

TECHNICIAN ENGINEER

JANUARY, 1964

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

INTERNATIONAL BROTHERHOOD OF ELECTRICAL WORKERS — AFL-CIO



THE UNITED STATES JOINS THE INTERNATIONAL LABOR ORGANIZATION

August 20, 1934

American Labor had a leading role in the establishment of the International Labor Organization in 1919 when Samuel Gompers headed a commission in Europe to work out a program of world cooperation under the World War I peace treaties. He also took a leading role in the establishing conference held in Washington, D. C. in October 1919.

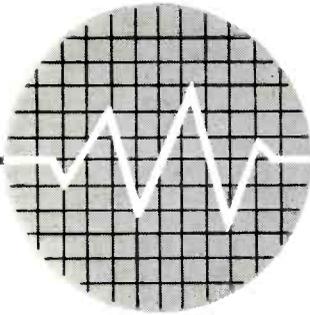
The United States, however, did not formally affiliate with the ILO until 1934 when President Franklin D. Roosevelt accepted the ILO invitation to affiliate; Congress had already passed an approving joint resolution.

Today the ILO is providing many services for the working people of the world through its three way structure and administration — government, labor and

employees. The ILO develops international labor standards for member nations; it operates technical assistance programs on every continent and performs an extraordinary job of collecting facts and figures and issuing publications for information and guidance of all nations of the world in the various areas of labor relations, administration and cooperation.

An American is Director-General — David A. Morse, former Undersecretary of the Department of Labor. While this agency is often called an unspectacular one unheralded by sensational headlines, the work it does is basically a dramatic one which benefits working people everywhere. The affiliation of the United States was a landmark for both American and world labor.

The INTERNATIONAL BROTHERHOOD OF ELECTRICAL WORKERS
 GORDON M. FREEMAN International President
 JOSEPH D. KEENAN International Secretary
 JEREMIAH P. SULLIVAN International Treasurer
 ALBERT O. HARDY Editor, Technician-Engineer



TECHNICIAN ENGINEER

VOL. 13, NO. 1
 ALBERT O. HARDY, Editor

in this issue

WILL THERE BE MORE IN '64?	4
RADIO COMES ON STRONG	8
TECHNICAL NOTES	14
STATION BREAKS	16

the cover *Broadcasting's audience grows larger and larger as time moves on its measured pace from year to year in the latter half of the 20th Century. Our cover girl for January—a new member of that growing audience—is sold on the medium already.*

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 1962 figures: November, 1963—107.4; November, 1962—106.0.*

commentary *Just a few weeks ago, one of America's most widely distributed and best-known magazines published what might have been a penetrating story on the 11-month-old strike on the Florida East Coast railroad. The pictures and story purported to show that about 700 men were handling the railroad's operations that had required some 1,800 to perform prior to the strike. In other words, the work rules under union operation were really make-work rules, and so on. The fact is, the Florida East Coast now has no passenger business, carries no mail, no Railway Express and no less-than-carload freight.*

Some of the railroad's maintenance is now sub-contracted, some of the equipment maintenance is being handled on a unit-exchange basis with manufacturers, and an estimated 500 employees are thus made unnecessary. Additionally, it is reported that maintenance-of-way work has been cut to almost nothing; this is work normally employing about 250 men. The signalling equipment disrepair which has come about since the strike started has been noted by several mayors and city commissions along the line, with fears expressed as to the safety of the public.

Within the past few months, FEC trains have suffered two major wrecks, several grade crossing collisions and countless derailments. Thus, its scab operations have not proved to be safe, efficient or economical.

A Presidential Emergency Board made its recommendations very recently; a pay increase equivalent to the "national pattern" for railroads, replacement of the strikebreakers by strikers, and so on. The company said that the Board "had contributed nothing toward settlement" of the dispute and refused to accept its recommendations.

It is a shame that the magazine, of such national prominence, didn't tell the whole story.

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

Will There Be More in '64?

More jobs? More jobless? More income? More spending money due to tax cuts? Here's a summary of authoritative opinion gleaned by Press Associates Inc. for its weekly labor news service.



President Johnson

Johnson wants 'new solutions' for growth of unemployment

President Lyndon Johnson has let it be known that he wants "new solutions" for the continued high rate of unemployment in the United States.

The new President's thinking on a number of questions of the utmost importance to organized workers was revealed through a highly placed spokesman who stressed the Johnson polices for "peace" abroad and "prosperity" at home.

American workers and organized labor in particular will play an increasingly important role in the Johnson Administration program, according to this spokesman. The President, he said, wants to draw more heavily on talent, not only from the business world, but from labor unions for public service.

In this connection it was noted that among top ranking visitors to the Johnson ranch over the holidays were Secretary of Labor W. Willard Wirtz and Assistant Secretary of Labor Esther Peterson, long prominent in organized labor.

The President also was said to have been gratified by a report from the Labor Department showing that all measures of strike activity declined during 1963 from the 1962 level. The report showed that 200,000 fewer workers were made idle by strikes. It was the fourth successive year that strike idleness was held to a low level as measured against postwar experience.

During 1963 there were some 1,030,000 workers involved in strikes, the lowest number since 1942. The year's strike idleness accounted for 0.15 per cent of estimated total working time.

President Johnson was said to feel that the record was "an indication of a growing maturity and responsibility in the collective bargaining process" and that it confirmed the "vitality, strength and promise of the free enterprise system."

As part of the President's deep concern over the high

rate of American unemployment, which has persisted despite general national prosperity, is announcement of an intensified housing program. This program was described as basic to the Johnson over-all attack on poverty and unemployment which has been particularly large in the building trades.

