course to be followed in representation cases. These are cases in which the union, having signed up the workers, wants the Board to hold an election to convince the employer that the technicians want the union to bargain for them.

Some of the chapter headings are as follows:

- How Union Comply and Keep in Compliance with Filing Requirements.
- How to Determine Union's Majority Status: Proceedings Up to Formal Hearing.
- How to Determine Union's Majority Status: From Hearing Through Election.
- How to Determine Union's Majority Status: Proceedings After Election; Decertification Cases.
- Jurisdictional Dispute Cases.
- How, Where, and When to Serve Papers.

There are 11 fact-packed chapters in all. Here is a book which will be valuable to local union officers, attorneys, and, we must admit, the other side of the bargaining table, too.

**Digest of Decisions of the National Labor Relations Board, Volume VI (June 1, 1953-June 30, 1956).** Government Printing Office, Superintendent of Documents, Washington 25, D. C. \$4, Buckram Edition.

Here is the latest in a two-decade series of condensed studies of cases which come before the National Labor Relations Board. These digests are invaluable to labor attorneys seeking to cite precedents. They are valuable, also, to local unions involved in legal problems which can develop into major issues.

**Decisions and Orders of the National Labor Relations Board, Volume 120,** Government Printing Office, Superintendent of Documents, Washington 25, D. C. Cat. LR 1.8:120 \$5.50.

This is the complete text of NLRB rulings between March 1, 1958, and June 30, 1958. Though the average member cannot afford to purchase such volumes periodically, he can often find access to them by visiting major libraries or contacting his international union. These periodically-issued volumes, available only from the Government Printing Office, contain the entire language of the Board's "Published Decisions." These include representation, appropriate unit, unfair practice and directed election cases, which are issued by the Washington office of the NLRB. Consent election cases and cases handled solely by regional directors are not included. Neither are "short form" decisions by the Washington office reported.

### Trees May Shadow UHF

A report submitted to the Association of Maximum Broadcasters recently shows that the screening effect of trees and foliage may be one of the most significant factors in the loss of signal strength in the UHF band.

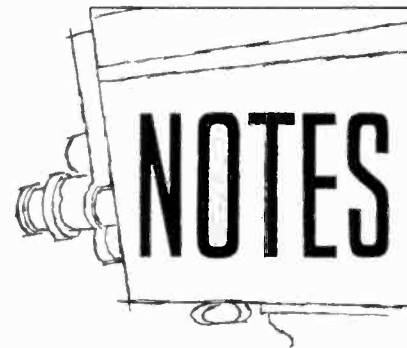
A field test on 483.26 mc was made last December and January at Salisbury, Md., using Channel 16, WBOC-TV, Salisbury (620 feet antenna height above average terrain). Measurements over the flat terrain of Maryland's Eastern Shore were made using an antenna 30 feet above ground.

### Quote of the Month

"The difference between the senator from Arkansas and me is that every time he sees a union, he sees racketeering. Every time I see a union—except in a few cases, relatively speaking—I do not see racketeers; I see men and women who are attempting to advance their economic interests." (U. S. Senator John Kennedy to Senator John L. McClellan during recent Senate debate on Kennedy-Ervin labor bill.)

### Zenith Plugs 'Drift-Free'

Zenith Radio Corporation has announced three new table-top FM-AM radio receivers equipped with an automatic frequency control circuit that "simplifies tuning of FM and 'locks in' the station tuned, eliminating the problem of FM 'drifting.'" A fourth Zenith newcomer uses a "two gang 'permeability' circuit" for virtually drift-free tuning of FM channels.



## To Measure Circuits



Closed-circuit television is being used by development engineers at the General Electric Company's Electronics Laboratory here to make transistor research faster, easier and safer. By combining a closed-circuit TV camera and receiver with a special pulse-measuring oscilloscope, transistor evaluation and high-speed circuit development have been stepped-up by as much as 30 per cent.

J. P. Hesler, a development engineer in semiconductor circuits, is shown measuring the magnified high-speed pulse circuits on the face of a TV monitor, or receiver, while the camera peers into the face of the oscilloscope tube. The camera, General Electric model TE-3-A, is similar to those used in industry, education, commerce and by the military.

