RADIO, TV and RECORDING

TECHNICIAN-ENGINEER

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RADIO, TV and RECORDING
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The INTERNATIONAL BROTHERHOOD of ELECTRICAL WORKERS

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JOSEPH D. KEENAN International Secretary
FRED B. IRWIN International Treasurer

ALBERT O. HARDY Editor, Technician-Engineer

. . . in this issue

. . . the cover

The hot and heavy political campaign of 1956 is drawing to a close. In a few days the United States will decide its next President and Vice President. It will select a full slate of U. S. Senators and Congressmen. In some state elections, the issues will revolve around state anti-labor laws. Labor's opposition will vote. The U. S. Chamber of Commerce and the National Association of Manufacturers, for example, are urging them to do so. It is time that the trade unionist, too, had his voice heard at the polls. November 6 is election day. Get out and vote!

commentary

The learned wise man, Confucius, once said: "He who warms up his transmitter early, gets his signal broadcast on time." Heeding this profound statement, we want to tell you seven months ahead of time that there's a progress meeting coming up.

The 1957 Progress Meeting of the Radio, Television and Recording Division of your IBEW is scheduled for June 14, 15, and 16 at the Roosevelt Hotel in New Orleans, La. The host organization will be Local 1139, a fine aggregation of broadcasting engineers and technicians in the Crescent City. We are told that they are already making arrangements for the meeting.

Those members of our union who have attended previous progress meetings will tell you that the conclave is mostly made up of shirtsleeve sessions, in which we discuss pro and con the major problems facing our jobs and our organization. Local problems involved in contract bargaining are discussed. Organizing problems are reviewed. All in all, your local should be represented in the annual get-together.

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 the 1955 figures:

August, 1956—116.8 August, 1955—114.5

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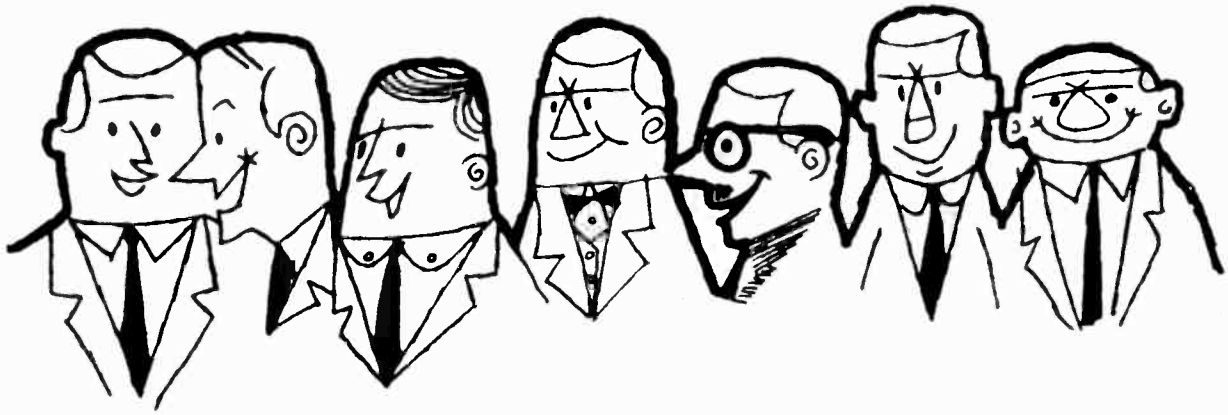

ENGINEER SHORTAGE?

. . . It depends upon your point of view!

Compare the number of outstanding first-class licenses with the number of employed engineers, then read of one engineer's experiences.

MUCH has been said and printed on the subject of the shortage of engineers. Forums are held, committees are set up, and proposals are made. But the answers to the problem and the reasons which cause the problem seem to evade the seekers. Let us now suggest that the old axiom may apply—"Too close to the forest to see the trees."

The shortage has been analyzed by many competent people. While the greatest concern arises from the "shortage" of college-trained personnel, many educators and prominent businessmen also deplore the apparent shortage of lesser-trained people—"technicians" as distinguished from "engineers."

In testimony before the Subcommittee on Research and Development of the Joint Congressional Committee on Atomic Energy on April 25, Brig. General David Sarnoff recommended a three-point program that would affect both colleges and high schools throughout the nation. He proposed.

1. That atomic reactors be built on selected college campuses to "signalize the importance of the scientist, the physicist, the engineer, and the man of technology," and "stimulate the interest of students in matters scientific."

2. That a nation-wide poll be conducted among high school seniors and college freshmen to determine why so few young Americans are taking up scientific careers.

3. That industry and government cooperate in establishing a "National Education Reserve" made up of qualified teachers drawn from industry and from the ranks of the retired, to ease the shortage of science and mathematics instructors. This proposal was made originally by General Sarnoff last January before the National Security Industrial Association and has aroused widespread interest.

General Sarnoff told the Congressional group that these proposals were "not presented as cure-alls, but simply as measures that could go a long way toward ameliorating the present critical situation."

The case for the shortage of lesser-trained personnel was emphasized by Dr. Irving Wolff, vice president of Research for RCA, in a recent speech at Columbia University. Dr. Wolff emphasized the need for relieving present trained personnel of non-technical responsibilities and the more routine work through the greater use of trained technical assistants whose training he estimated can be accomplished in a maximum of two or three years—as against four to eight years for an engineer or scientist. He also emphasized the necessity of making careers in science and engineering attractive "to those boys who have strong financial or social motivations."