Federal Housing Administrator Robert C. Weaver, after a lengthy session with the President, announced that the stepped-up program would greatly expand present low-rent housing aid as well as assist home builders.

Weaver said that the new program would be "large and significant." It will expand Federal assistance in all phases of housing development and will also aid mass transit efforts urgently needed in many urban centers of the nation.

The spokesman for the President made eight points that play a prominent part in the President's thinking. These were:

- * The President is dissatisfied with present programs and proposals to combat chronic unemployment and is "demanding new thinking on the entire problem."

- * He believes his present efforts to hold the budget line will bear important fruits in the future.

- * He wants to improve relations with the Soviet Union as far as possible.

- * He wants a civil rights bill, a tax cut bill and a medicare bill as soon as possible.

- * He expects the upturn in the economy to continue and wants improved relations with business leaders.

- * He expects to have good relations with Congress but won't hesitate to ask for what he thinks is needed.

- * He means to maintain and improve American military defenses, and

- * He wants to draw more heavily on business and labor unions for public service.



Secretary Hodges

Hodges is optimistic for 1964, says tax cut would be stimulant

SECRETARY of Commerce Luther H. Hodges predicted that the American economy will continue to expand through 1964—"extending the longest peacetime period of continuous growth in a generation."

Secretary Hodges said that Gross National Product and personal income had run at record rates during 1963 and predicted a GNP of more than \$620 billion if the tax cut is enacted promptly by Congress.

"Without a tax cut," he said, "the economy would grow more slowly and the prospects for continuous expansion through all of 1964 and into 1965 would be seriously impaired."

While optimistic about the future, Hodges noted that "the inability of some groups to participate fully in our economy tarnishes the image of the free enterprise system."

"We must continue our drive to reduce unemployment," he said. "Over 5.5 per cent of our workers are without jobs, and unemployment among Negroes is twice this rate. A free enterprise society should also be particularly concerned about job opportunities for

the rising generation—yet unemployment among teenage job-seekers has been running above 15 per cent."

Among 1963 statistics cited by Hodges were:

- Personal income at a record \$463 billion, up \$21 billion from 1962.
- Gross National Product up \$30 billion to reach \$584 billion.
- Business investment up 5 per cent over 1962.
- Residential construction up 8 per cent to a record total of \$2 billion.
- Corporate profits before taxes at a record of more than \$50 billion, a 10 per cent rise over 1962, while after-tax profits also were at a new high of \$27 billion.
- Higher dividends and depreciation charges "increased corporate cash flow by some \$2.5 billion and were sufficient to permit corporations to finance investment needs without a marked increase in outside financing."
- Unemployment was at a 5.6 per cent rate "about the same as in 1962, though below the 6.7 per cent rate in 1961, the initial year of the economic recovery."



Secretary Wirtz

Wirtz talks of possibility of cutting down on overtime

SHORTER hours, wage boosts, elimination of overtime, better minimum wage coverage—these are some of the hard core labor proposals to lick the unemployment problem that are beginning to get attention in Washington.

As the 88th Congress opened the second session of its thus far modest achievements, it has before it numerous concrete proposals that are geared to action rather than words on the job front.

Highly important was a suggestion by Secretary of Labor W. Willard Wirtz that one way to get more jobs might be to discourage overtime by making it more

expensive, that is by increasing the present time-and-a-half rate.

Wirtz didn't come out with a flat call for such action, but he told newsmen that he had discussed the matter with President Johnson. He pointed out that the average employe in manufacturing is now working 2.8 hours overtime. If this were eliminated, he estimated, some 919,000 jobs would be created—putting a sizeable dent into today's more than 4 million jobless rolls.

The Wirtz suggestion is not new. The AFL-CIO for some time, particularly the Auto Workers and the Steelworkers, have been complaining that there is too much

overtime in their industries. Organized labor would like to see the overtime rate upped to punitive double time as a spur to creation of more jobs.

Many corporations prefer overtime to hiring new workers in order to avoid building up their payrolls and taking on responsibility for the fringe benefits, social security payments and similar costs that are involved.

Year-end statistics clearly showing a tremendous profit spurt during 1963 also have added strength to the call for higher wages that has marked AFL-CIO economic thinking after three years of "hold-the-line" pleas from the Kennedy Administration.

In addition, statistics showing how productivity has been out-stripping labor costs have added to the importance of the higher wage campaign.

The Conference on Economic Progress, in a report prepared by Leon Keyserling, head of former President Harry S. Truman's Council of Economic Advisers, has

called for a wage boost that would reflect the acceleration of productivity gains through automation and technological advance.

The report calls for one of two things: either retain the present 40-hour week and increase take-home pay, or shorten the workweek to 35 hours while maintaining take-home pay.

"And in view of the fact that no dent in unemployment with the current standard workweek is foreseeable under private and economic policies now under active consideration, a shorter workweek appears manifestly desirable," the report says.

Keyserling further urged an increase in Federal spending, rather than a cut. "The mounting pressure to hold the line on Federal public spending in exchange for a tax reduction is a very poor bargain on all scores," the report said.

The report points out that cutbacks in Federal spending can counteract the effect of a tax cut, undoing all the good that the tax cut is designed to accomplish.



Andrew Biemiller

Biemiller makes jobs top goal for AFL-CIO in 1964

THE AFL-CIO is determined to make full employment its top legislative goal in 1964, Legislative Director Andrew J. Biemiller told interviewers on "Labor News Conference," broadcast by the Mutual Broadcasting System.

To this end, the AFL-CIO will continue its fight for a tax reduction bill that will help build purchasing power, for a reduction in the workweek without a cut in take-home pay, for civil rights, health care for the aged under social security, an increase in the minimum wage, and a "thorough overhauling" of the procedures of both Houses of Congress.