Prior to using the closed-circuit TV system, engineers were required to squint through special microscopes while recording minute electronic pulses and were always faced with the possibility of slight-x-ray exposure. Another method was to photograph pulses on the two-inch oscilloscope tube and then develop and enlarge the photos for further study. The CCTV system has simplified the complicated procedure and made it safer. Price for the complete CCTV system, including camera and lens, monitor controls, and brackets is about \$4,000.

## Thimble-Size Tube

The electron tube has taken on a new look at RCA laboratories in Harrison, N. J. Researchers there have developed the "Nuvistor Tube," a tiny but rugged chal-

lenger to the growing number of solid-state electronic components now on the market.

The Nuvistor was given its first public demonstration in New York City recently. Industry leaders were shown how use of the new tube can reduce the overall volume of conventional tuner units by approximately one-third. In addition to the tube's advantages in commercial equipment, it will permit more compact and efficient electronic equipment for armed forces communications, aircraft, missiles, and computers.

Developmental samples of the Nuvistor will be furnished within the next few months to electronics laboratories and manufacturers. Small-signal triodes and tetrodes will be offered at first, and later it's expected beam power tubes will be provided. Limited commercial production is planned to start early next year.

Features of the tube include: elimination of mica support discs or spacers through use of a strong ceramic base-wafer as a platform for erection of the tube electrode assemblies, cylindrical symmetry and cantilever construction permitting use of accurate jigs for assembly, brazing of assembly for strain-free structure, high-temperature processing resulting in super-clean structure, lugs indexed for easy insertion into tube socket, high-temperature operation and no-glass construction.



The Nuvistor Tube is small enough to fit into a thimble. Its use in conventional TV receivers would reduce the overall volume of tuner units by approximately one-third.



## Radio 'Death Ray'?

Government scientists have discovered that close-up radio waves can be used as a "death ray." They have killed at least 10 monkeys in experiment with the rays at the National Institutes of Health.

In each instance, the monkeys died about five minutes after the "rays"—electromagnetic waves of unrevealed frequency—charged into the animal's brain from a radio antenna pointed at the animal's head and in line with its brain stem.

Each one's life was extinguished "like the snap of a light bulb."

About 10 other monkey's survived limited exposure to the waves and most of these have recovered.

The lethal experiments were disclosed in off-hand testimony by Dr. Pearce Bailey, director of the National Institute of Neurological Diseases and Blindness, before a House appropriations subcommittee April 9.

Bailey said implications of the experiments may prove to be "far-reaching." He raised the possibility—but did not say outright—that the electromagnetic waves could account for some unsolved airplane accidents.

Acknowledging that the scientists do not know the exact significance of the experiment, Bailey said it may serve, however, "to develop more protective and safety devices against exposure to radio and radar waves."

He stressed, however, that "we feel certain that radio and radar (as normally used) is not dangerous."

Bailey told the subcommittee:

"The question that has been discussed considerably is whether electromagnetic waves, if properly focused on certain parts of the brain, can have some effect on the activity of the brain. The belief up to now has always been that it could not. But with the particular frequency that we tried, it worked, and it worked in every single case."

He said equipment for the experiment was provided by the Armed Forces special weapons projects and the Army and Navy.

In the course of making a report to the subcommittee, Bailey unexpectedly disclosed the experiment by saying "I should like to mention a new discovery we just made a short time ago."

He went on to say that on March 4 he witnessed "a remarkable phenomenon" in the Neurological Experiment Station at Bethesda, Md. In the first experiment, a monkey was fastened to a chair in a sitting position under photographic floodlights. The monkey was surrounded by a drum-shaped shielding cage called a "resonating cavity." From the top of the cage extended a radio antenna pointed toward, but not touching, the monkey's head.

A motion picture camera recorded the monkey's movements during the experiment. The electromagnetic waves were emitted by the antenna attached to a transmitter.



## *The News from Moscow*

### **The Reds in Color**

The Russians, who say they have been experimenting with their own color system, will get their first look at American color TV this summer when RCA stages a special demonstration at the Moscow Fair. A fully equipped studio will originate eight hours of live and filmed color programs daily. These will be carried by closed circuit to 16 21-inch color receivers placed about the fair grounds in Sokolniki Park.

A highlight of the program will be a "See-Yourself-on-Color-TV" feature. Russian spectators will be invited to parade before the camera and view their own image on a color TV monitor.