THIS shortage can also be emphasized by the bare figures compiled by the Federal Communications Commission. The Commission's latest annual report shows that 53,415 First-

Class Radiotelephone licenses were outstanding as of June 30, 1955. It can be left unsaid that the proportion of licenses in use to the total number of licenses must represent an outstanding disparity.

A very striking letter appeared in the "Letters to the Editor" column of the *Washington Post* on October 2, 1956. By courtesy of the *Post* we reprint the letter in full and with only one comment —"it speaks for itself."

Letter to the Editor

Reprinted, with permission, from the Washington, D. C., Post and Times Herald

DEAR SIR:

To the scores, or perhaps hundreds of other letters you must have received commenting on the "shortage of scientists and engineers," I would like to add a few comments—based not on personal opinion alone, but on serious research.

First, as near as I can determine, the anguished cries of "shortage" invariably come from prospective employers of engineers or, if not directly from them, are, at least, instigated by them. A survey of experienced engineers and scientists gives quite a different story. According to them, as reported in the professional journal, *Research & Engineers*, there is not so much a shortage of engineers as there is a shortage of decent paying jobs.

In fact, again from the same source, it seems certain that there would be a surplus of engineers if only 60 per cent of the qualified engineers in the Nation were working in the primary field of engineering.

Which brings up the question of why engineers are not working as engineers. The answer is simple and obvious. Income!

There is little incentive to work as an engineer when real estate salesmen, auto salesmen, and semiskilled laborers, to mention but a few, have as high an income or higher than a highly trained technical man. I, personally, have met quite a number of engineers who are working as door-to-door salesmen . . . and making more money than they could as engineers!

Several associates and myself recently conducted a survey among the firms who have been crying "shortage" the loudest and longest and who have the biggest "Engineers Wanted" advertisements. We all prepared detailed resumes outlining our backgrounds and, individually, sent them to firms advertising for personnel with our particular skills and training.

Each of us sent out two different resumes, identical but for one small item—on one a "minimum salary" was stipulated, a salary quite commensurate with those earned by other groups, considering the training and skill required to handle the work.

Invariably, when the resumes without a "minimum salary" requirement were sent to firms advertising for personnel, the answering letter showed definite interest. The replies often carried a request for a "personal interview at your earliest convenience and at our expense." In some cases, telegrams were sent in answer to the resume. In at least one case, the response was a long-distance phone call.

And just as invariably, when the "minimum salary" statement was included, the answering letter was a printed form or typewritten form letter, which usually said "after a careful review of your qualifications, we find that we do not, at the present, have any positions open for an individual with your particular background and training. However, we are maintaining your application in our active file. . . ." The letters, from widely different firms, read so much alike they sounded as if they were copied from a "Form Book."

In a few instances, the letters, supposedly from qualified personnel men, bordered on the ridiculous. One letter, for example, said: "In answer to your application, received *this morning;* we have carefully reviewed your qualifications with several of our technical groups and find that, at this time, we have no opening available . . ., etc."

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President's Committee on Employment of the Physically Handicapped gives recognition to our international union for its support of job placement program.

Handicapped Workers Need Our Assistance

By GORDON M. FREEMAN
International President

MANY employers in many industries are keenly interested in employment of the handicapped. Either there has not been the same response on the part of labor unions, or else labor unions have been "hiding their light under a bushel." Those of us who are intimately concerned with the matter are inclined to believe that the latter is the case.

After only a cursory check of our own union, I know for certain that many IBEW locals are working hand-in-hand with management to give the physically handicapped a chance to earn their own livelihood.

We know that we are not the only labor union vitally interested in the program. We hope that many more will participate.

October 7-13 was national Employ the Physically Handicapped Week. Our union was signally honored by my appointment as vice chairman of the President's Committee on Employment of the Physically Handicapped, the group which sponsors the observance. This recognition came as a result of your efforts on behalf of the handicapped.

I want to take this opportunity to urge all of our members to continue their active support of the handicapped program. Since World War II there has been a great surge of developments in this field—new instruments for the manually handicapped, new methods of rehabilitation, new plans for job placement.

These progressive steps have paid off. More than 20,000 handicapped persons are now finding useful occupations each month. In October of last year, 31,825 workers with physical impairments found jobs, a gain of nearly 20 percent over the previous month. This gain was credited to the reminders made during national Employ the Physically Handicapped Week.

If we can give those extra thousands of persons jobs each October, we can do better than we are now doing on the average year 'round.

In broadcasting there are jobs a handicapped person can "hold down." Give the handicapped worker a chance to show what he can do when he applies for a job in your establishment. He'd much rather earn his own way, than be a burden on the community.

If he cannot find work in broadcasting, there are other industries which will employ him—industries where his disability might not hinder his work at all. He must not be discouraged, for more avenues for work are opening all the time.

TELECLUBS and the French Farmer

When the government and the UN try to influence French farm life, the farmers say modern machinery is bad for the cows, but if you have a good variety show, Monsieur, well . . .

IN a group of small French villages scattered over the countryside some 60 miles to the northeast of Paris, television has proved its power, not only to entertain, but to sell new, progressive ideas to a whole community.

A special series of 13 television programmes, designed to shake the traditional conservatism of small French farmers, was launched between January and March, 1954, by the Radiodiffusion-Television Francaise, with help from the UN Educational, Scientific and Cultural Organization. The series aimed primarily at showing the farmers the advantages of cooperation and modernizing their farms.

Audience reaction to the series was carefully noted by a team of observers. And now, in a new publication, *Television and Rural Adult Education*, UNESCO has shown how the ideas of many of the farmers about their working methods and their everyday life have been changed as a result of the programmes.