Questioned about President Johnson's current economy drive, Biemiller reaffirmed labor's support of the President's policy. The President, he declared, is not on a "wild slashing binge" but will make "selective cuts."

Biemiller was questioned by Hobart Rowen of *Newsweek*, and Robert Novak, co-author of "Inside Report," a syndicated column of the New York *Herald Tribune*.

On another recent MBS network interview program Marvin Friedman of the AFL-CIO Department of Research said: "Proportionately fewer jobs at lower wages" as his prediction for U. S. workers in the 1960s.

Friedman declared that the higher-paying blue collar jobs of production and maintenance workers "are being eliminated faster than white collar jobs are being provided in the so-called service industries, where earnings are less."

Friedman pointed out that many blue collar workers are left out of the mainstream of the labor market "because their skills are not required and this prevents them from securing gainful employment."

Although many factors are responsible, Friedman said, the crux of the unemployment problem is inadequate economic activity. "In order to maintain adequate economic activity, we need not only jobs, but we need jobs at decent incomes."

Friedman, who was questioned by Bill Eaton of the United Press International and Edward Woods of the St. Louis *Post-Dispatch*, said that an immediate tax cut was essential to spurring needed economic activity. He also called for additional measures, such as a shorter workweek, an expanded public works program and adequate educational facilities.

Both AFL-CIO spokesmen reaffirmed economic and legislative positions taken by delegates to the AFL-CIO Convention in New York City, last November.

NEXT QUESTION



In Response To Many Inquiries: Overtime Is Retroactive, Too!

Inquiries from our local unions at the end of every year serve to remind us that there is still some confusion, year after year, about retroactivity of overtime rates as well as regular rates of pay. The Wages and Hours Division of the Department of Labor publication, "Interpretative Bulletin 778—Overtime Compensation," is quite specific on the point. Section 778.11 reads as follows:

"Where a retroactive pay increase is awarded to employees as a result of collective bargaining or otherwise, it operates to increase the regular rate of pay of the employee for the period of its retroactivity. Thus, if an employee is awarded a retroactive increase of 10 cents per hour, he is owed, under the Fair Labor Standards Act, a retroactive increase of 15 cents for each overtime hour he has worked during the period, no matter what the agreement of the parties may be. A retroactive pay increase in the form of a lump sum for a particular period must be prorated back over the hours of the period to which it is allocable to determine the resultant increases in the regular rate, in precisely the same manner as a lump sum bonus."

Loopholes In The Tax Law; Nobody Pays The Top Rate

There is the common complaint by the big money crowd and their sympathizers that the upper income tax rate of 91% is eliminating individual initiative and threatening the private enterprise system.

Sen. Albert Gore (D., Tenn.) recently asked the Treasury Department how many people really paid the 91% rate on real income. The *New Republic* magazine reported that the department's Office of Tax Analysis answered him, "Nobody." Why? Loopholes! According to the Treasury Department the typical rate of the millionaire in 1960 was only about 26%.

When President Kennedy started his push for a tax cut, he also called for the closing of many of the existing tax loopholes. But along the way, reform lost out. In addition, the proposed tax cut legislation contains a tax cut of \$2.3 billion for corporations. This is on

top of the \$2.2 billion cut they got last year—of record profits.

It is bad enough that state tax systems load the on low and middle income groups. The burden should not be made heavier by loopholes and special treatment in the Federal tax system for special interests. Until the average taxpayer lets his Senators and Congressmen know that he demands a fair shake under our Federal tax law, until he demands justice under our state tax system, he will continue to pay more than his fair share. And he shouldn't be impressed by arguments of a "91% rate"—the rate is fine, there just aren't any taxpayers.

FCC Chairman Comments On Station-Ownership Query

Mr. Mollenhoff: "Senator John Williams, in an interview recently, said that if an individual came into the Congress or the Senate and owned a station it might be one thing, but, if he acquired it while there, it would be an entirely different thing. That should be examined very closely. Do you think that is an ethical question?"

Mr. Henry: "I think it is an ethical question, but I think it is one to be resolved by the person who has the ownership interest."

—Chairman E. William Henry of the FCC,
on NBC's "Meet The Press," Dec. 8, 1963

Labor Department Reports Prospects For Manufacturing

What are prospects for jobs in electronic manufacturing?

The Department of Labor estimates that by 1970 jobs in electronic manufacturing may reach nearly 1,100,000—up 300,000 since 1961. Estimated employment of 778,000 workers in electronic manufacturing in 1961 was more than three times the number in 1950.

U.S. Chamber Of Commerce Finds Shoe On Other Foot

When it comes to investigations of "the public welfare," management groups prefer to ask the questions.

The U.S. Chamber of Commerce, which wants trade unions and their leaders to report even their most insignificant activities, has far different ideas when it comes to business.

A Chamber spokesman expressed deep concern over a proposed survey of 1,000 of the largest manufacturing firms by the Federal Trade Commission. He thought such a survey "contains the very real threat of injuring" these companies.



Radio Comes on Strong

By DESMOND SMITH

The constant availability and increasing portability of radio are reflected in the continued rise of radio set sales and a growing 24-hour-a-day audience of listeners.

ANYBODY who spends much time with radio people nowadays finds two words cropping up in the conversation—change and mobility; these are terms which go with an entertainment medium that only a dozen years ago was supposed to be down for the count. K.O.'d by television. Well, last year the public went out and bought nearly 25 million radios. It was radio's all-time record year. What happened is worth a closer look.