### **Tall Russian Tale**

Russia this year will start building a 1,625-foot cone-shaped television tower, higher than the world's tallest buildings, says Radio Moscow. The new tower will go up at the Dzershinsky Park of Culture and Rest at Ostankino and transmit television programs to areas as far as 80 miles from Moscow.

### **Product Recognition**

NBC's Moscow correspondent, Irving R. Levine, tells of an American visitor who was trying out reception on his midget transistor radio while riding on a Soviet train. Russians watched with curiosity as he held it to his ear. Finally a Russian, unable to contain himself any longer, blurted: "We have those too. . . . What is it?"

# Station

# Breaks

## People and Places

Robert E. Pantell, formerly a Business Representative of Local Union 1212, resigned his position on April 24th, to become Personnel Director of the Metropolitan broadcasting Corporation (WNEW-AM-FM-TV, New York; WTTG (TV), Washington; WHK, Cleveland). Bob's many friends in the IBEW will wish him well.

## Local 1212 Offices Move

The offices of Local 1212, New York City, have moved to 1780 Broadway, between 57th and 58th Streets. The new quarters will provide almost twice the floor area which was available at the old address at 11 West 42nd Street, and at a lower rental rate. Local officers expect to be able to accommodate many of the shop meetings now held in rented meeting halls.

## Kansas City Listens

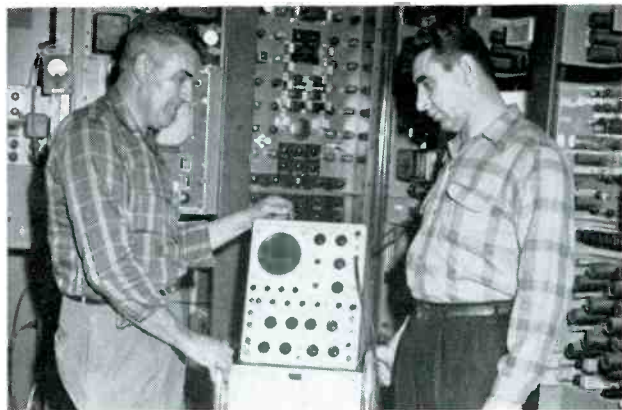
Every day, Local 1259 members at Station WDAF, Kansas City, Mo., are tuning in on Radio Moscow, so that local listeners can hear for themselves what the Russians are saying in their English-language broadcasts. They monitor the Red station for the newscasts of Bill Leeds, WDAF's foreign news editor.

## Two Settlements

A "weekend" strike in March at WMUR-TV, Manchester, by members of Local Union 1228 produced an interim, status quo agreement looking toward negotiations for a renewal agreement with the new owners, United Television Co. of New Hampshire. The previous owners terminated the prior agreement, at its anniversary date last Fall.

On April 10, negotiations proceeded and, on the following day, all the IBEW Technicians were summarily discharged. On Monday, April 13, a picket line was established and the second strike within a month was in progress. By Friday, April 17, an agreement had been reached and Business Manager Cairns notified the men that they should return to work. All's well that ends well—sometimes drastic action is necessary. Certainly, in this case, action produced reaction.

## WLWA-TV Transmitter



Chester Haldeman, past president of Local 1193, Atlanta, and George Magdich, business manager, check an oscilloscope among the video input racks at WLWA-TV. Haldeman is the station's studio supervisor and maintenance man.

## Omaha Agreement

After a long negotiation with Meredith WOW, Inc., Local Union No. 1221 reached agreement on a "first-agreement" in April. A one-year agreement, it provides for a \$3.50 per week increase in the wage scales and features a 4-year escalator provision.

## Providence Pact

After protracted negotiation, a renewal agreement covering Announcers and Newsmen, members of Local Union 1281, was reached on May 15th. Effective November 1, 1958 for Announcers and January 20, 1959 for Newsmen, the new agreement provides for a general increase of \$8.00 per week over previous scales. A premium scale for Announcers was also newly established for "disc jockey" operations. The new overall agreement combines the previously separate IBEW agreements, for the Newsmen and Announcers. The new pact reaches its next anniversary date on April 26, 1961.

The new agreement was negotiated by a committee representing the employees involved, Business Manager Jim Drake of the Local Union and assisted by Representative Ken Cox.

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