For instance, a farmer of 49, after the last telecast, said: "I'd never paid enough attention, before, to manure and the use of the tractor"; and another, aged 46, remarked: "I was using second-hand implements; I now think they cost just as much as new ones, and I can understand why the young people want to bring things up to date."

Two farmers bought themselves a washing machine in one village following the series, while after one programme on women in the country, another farmer concluded: "More ought to be done to ease the women's position in the home; I'm going to do something about it."

Television has been brought to rural France in the postwar years, largely through the development of teleclubs in country areas within the range of Paris television facilities. Although individual farmers are seldom able to lay out the $300 price of a TV set in France, they have proved willing to join in a club to buy a cooperative set.

The equipment is set up in the local school, and club members come in to watch programmes, announced to the village by the local constable, acting as a town crier. In 1954, 80 teleclubs existed in 10 departments, and it was estimated that by the end of 1955, 17,000,000 people would be able to watch television in this way if they wished.

Public opinion surveys have revealed surprising tastes among the French rural population. Though variety programmes top the list, plays and documentaries are also very popular. The films best liked are not the mass-produced money-makers, but the classics like "La Battaille du Rail" and "Manon," while the favorite play was Ben Jonson's "Volpone."

THE 13 experimental programmes, billed as "Etat d'urgence" (State of Emergency), were produced in the Aisne department, some 60 miles northeast of Paris. They covered various problems connected with the modernizing of farming. One show was devoted to motorization, another to land production, a third to over-production. Two were about cooperation, and one was the story of a country boy returning home after a term in the army.

A preliminary survey of selected villages in the Aisne department had shown a reluctant, even hostile attitude towards modernization. Barely 20 per cent of the farmers wanted to own tractors ("My land is too small," they commented, or "You still need horses to haul it when it breaks down.") Only 10 per cent wished to renovate dilapidated buildings, while small farmers were contemptuous of artificial insemination. Approximately 85 per cent of the people interviewed had no modern machinery, and about 30 per cent were

definitely against such equipment ("It's bad for the cows"), and, in the case of a collective washing machine ("It's unhygienic"). The women appeared more conservative than the men. Running water was desired by 52 per cent of the men as against only 36 per cent of the women ("I have lived in dirt all my life, and I'm not going to change now," was one comment).

The experimental films were made on the spot wherever possible, and local farmers and laborers played the star roles. Real characters also argued in the discussions that were held from the Paris Studios. The producer reported that farmers and peasants acted far better than professionals could have done, being more realistic and sincere. It was difficult, however, to persuade some farmers to put forward their real opinions on television, as they were afraid of being thought reactionary. But this was not always the case. In a film on farm credit—when two industrialists and two farmers argued the case around a table—the discussion all but ended with a free fight.

There is no doubt that the series stimulated arguments, the UNESCO publication reports. Both the presentation and subjects of "Etat d'urgence" were discussed, often violently. At Venteuil, 23 farmers walked out of the film on over-production because they thought a small farmer from Brittany was not given the opportunity to state his point of view.

Following the telecasts, the surveyors found significant changes in attitudes. In some cases, the change was the direct opposite of that sought. A farm girl of 20, instead of wanting to halt the exodus from the country, concluded from the series: "It made me want to go and live in the town even more than I did before." But on the whole, people were more in favor of change.

The most noticable change of attitude was in respect to renovating old buildings and constructing new ones. Next came changes regarding the use of artificial fertilizer and seed selection. A large number, especially young people, were in favor of having running water, village halls and sports grounds. Most, however, remained sceptical about cooperatives and tractors. Although the farmer's wife stands to gain most from change, she remained more opposed to change than her husband. "We get along all right now," summarizes her attitude.

The result of the experiment is considered encouraging. So much so that UNESCO recently announced that it is helping Japan this year to launch a similar scheme under which at least 40 teleclubs will be formed in schools and civic

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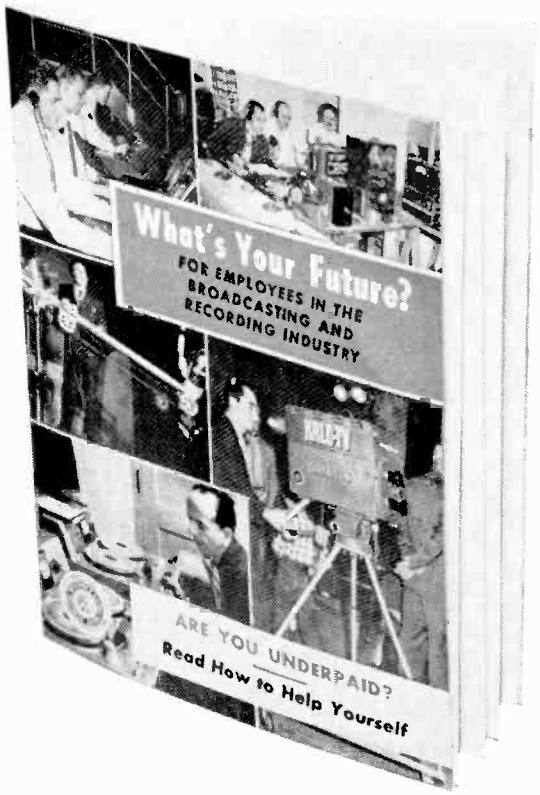
Organizing
BOOKLET REPRINTED



The booklet *What's Your Future?*, which was originally printed more than two years ago, has now been re-printed. It has been brought up to date and includes full reference to the amalgamation of the AFL and the CIO, new wage data, etc.