In 1947, there were approximately 2,000 radio stations in the United States. Look at any radio map of this country today. The red dots representing AM (amplitude modulation) stations number nearly 4,000, while the blue dots, representing FM (frequency modulation) stations, add up to more than 1,200 stations. Moreover, there are at least 100 stereo stations multiplexing to an ever-increasing audience of high-fidelity enthusiasts (known affectionately in the trade as "nuts"). And the rush for licenses to operate new radio stations has become so great that the Federal Communications Commission, last year, ordered a partial freeze on AM applications.

Change has meant new opportunities for the immense radio-manufacturing industry. But many people say that it was the radio manufacturers themselves—

operating in a fiercely competitive business—who created the opportunity out of the challenge of television.

When television sets began to reach the consumer market in volume during the late forties, it was the radio industry's backlog of know-how and experience that provided the solid base for television's rocket-like take-off. With much trial and error eliminated from the new industry, sales kept right on soaring when the consumer discovered that TV sets were relatively trouble-free.

But as television set sales climbed, radio listening kept on dropping. During the prime evening hours (7-10 P.M.) the radio home audience shrank from 17 million to less than 3 million.

Within the home, television swiftly replaced radio as the main source of evening entertainment. The mass nationwide audiences who had, over the years, listened so loyally to such programs as the A & P Gypsies, Amos 'n' Andy, and Goodrich's Silver Masked Tenor were now deserting by the block to television. And it was network radio, which had carried the big radio shows, that suffered the greatest audience losses. Listeners, it seemed clear, were no longer prepared to stay home just to catch their favorite comedy show on radio.

While millions of fascinated viewers were glued to their TV sets watching endless roller derbies and Milton Berle, radio manufacturers such as RCA noted something that the critics of radio had missed. People

CREDITS: This article is reprinted from RCA's *Electronic Age*, Autumn, 1963. The author, Desmond Smith, New York correspondent for *The Economist* of London, is a frequent contributor to American magazines.

were continuing to replace their radios at exactly the same rate that they did before television. Then, in 1955, a peak TV viewing year, the radio industry sold 14 million radio sets—three million more sets than were sold in radio's last big pre-television year, 1949.

The size of this jump surprised even radio people. Audience researchers decided to take another look at the market. They discovered that, although family listening had gone down, individual listening had gone up. And in television's weaker morning hours (6-9 A.M.), the size of the radio home audience had increased by about a million homes. Obviously, the clue to this new kind of market was going to be flexibility. Yet, if the four-legged corner radio console, anchored to the wall, was no longer the prime source of evening entertainment for the family, with what was it to be replaced? Designed as a piece of furniture, it was hard, often impossible, to shift around the house. RCA, which had led the field in the thirties by pioneering a portable radio, began design development of a radio that would satisfy public demand. What the public chose offers a significant insight into the kind of radio programing the audience was looking for in the television age.

THE CLOCK-RADIO ARRIVES

Around 1950, a clock with a portable type of radio was introduced. The results were spectacular. Overnight, radio lost its period look. The clock-radio was an instant success with the public. A sleepy America was soon waking up to music. Martin Bennett, RCA Vice President, Distributor and Commercial Relations, explains: "The entire concept of the clock-radio was an exciting one. Right from the outset it opened up a whole new usage for the medium." Moreover, the radio industry had stumbled across a "work horse." Engineers and designers, using the same logic that has worked so effectively in the automobile industry, started with a basic must-have item and soon festooned it with extras. The Detroit influence is most obvious in the myriad features that now come with the clock-radio. Wake-ups, warning tick-tocks, night-light, slumber switches, calendar, barometer, and appliance outlets—there seems to be no limit to the clock-radio's potential for versatility.

It can be argued that there is perhaps an overabundance of gadgetry. RCA's Tucker P. Madawick, Manager of Home Instruments Industrial Design, disagrees. "We are simply filling a need," he declared recently. "It is the housewife herself who demands that her radio match her environment. All we did was add those features that fit into that environment. Today, a housewife is surrounded with batteries of precision instruments, from her stove to her automatic washing machine. We have kept the radio in the same tenor—given it the look of precision."

Whatever the purist may think, the public continues to favor clock-radios. Today, their popularity is exceeded only by that of the transistor radio, which has had a staggering growth. Last year, Americans bought more than 11 million portable radios; most of them were transistorized units.

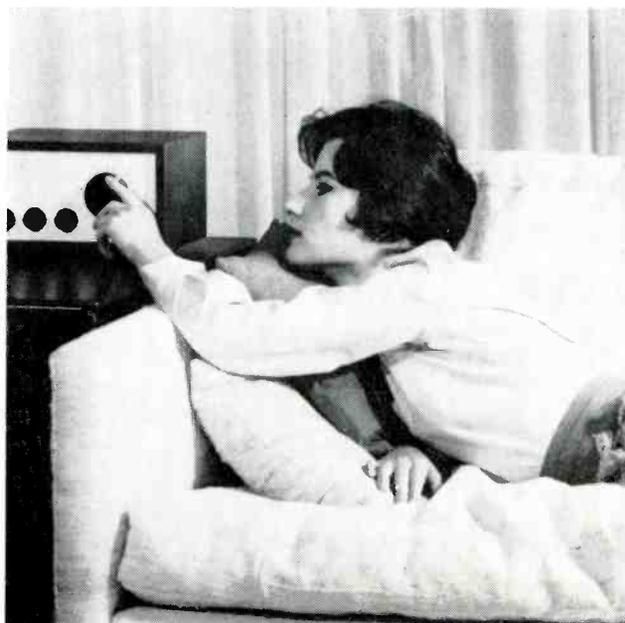
Now that the "furniture" look is no longer the factor it was in the days before television, consumers are concentrating on other design features. Acknowledging this trend, Martin Bennett observes: "Today, 98 per cent of all radios bought in this country are bought on 'sound quality,' and it's in this area that we've tried to place our efforts."