Quantities of the booklet are available at no charge and upon request addressed to the International Office. Orders should specify "Form 378" and should clearly indicate the quantity required.

Many local unions have expressed their satisfaction with the previous issue—if you want a capsule-story of the IBEW for use in organization work, the new issue may be just what you need.

What's Your Future? urges the non-member to "join the majority," pointing out that the IBEW is a party to more than 90 percent of the union contracts for engineering personnel in the industry.

The cover of the booklet shows various views of IBEW members on the job. The 12 pages of the contents are well illustrated.

UAW Supports Strike in Birmingha

Full-page advertisement in Sunday newspaper states the IBEW position, offers strength of Auto Workers

FOR more than 15 months, 22 technicians have been walking the picket lines at Radio Stations WAPI and WAFM and at Television Station WABT, Channel 13, in Birmingham, Ala. Men are on the line at a studio on Red Mountain, which overlooks the Southern industrial city, and at the WAPI transmitter at nearby Sandusky. Other broadcasting properties involved are ringed by placards too.

Though the IBEW men on strike have been faced with all sorts of charges, though strike breakers have been brought in from several states, and even though some pickets were attacked by thugs at WAPI-WABT, the technicians are determined to win their fight against the company involved.

They have received increased support in their boycott from other units of organized labor in Birmingham, and the public is beginning to offer its sympathetic support.

The greatest boost in recent weeks came from a full-page advertisement published in *The Birmingham News* Sunday Edition, October 7, which we reproduce in full on the opposite page. It drew the attention of the general public to the issues involved, reciting the background of the dispute, and offered the strength of the United Automobile, Aircraft, and Agricultural Implement Workers to the picketing technicians.

The IBEW Local involved is No. 253, which has represented the struck workers for 20 years. The members have been off the job since July 1, 1955, when attempts at new contract talks broke down. They were forced to take strike action because the management of the stations not only refused to bargain in good faith but, during the time the Local 253 representatives were meeting with company representatives, the company put into effect work assignments that were in violation of the contract then in force.

On the expiration of the old contract, after failing to reach agreement on new issues, the union offered to renew or sign a contract identical to the old agreement, with the same working conditions and wages. This action was taken to avoid a work stoppage.

In spite of this action, the company refused to deal with the union and fired the 22 technicians.

The United Auto Workers became directly involved in the strike when TV Station WABT carried a UAW 20th Anniversary broadcast over the NBC Network, June 3, against instructions of the Auto Workers' union. Due to a misrepresentation on the part of a representative of WABT, the advertising agency which cleared the network show permitted WABT to carry it. The UAW, when first advised of the IBEW strike at the station, had directed the ad agency to remove WABT from the net. The agency restored the struck station to the list when a WABT representative falsely assured the agency that no strike was in progress.

Expressing regret at the error and to set the facts right, the UAW published the full-page advertisement. We are sincerely grateful for this show of solidarity to our members in Birmingham.

An Important Message

. . . to the citizens of Birmingham

. . . to radio and television advertisers and listeners in the Birmingham area—

Twenty-two radio technicians at Radio Stations WAPI and WAFM and Television Station WABT, Channel 13, are on strike. These workers are members of the Radio Broadcast Technicians and Engineers Local Union No. 253, International Brotherhood of Electrical Workers. They have been striking since July 1, 1955, when they were forced to take strike action because the management of these stations not only refused to bargain in good faith but, during the time Union representatives were meeting with the Company representatives, attempting to negotiate a contract that would be acceptable to both parties, the Company put into effect work assignments that were in violation of the contract then in force.

Complying with the terms of the contract then in effect, the Union sent a letter to the President and Managing Director of the Company, objecting to the violation. This letter was ignored. Instead, the Company notified the Union that it wanted to delete the portion of the contract providing for settlement of grievances in the new agreement being negotiated

On the expiration date of the old contract, after failing to reach an agreement on a new contract, the Union offered to renew or sign a contract identical to the old agreement, same working conditions and wages. This good faith offer on the part of the Union, even though all other crafts were getting raises and other improved conditions, was made in order to avert a work stoppage.

The Union, in making the offer to accept the old contract, took into consideration the fact that WAPI is the key station for the Birmingham area in the CONELRAD alerting system, developed by the government, to confuse enemy planes and alert and protect the people in case of any enemy attack.

The Company rejected the Union proposal and fired the 22 technicians. Strike-breakers were imported to replace the Union members and armed guards hired to escort these strike-breakers to and from work.

During the 15 months this strike, which was forced by the management of these stations, the Union has stood ready to bargain with the Company. Since the start of the strike, the stations have been sold. The new management has indicated that it would like a contract but it has refused to commit itself to the rehiring of a single striking technician.

Obviously, the Union representing the technicians who were forced to take strike action by the unfair labor practices of the management of the stations cannot agree to a contract which does not restore the 22 workers to their legitimate jobs.

The Union technicians are continuing to picket the facilities of WAPI, WAFM and WABT. They plan to continue to picket until they are able to win a reasonable settlement. They are asking Birmingham area advertisers and the public to support them.

The UAW fully supports this strike of technicians at these Birmingham stations where these technicians are fighting for the basic American right to organize and bargain collectively through a Union of their choice. Workers at these stations have been represented by the IBEW for something more than twenty years. During that twenty-year period the facilities have changed ownership several times and the Union has met no insurmountable problems in working out details of a new agreement with each successive owner until this time.