RADIO'S THREE MAJOR SEGMENTS

Amoeba-like, radio today is split into at least three major segments: the plug-in home audience, the battery-portable audience, and the auto-radio audience. Even the location of the plug-in radio has changed since 1946. Then, better than 90 per cent of plug-ins were located in the living room. Bedroom and kitchen penetration of radio was so small as to be insignificant. Today, 66 per cent of all bedrooms and 56 per cent of all kitchens have radios.

Probably no event in this period of radio's big change has influenced programing more than the remarkable growth of the out-of-home listening audience. Since the development of the tiny transistor set, a radio has become almost as easy to carry as a pocketbook or a billfold. People listen to radio today in a variety of places—the supermarket, in the parks, at the beach. These listeners have become the biggest segment of radio's audience.

In 1946, less than 9 million cars were equipped with radio. Last year, car radios had skyrocketed to almost 50 million. Since 1958, radios have ranked



as the leading extra that new car dealers sell, and Sindlinger, an audience-measuring service, estimates that as many as 44 million adults listen to their car radios every day.

Given this situation, it is not surprising that any appraisal of radio today must consider the fractionation of the audience and its mobility. With the relative decline of radio-network influence, there has been a subsequent scramble among the independent stations to create an image for their call-letters. This tended to become a matter of programming a certain "sound." Although there are stations specializing in jazz, rock 'n' roll (euphemistically dubbed "contemporary"), big band, talk, show albums, and concert-music programming, it is the music and news format that has achieved the greatest popularity with station owners. Within the industry, such stations have often drawn criticism. It has been argued by their supporters that music and news have the unique advantage over television in that the listener need not devote his full attention to the radio. On the other hand, the high proportion of commercial announcements that frequently appear before and immediately following a record has alienated many listeners. "A station," according to E. William Henry, Chairman of the FCC. "submitted some program logs to us recently which bear, at appropriate places, the following unforgettable note to disc jockeys: 'Play a record between each commercial.'"

Not surprisingly, the number of performances of musical compositions broadcast by radio stations (excluding networks) has climbed from 40 million a year to almost 200 million. These figures raise an interesting question: Why hasn't this emphasis on recorded music stimulated a shift in listening values? FM sup-

porters insist that it has had this effect. They point to the growth of FM from fewer than 50 stations in 1946 to more than 1,100 in 1963. They reason that the increased demand for FM is, in part, a revolt against the so-called music and news station's programming. At the same time, the obvious advantage over AM can be heard in the high-fidelity reproduction of music.

In any case, RCA and other radio manufacturers are watching the situation with interest. "We have moved forward into the stereo-hi-fi field," declares Bennett. "RCA pioneered the Victrola phonograph during a period that historians might call early 'hi-fi,' and we intend to keep the market under close scrutiny."

As the evidence of the last decade has demonstrated, radio is far from dead. Today, it seems livelier than ever; paradoxically, this is probably due to the impact of television. But it is not just the ability of radio to make money (before-tax profits in radio broadcasting in 1961 were \$29.4 million). The fact is that radio has shown itself capable of readjusting itself to life in the television age. This flair for turning a losing run into a winning streak is probably due to the radio industry's willingness to take a chance on a new idea.

But what new idea could possibly top the clock-radio?

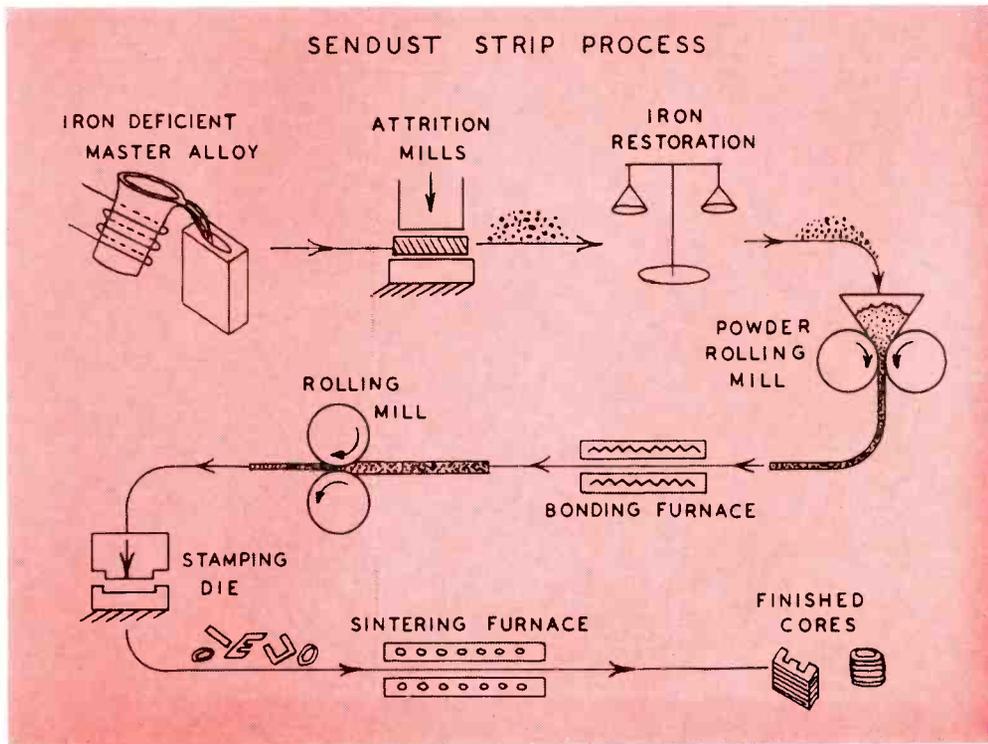
Says Martin Bennett: "Just visualize a stack of funny-looking minerals and what not, encased so that it can't be taken apart. It won't be any larger than a book of matches, and it will be a disposable item—like that \$1.19 butane lighter—you'll just throw away when it wears out.

Change and mobility—that's the way it is in radio these days.

THE LABOR- MANAGEMENT WHIRL

● *IN CAIRO, EGYPT, mummies may have been turning over in their pyramids as the first camel-drivers' strike in the country's history left tourists from 50 nations without transportation. The strike, by owners of 140 camels that carry sightseers around the royal tombs and the sphinx, was called in protest against new government regulations. The new rules require that every camel have a license, that camel ride fees be limited to a maximum of 35c-an-hour, and that all tips be prohibited. Said a spokesman for the strikers, "All three regulations have got to go; if not we'll slaughter our camels." The government's reply: nationalize every one-humper and two-humper in the sightseeing industry.*

● *IN ALBANY, N. Y., a successful strike settlement unexpectedly provoked a brief war between the sexes. The settlement, ending a two-day walkout at four Freihofer Baker Company plants, brought male bakery workers a 10c-an-hour hike plus a fringe benefit of two pairs of clean white pants a week. And right there is where the feud began. The men workers got the fringe benefit but not the women. Said one girl striker, "If I had known we women would have been walking the streets for men's pants, I would have never gone on strike." The women, who wear white cotton dresses at work, said labor relations experts, put the value of the "pants benefit" at 2c-an-hour.*



ALLOY *Sendust* HOLDS PROMISE FOR USE IN MAGNETIC TAPE HEADS

A process has been developed for making the brittle magnetic alloy of silicon, aluminum and iron—Sendust—into sheet form using metal powder rolling techniques.

The Magnetism and Metallurgy Division of the Naval Ordnance Laboratory, White Oak, Silver Spring, Md., developer of the process, reports immediate interest for application in recording and playback magnetic tape heads.

Because of its extreme hardness, the life of the material in such an application is expected to be 100 times greater than the present components. The Sendust sheets also are well suited for making audio and pulse transformers because of the alloy's low losses at high frequencies. Sendust's other valued characteristics are high resistivity and high initial permeability.

The alloy was discovered by the Japanese as early as 1936. Core shapes and configurations produced by melting and precision casting have been used for dc applications. And, considerable use has been made of compressed Sendust powder as an induction core material.

However, the scope of commercial application of the alloy was limited by poor room temperature ductility until the Laboratory introduced this process of making thin sheets or laminations.

Preparation as sheet stock was accomplished at the Laboratory by adding iron powder to a ground-up iron-deficient master alloy. The composite powder is then fed into a powder rolling mill and a strip .018 to .035 inches thick emerges. The strip can then be pre-sintered in an argon atmosphere. After this bonding anneal the strip is cold-rolled on a 2-high rolling mill. At this point reductions as much as 50% can be made with resulting thicknesses dependent on composition and thickness of the original green strip. The strip was found to have sufficient body and strength to permit stamping, even in thicknesses down to .010 inches.

A final sintering operation in an argon atmosphere at temperatures from 1200 to 1300° C for several hours provides complete and uniform solid state diffusion of the constituents into a homogenous Sendust alloy.



Reprinted with permission from the Mutual Broadcasting System Newsletter

TO THE FACELESS MEN

They rate a standing ovation, too.

In the incredible coverage by the broadcast industry of that four day period between the assassination and the burial of the late President Kennedy, no words of commendation we know can sum up the dedication of the newscasters on every network and every independent station in America.

Theirs was a truly heroic effort—and that the listeners of the entire world felt this to be so, is evidenced in the thousands of letters from fellow mourners in every sector of the globe.

But in the performance of this feat, it would be less than just not to give equal praise to the engineers as well—the men behind the men who spoke the words; the men whose incredible and constant ingenuity made possible this continuous coverage, often in the face of technical odds that would have seemed impossible to surmount in terms of time an hour before those tragic shots.

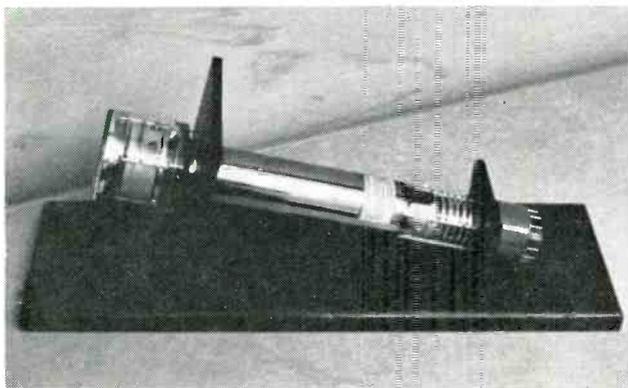
To our own technical staff at Mutual, to the staffs of every other network and to the engineers of local stations and affiliates who joined in this gigantic cooperative achievement, nothing short of a standing ovation is in order.

When the chips were down, those were our unknown soldiers. They served in the very finest traditions of the American spirit.