Claims that the Union's proposals are "unreasonable" are belied by the fact that this Union has negotiated contracts successfully with ten other radio and television stations in this area since the beginning of the strike at WAPI, WAFM and Television Station WABT.

Due to a misrepresentation on the part of a representative of Television Station WABT, the advertising agency which made the arrangements for the UAW's Twentieth Anniversary television program, June 3, 1956, permitted WABT to telecast the UAW program. The UAW, when first advised of the IBEW strike at the station, had directed the advertising agency to remove WABT from the list of stations carrying the UAW anniversary program. The advertising agency restored WABT to the list of stations after a WABT representative falsely assured the agency that no strike was in progress.

Both the advertising agency and the UAW regret that the station was permitted to broadcast the program. The UAW, in taking this means to apologize to the striking workers, wants the public to have information concerning this strike and to urge the citizens, advertisers and listeners, to support these Birmingham workers who have been unfairly treated and are being denied their rights to earn a living at honest wages and under fair working conditions.

International Union, United Automobile, Aircraft, and Agricultural Implement Workers of America, (UAW)

Guglielmo Marconi

Electromagnetic waves remained unusable for almost a decade, until a young Italian engineer began experimenting with them

FOR almost a decade scientists knew that there were such phenomena as waves of electricity. Heinrich Rudolph Hertz, a German physics professor, had been awarded a prize by the Berlin Academy of Science for his discovery of the progressive propagation of electromagnetic action through space. Hertz had measured the length and velocity of electromagnetic waves, and he had shown that in the transverse nature of their vibration and their susceptibility to reflection, refraction, and polarization they are in complete correspondence with the waves of light and heat. He had established beyond a doubt the electromagnetic nature of light.

But the mysterious Hertzian waves remained unusable for almost 10 years until Guglielmo Marconi, a young Italian engineer, found a practice use for them.

Marconi was born the youngest son of an Italian father and an Irish mother on April 25, 1874, in Bologna, Italy. He was educated privately at Bologna, Florence, and Leghorn and early discovered the fascination of physical and electrical science.

Firmly rooted in his mind was the idea that a system of telegraphy through space could be provided by means of electromagnetic waves. In the early summer of 1895, Marconi tried to work out his ideas by conducting a number of experiments at his father's country house at Pontecchio, near Bologna. These experiments made with crude and inefficient apparatus, nevertheless, gave results which appeared to be successful.

Marconi made an electric charge pass between two round knobs, and to these knobs he attached two wires. One wire went high into the air and the other down into the ground. When the discharge passed between the knobs, electricity was in turn thrown up into the air and down into the ground.

To pick up his signal thus produced, Marconi produced a "coherer"—a little glass tube with some metallic powder. When an electric wave passed through the powder, the particles "cohered" to transport the current. The inventor connected a simple battery to wires at each end of the coherer. When the first experimental wireless waves reached the wire and the coherer began to conduct it, a current from the battery passed through and worked an ordinary telegraph instrument. When the coherer was shaken or tapped with a small hammer it lost its conductivity and was ready to receive the next wave.

Such was the rudimentary start of wireless telegraphy and broadcasting.

Marconi was able to establish communication between distances in excess of a mile while experimenting at his father's country home. The next year, 1896, Marconi came to England, and on June 2 of that year took out the first patent ever granted for wireless telegraphy based on the use of electric waves.

In the midst of London fog Marconi continued

experiments and demonstrations, until the following year at the invitation of the Italian government, he went to Spezia, where a land station was erected and communications with Italian warships was established up to a distance of 12 miles. Thus, the first ship to shore telegraphic communication was established.

Now the time was almost ripe for the wireless telegraph to be applied to commercial and utilitarian purposes.

In July, 1897, a company was formed in London to acquire the Marconi patents in all countries except Italy. Eventually, this company was to be called Marconi's Wireless Telegraphy Company, Ltd.

At first, the company's efforts were confined to furthering Marconi's pioneer work. This work consisted of a number of interesting tests and demonstrations. They took place everywhere, off the coasts of the British Isles and elsewhere abroad.

That wireless was useful in saving life at sea was demonstrated for the first time when, on March 3, 1899, a light vessel was run down by a steamer. At once the accident was reported by wireless to the land, enabling life boats to be promptly sent to the assistance of the light vessel.

During the South African War, the first military application of wireless took place, and in 1900 came the long distance wireless telegraph station. Progress with the wireless was getting to be rapid.

In 1902 during a voyage on the American liner *S.S. Philadelphia* messages were received up to a distance of 700 miles by day and 2,000 by night.

Marconi's inventions came abundantly. In 1902 he patented a magnetic detector, and in 1905 he took out his patents for the horizontal directional aerial. In 1912 he introduced the "timed spark system" for generating continuous waves, and by its means Marconi sent the first message ever transmitted by wireless from England to Australia on September 22, 1918.

During the First World War, experiments with very short waves took place, the object being communication with a minimum of power, carried during the nights as well as by day and over any distance.

Among Marconi's later improvements in radio was the beam system which enables airplanes to fly blind.

Marconi served in both the Italian army and navy in the First World War and visited America as a member of the Italian war mission to the United States government. In 1919 the King of Italy appointed him plenipotentiary delegate to the Peace Conference in Paris, and in that capacity he attended the meetings with Austria and Bulgaria.

For his achievements, Marconi was awarded the Nobel Prize for physics in 1909, the Albert Medal of the Royal Society of Arts, and in the United States, the Franklin and the John Fritz Medals.

To top his honors he was nominated by the King of Italy in the same year to be a member of the Italian Senate.

He died on July 20, 1937, a man who had given the world one of its most useful inventions.

NABET Convention Elects New President

Shorter Work Week Becomes Primary Goal, as Automation Gains

GEORGE W. SMITH has been elected to a three-year term as International President of the National Association of Broadcast Employes and Technicians (AFL-CIO-CLC). Smith was elected at the Triennial Convention held in Toronto, Canada.

Eugene P. Klumpp, Buffalo, New York, was re-elected to his second term as International Vice President. Two other national officers were re-appointed: Arthur Hjorth, Chicago, as International Secretary-Treasurer; and G. Tyler Byrne, Ridgefield, Conn., as International Executive Vice President.

The new president, a resident of Des Plaines, Ill., had previously served as a Regional Vice President and member of NABET's International Executive Council and for many years has been active in the local union affairs in Chicago.

Following the announcement of his election, Smith said the most important problems facing NABET members were automation and the accompanying threat of manpower cuts. He said the convention went on record to place all employers on notice that the union will seek a shorter week as automation becomes effective. He said automation must be accompanied by a broadening of gains for the employes of industry, and that NABET would be prepared to strike to achieve these aims.

REST PERIOD COMPENSATION:

Wage-Hour Administrator Reaffirms Previous Ruling

AS THE result of questions raised by Local 1215, Washington, D. C., the Administrator of the Wage and Hour and Public Contracts Divisions of the U. S. Department of Labor has re-examined the position taken on rest period compensation by the divisions some two years ago. In the course of the reconsideration, the attorney for the local union presented voluminous data on the subject and a conference was held to discuss and thoroughly explore the subject.

(Ed. note: Our readers may wish to refer to the "*Technician Engineer*" for June, 1954, for background information on this subject and the Administrator's ruling of January 14, 1954, et seq.)

The basic issue raised by Local 1215 can be concisely stated: It was the opinion of the local union that payments made for shortened rest periods should be added to the regular weekly wage and any overtime payments should be based upon the weekly wage rate plus such rest period compensation divided by 40, with the thus resulting hourly figure being used for the computation of overtime pay. The Administrator disagrees—and goes to some length to explain how payments for rest period violation are regarded, with reference to the Fair Labor Standards Act.

In a letter to Mr. Bernard Dunau, legal counsel for Local 1215, Wage and Hour Administrator Newell Brown said:

"I have considered carefully the analysis presented in your letter of April 4, 1956, on 'rest period compensation' and I also have a report of the conference which you and representatives of the International Brotherhood of Electrical Workers had with members of my staff on September 17, 1956, regarding this matter.

"I want to state at the outset that it is not the function of the Divisions to interpret the provisions of collective bargaining agreements but rather to explain the requirements of the Fair Labor Standards Act which may be applicable.

"It is the Divisions' position that extra payments made to an employe for occasional periods when he is recalled to work outside of his regular working hours, are not required to be included in the regular rate of pay under the provisions of Section 7 (d) (2) of the Act, if the employe is otherwise paid for the time actually worked at his applicable rate, straight time or overtime as the case may be. This position is in accord with the principles set forth in Section 778.7(c) of the Interpretative Bulletin on Overtime Compensation.

"Typically these occasional extra payments are equal to or greater than one-half the employe's regular rate for the time spent on the call. In addition the employe receives full payment for the hours actually worked, at his applicable rate. Extra premiums of one-half of the employe's regular rate are not ordinarily regarded as 'shift differentials' which are required to be included in the regular rate of pay under the Act.

"This position is also contained, as you have noted, in the Divisions' letter of January 14, 1954, to the National Association of Radio and Television Broadcasters. The statement of facts upon which that ruling was issued was that the extra payments were made to employes for occasional periods when they were called back to work before their 12-hour 'rest period' had expired; that these payments were equivalent to time and one-half the employe's regular rate for the number of hours by which the rest period was reduced; that they were paid in addition for the hours actually worked at their regular applicable rate and that the employes did not receive these extra payments when they were called back for the same type of work after their 'rest period' had expired. It appeared also that the parties regarded these extra payments as compensation for the interruption of the 'rest period' and not as a payment for the hours worked and did not include such payments in the regular rate of pay in computing overtime compensation under the Act.

"Upon these facts the Divisions found that the extra payments had a direct relationship to the scheduling of the call-back rather than to the type of work performed during the call, and that the extra payments were similar to call-back payments discussed in the section of the overtime bulletin referred to above, and consequently were not required to be included in the regular rate of pay upon which overtime must be computed under the Act.

"If, however, it is the intention of the parties in any particular case to regard such extra payments as a payment for the hours actually worked

(Continued on next page)

READING TIME

Communications Engineering *by W. L. Everitt and G. E. Anner, 625 pp, McGraw-Hill Book Co., Inc., New York, N. Y., $9.*

This is the third edition of a book originally written in 1931. Since the publication of the First Edition in 1932, it has been adopted by most of the Electrical Engineering schools in the United States as a basic textbook. The Second Edition, published in 1937, deleted Complex Quantities and the treatment of Medium and High Frequency Measurements—the student was referred to other texts.

The Third Edition, released by the publisher in August of this year, concentrates on the fundamentals of linear-network analysis and synthesis as well as the utilization of unilateral elements. Rearrangement of the order of presentation of many of the subjects also covered by previous editions is also evident. In this respect, much could be said about the clarity which has resulted—a certain amount of skipping from one chapter to another, back and forth, has heretofore been necessary.