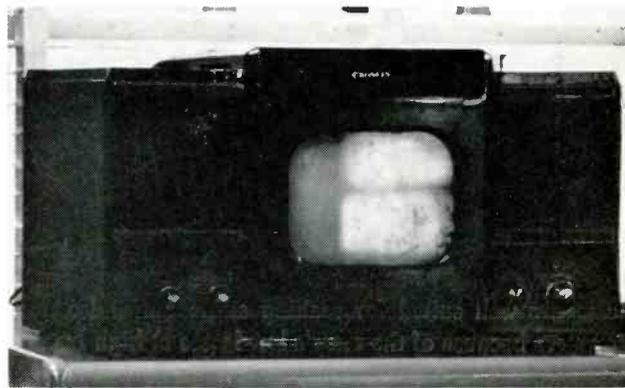
ROBERT F. HURLEIGH
President

Mutual Broadcasting System

FIRST UNITS FOR A PROPOSED BROTHERHOOD MUSEUM



In their more than seven decades of organization, the members of the International Brotherhood of Electrical Workers have handled many electric and electronic "wonders" . . . many which now are obsolete and perhaps covered with dust in attics and warehouses. Miss Marie Downey of The Electrical Workers Journal and Albert O. Hardy of The Technician-Engineer are two of many people interested in expanding the Brotherhood's collection, eventually leading



to a museum display at the International office. Here are two starting units in the field of electronics: ABOVE, LEFT: An experimental image orthicon tube made by RCA in days prior to its assignment of a permanent number. ABOVE, RIGHT: An early model Crosley television receiver, circa 1947-48. Do you have anything to contribute? Or have you suggestions for such a museum? Write us. Address your letter to the Editor, TECHNICIAN-ENGINEER.



READING TIME

Review of Current Books on Labor, Broadcasting & Recording

Number of Technicians To Increase 'Only Slightly' In Next Decade, Labor Department Book Predicts

Occupational Outlook Handbook, 1963-64 Edition, United States Department of Labor, Bulletin No. 1375, U. S. Government Printing Office, Washington, D. C., \$4.75.

A new 792-page *Occupational Outlook Handbook*, published biennially by the U. S. Department of Labor, confirms what technicians and engineers in the broadcasting industry have been saying: automation is taking its toll of job opportunities and only expanded activity in color television and other media can offset the inroads of the automatic devices.

The new government publication says that the number of broadcast technicians will increase "only slightly" in the next 10 to 15 years. Retirements, deaths, and transfers to other jobs will result in some additional job openings, but "technical advances, such as automatic switching and programing, automatic operation logging, and remote control of transmitters will limit the increase in job opportunities."

Some job openings will be provided by new stations expected to go on the air in the next decade.

"In addition, color television broadcasting, which probably will become more widespread in the years ahead, may slightly increase the need for technicians," the report continues. "The color television pickup and transmitting equipment which will have to be added is much more complicated than black and white and requires more maintenance and technical 'know-how'."

In late 1962, the Labor Department found that there were about 9,000 nonsupervisory broadcast technicians employed in U. S. radio stations and 6,000 employed at TV stations. Most radio stations employed fewer than 4 technicians, although a few in major cities employed more than 15. Nearly all TV stations employed at least 5 technicians, with an average large station having about 25. A few of the largest television stations employ more than 75.

Although the outlook for jobs in engineering was not glowing, the prospect of work for performers and other artists were more promising.

In early 1963, when the U. S. Department of Labor

made its most recent tabulation, there were 75,000 full-time and more than 15,000 part-time staff employees in commercial broadcasting. More than 55% of these people were employed in radio.

These totals included, in addition to *staff* employees, many thousands of freelance performers, such as actors, singers, dancers, comedians, and top-level announcers, work on specific assignments from stations, networks, and other program producers.

In spite of the drawbacks we've mentioned, the report states that "the talented individual will have many opportunities to advance," particularly in major broadcasting centers.

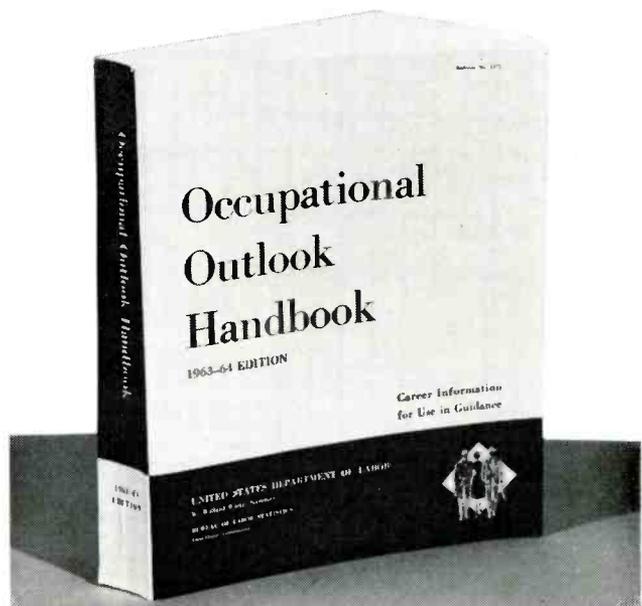
The handbook reports on prospects in 700 different kinds of jobs. The information on these jobs underscores the fact that the future belongs almost entirely to the educated, the trained, and the skilled.