Recognition of the senior author very nearly constitutes sufficient recommendation of this book. Dr. Everitt was, for many years, a professor at the Ohio State University. He originated and was the central driving force in the conventions of the annual Broadcast Engineering Conferences, held in high esteem by hundreds of broadcast engineers. He was awarded the IRE Medal of Honor in 1954 and, among other offices he has held since he joined the IRE in 1925, he served as President in 1945 and as a Director from 1942 to 1947 and from 1949 to 1951. Now Dean of the College of Engineering at the University of Illinois, Dr. Everitt was joined by G. E. Anner, Associate Professor at Illinois.

Summed up—required reading; essential reference volume.

Rest Period Compensation

Continued from preceding page

to be included in the regular rate upon which overtime is computed, no problem would be presented since such a method of calculating overtime would be in compliance with the requirements of the Act."

Engineer Shortage?

Continued from page 4

The firm involved was a very large one, employing numerous technical "groups," yet the detailed resume (four pages long!) had been reviewed with several groups in less than a day, leaving time to dictate a "personal" letter!

Or perhaps the "careful review" consisted of noting the minimum salary requirement!

To sum up, in the opinion of many engineers and scientists in the field who, more than anyone else, should know if there is a real "shortage," there is no actual shortage of technical personnel but, rather, a surplus of low-paying technical jobs. And since the employers can't fill these low-pay jobs, they raise their voices in a uniform, and oft-repeated cry of shortage! The only shortage is in decent-paying technical jobs.

E. G. Louis.

Silver Spring, Md.

—*Washington Post,* Oct. 2, 1956.

Teleclubs and Farmer

Continued from page 7

centres in the areas covered by transmitters from Tokyo, Nagoya and Osaka. Thirteen special programmes will also be prepared to suggest ways of solving, by modern techniques, vital problems confronting Japanese agriculture.

UNESCO's report on the French survey was written by Joffre Dumazedier, president of the popular education movement, "Peuple et Culture," with the assistance of A. Kedros and B. Sylwan. Its purpose is to bring the fruits of the French experiment to governments, educators and persons throughout the world who are seeking ways of using television for adult education in rural areas. "The movement that sprang up in these villages," they write, "may serve as a guide for the use of television as an instrument both of popular culture and of fundamental education."

NEWS COMMENTATORS have been clocked at 225 words a minute! If all the words in the script of a 15-minute newscast, delivered at such speed, were placed end to end, they would stretch for 100 feet out into the parking lot.

Technical NOTES

Color Tubes Tested

Color television picture tubes, undergoing life test at the RCA Tube Division plant, are showing long life and high dependability of performance.

In a test of three tubes selected at random from the production lines, one of the tubes has been operating for more than 10,000 hours under conditions similar to those encountered in home use. This performance is the equivalent of seven years of normal use. At the end of that time, the tube still gave a good color picture, comparable to images on new tubes operating in nearby receivers. Two others already have exceeded 5,000 hours.

Tubes undergoing these rigorous tests are the RCA Colorama picture tubes which are installed in all RCA Victor color receivers. These tubes provide a picture having an area of 255 square inches.

High-Purity Compound

Barium titanate is now being used extensively in electronic devices because of its desirable dielectric and piezoelectric properties. Important applications of this ceramic include high-capacity miniature condensers, ultrasonic transmitters, and transducers for sensing devices in accelerometers, sound detectors, velocimeters, and strain and pressure gauges. However, in spite of its wide use, the relationship between composition and electrical characteristics of barium titanate has not been fully worked out.

To aid in the solution of this problem, the National Bureau of Standards in Washington recently developed a method for preparing very high purity barium titanate in which the mole ratio of barium to titanium is exactly unity. Using the pure material, ceramic engineers should now be able to determine systematically the effect of various minor components on the electrical properties of barium titanate and to arrive at a reproducible composition having the most desirable electrical characteristics.

Auto Radio Transistors

Power transistors for automobile radios are placed in a vacuum bake oven at the new Hillsboro, N. H., electronics plant of Sylvania Electric Products Inc., which was formally opened last month.

The transistors shown above are being arranged by Peggy Grund for heat-treating prior to capping and sealing. Designated the 2N242, this transistor type eliminates the vibrator, power transformer and associated components in automobile radio sets, and has applications in military and industrial electronic equipment as well.

New Wire Catalog

A new wire catalog, featuring improved design characteristics, has been announced by Sylvania.

The new catalog is a complete listing of Sylvania's growing wire, ribbon, weld and carbostrip products manufactured by the Parts Division. Wire and ribbon types include alloy, clad and plated.

TR Tube, Magnetron

A new TR tube, nearly 50 per cent smaller than a comparable component, and a tunable magnetron, both for application in radar systems, have been announced by Sylvania Electric Products, Inc.

TR tubes are vital components of radar sets, serving as electronic switches permitting the equipment alternately to send and receive signals with one antenna.

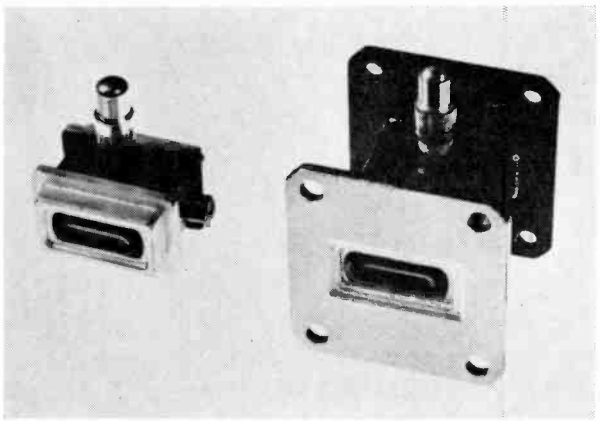
The new miniaturized Bantam TR, designated as Tube Type 6795, was developed by Sylvania to meet requirements in commercial radar for a tube combining small size, ease of installation and removal, and low cost. A broad-band tube operating in the 8500-9600 megacycle frequency range, the new device equals and in some cases excels all electrical characteristics of the 1B63A, a tube nearly twice its size used in the same applications.

Design of the tube and its method of mounting make the 6795 a rugged component for use in equipments where high shock and vibration conditions exist.

Sylvania's new tunable magnetron has particular application in military radar. Designated by the company as the M561, the device is a tunable 4J50 magnetron designed as a direct replacement for the fixed-frequency 4J50 now in use.

A magnetron is an essential power-producing component in airborne, shipboard, and land-based radar.

The M561 can be tuned in a range of 600 megacycles in any portion of the 8500-9600 mc frequency band. It has a minimum power output of 210 kilowatts. Similar to the 4J50 fixed-frequency tube in other characteristics, it will fit in the same socket, electrically and mechanically. In other respects, its design offers ruggedness and reliable performance.



A new Bantam TR tube (left), nearly 50 per cent smaller than a comparable component (right), has been produced by Sylvania.

Helicopter TV

Philco Corp.'s Government & Industrial Div., Philadelphia, has announced a television system for use in U. S. Navy helicopters during naval and amphibious operations. Developed for the Navy's Bureau of Ships, the system—which is said to provide airborne television coverage for over 50 miles—is an ultra-high frequency FM radio-television link feeding signals from helicopter to ship or shore. Tests of the new system, Philco said, were recently conducted in Philadelphia in the 498 mc band, at altitudes ranging from 500 to 2,500 ft. The equipment consists of a 100w FM transmitter, an image orthicon camera, a coder, and a high-gain antenna suspended from the helicopter.

Transistors Durable

Results of various tests conducted by the General Electric Co. on transistor reliability indicates that replacement of transistors in portable radios and other electronic equipment may never be necessary if they are used within the limits set by the manufacturer. This progress report on transistor reliability was provided by C. H. Zierdt Jr., engineering consultant in GE's semiconductor products department.

Publishers: File two copies of this Form with your postmaster.

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

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

at Washington, D. C. (Name of post office and State where publication has second-class entry) for September 1956

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

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

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

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

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

Name	Address
None	

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

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

Albert O Hardy
(Signature of editor, publisher, business manager, or owner)

Sworn to and subscribed before me this 26th day of September 19 56

[SEAL] Gregory Winckler
NOTARY PUBLIC

POD Form 3526 (Mar. 1955) 16—18730-7

(My commission expires ....., 19.....)

My Commission Expires Sept. 30, 1957.

Station Breaks

KRON-TV Tower Plan

Station KRON-TV, San Francisco, plans to build a 898-foot tower atop San Bruno Mountain —the finest broadcasting spot in the Bay area— and has offered to share the tower with other local stations. The tower would be only a few hundred feet from the station's present antenna site.

The invitation to share the tower will be extended to video outlets now operating as well as to those which may come into existence, says the station's general manager, Harold See.

"Although the FCC has no present rules on the subject, the body already has expressed the thought that it would be desirable to encourage the grouping of such facilities into 'antenna farms' as a means of minimizing hazards to aviation," See stated.

Mississippi Station

WDSU Broadcasting Corporation, which employs members of IBEW Local 1139 in New Orleans, has acquired controlling interest in a VHF television station at Hattiesburg, Miss. WDAM-TV becomes the third Mid-South TV station to come under WDSU administration. WAFB-AM-FM-TV Baton Rouge, La., which employs members of IBEW Local 995, is the number two station in the group.

Electrical Week

The Brotherhood has endorsed National Electrical Week as an outstanding program for the industry and has become a contributing sponsor to the 1957 observance.

The IBEW, representing more than 650,000 members in all branches of electrical work, is the ninth major group in the Electrical Industry to give full support to the Week which is scheduled for Feb. 10-16, 1957.

Gordon M. Freeman, International President, said in announcing the action:

"We believe that this program shows excellent promise of generating considerable nationwide public impact for the benefit of all segments of the electrical industry. We are glad to join with the eight trade associations of the industry in the sponsorship and support of this annual observance."

Dance Band Remotes

IBEW technicians with WGN, Chicago, may soon be handling remote broadcasts of dance band music from local hotels on a regular basis, if plans to strengthen the station's programming structure go through. The success of Lawrence Welk, Russ Morgan, et al, on TV has revived interest in dance bands. Because of this, the station management may veer away from conventional jukebox, disc jockey methods and go back to the old style hotel broadcasts of the "Golden Era" of radio.

Conelrad Obsolete?

Conelrad was declared obsolete in a resolution adopted by the Assoc. Police Communication Officers, Inc., at its twenty-second annual meeting in Los Angeles, August 2-5, while another resolution called for switch of all tv to uhf to free needed channels for public service and mobile communication stations.

The 400 delegates from the U. S., Canada, Mexico and Japan protested a modification of Conelrad rules, effective January 2, which virtually forbid all broadcasting by police and fire stations during an impending attack. The resolution pointed out that aircraft and guided missiles no longer need such guides but now have more effective means of locating a target.

Still another resolution called upon FCC to reconstitute the World War II Radio Technical Planning Board for review and a new evaluation of the spectrum needs of all services in an effort to achieve higher allocation efficiency.