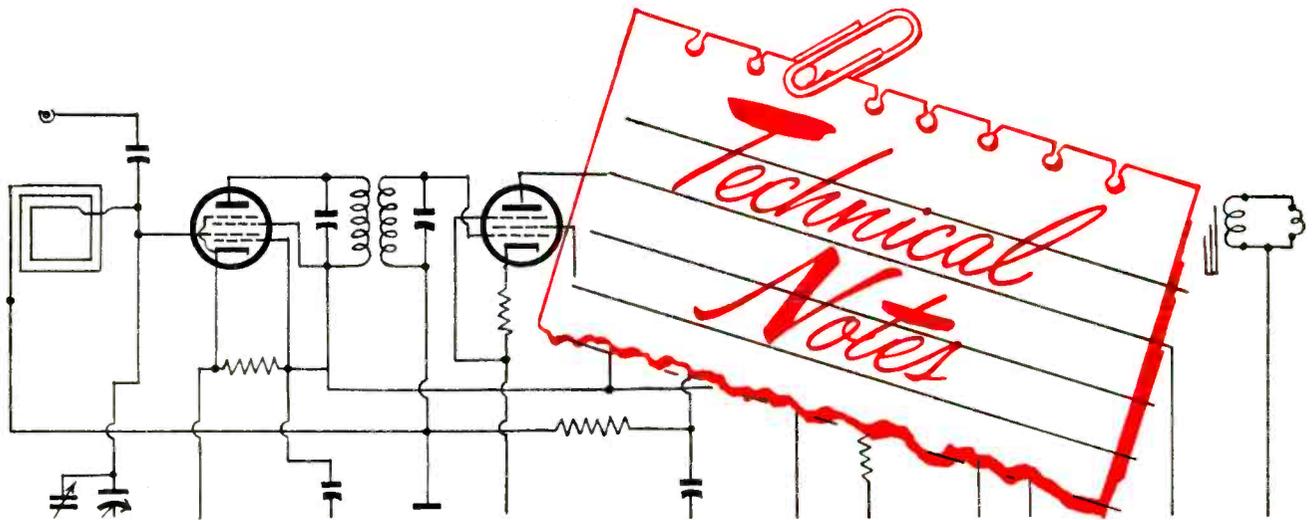
In the past year, despite an increase of one million jobs in our economy, there was a rise of 150,000 in teen-age employment. This accounted for the entire increase in employment over the year.

The depressing truth is that too many young people enter the labor market unprepared for the jobs which will be open to them.

The handbook predicts:

- a continuing rapid growth in white collar jobs, particularly in the professional and technical categories.
- an average growth in skilled blue collar occupations, but
- a slower-than-average expansion in semi-skilled work.
- no change in the unskilled level, and
- a further decline in the number of farmers and farm laborers.





PORTABLE TV RECORDER USES

Portable video tape recorders will undoubtedly have a tremendous impact on the working patterns of the average station engineering crew, once they become standard operating equipment. Already the manufacturer of Machtronic Recorders and its sales representative, Storer Programs, Inc., are thinking up new ways to put the new, compact units to work.

In a speech to the Hollywood, Calif., Advertising Club, last month, George B. Storer, Jr., president of Storer Broadcasting and Storer Programs, suggested that portable TV recorders will provide "instant commercials" for advertisers, agencies, and local stations. Storer told how a crew in Miami, Fla., (members of Local 349) has taped commercials in a Miami department store:

"We used one recorder, one station wagon, two people and got 15 commercials for five departments in two hours, all done with the existing light in the store," he reported.

He suggested that the recorder was also useful in taping used-car bargains at used-car lots while the cars are still available.

As a sidelight, he told how he had taken a recorder to a local golf course: "We had the golf pro tape us on the practice tee, then look at the tape with us and tell us what we'd done wrong."

LONG-DISTANCE SYNC METHOD

A new system of communication designed to synchronize the broadcasting of television pictures from widely separated remote locations has been perfected by the engineering department of NBC. Called Audlok, the system has been used by the network for more than a year and is regularly employed on *The Huntley-Brinkley Report*.

Audlok consists of a sub-multiple of the synchronizing generator signal transmitted phase-controlled over an audio circuit to a distant remote city—thus control-

ling the remote pictures so they arrive back at the originating city in precisely the same time phases. The circuit over which Audlok can be operated is over 2,800 miles long.

THIRD SYNCOM SCHEDULED

In the December issue of *The Technician-Engineer*, Pages 12 and 13, we described the launching of Syncom I and its subsequent use as a communications satellite high above the Equator, in a fixed position above the Amazon River in Brazil.

Now we can report that Syncom II has been successfully placed in orbit, and, next spring, Syncom III will be launched from Cape Kennedy, Florida, via a new thrust-augmented Delta launch vehicle. It will be placed in Equatorial orbit 22,300 miles above the Earth at 180 degrees latitude over the Pacific Ocean.

The National Aeronautics and Space Administration says the satellite will go into circular orbit at an apogee of about 22,000 miles over Sumatra and then be kicked into its final Equatorial position at the International Date Line, where it will be stopped by gas jets aboard the spacecraft.

NEW VIDEO TAPE RECORDERS

RCA added to the catalog of video tape recorders last month with three new models—all compact versions of its TR-22.

All three are transistorized and are capable of carrying broadcast quality color as well as black-and-white and are designed to use plug-in circuit modules for ease of maintenance. All are compatible and can take tapes of different makes.

The three new machines include:

TR-4—a complete recording-playback system selling for approximately \$35,000; it contains complete monitoring and control systems and runs at two speeds, 7.5 and 15 ips.

TR-5—a transportable recorder in a small cabinet on

casters which can be wheeled into a station wagon or other vehicle for remotes. The TR-5 is priced at about \$19,500. It's similar to the TR-4 except that it has a simplified playback facility.

TR-3—a playback-only machine, believed suitable for stations, advertising agencies, production studios and the like. Selling at approximately \$19,500 also, it is reported to bring "film projector ease" for replay, review, or editing of programs and commercials. A record unit can be added at the factory to give this unit both playback and record functions, the manufacturer reports.

UHF RADIATION RULE

The Consumer Products Division of the Electronic Industries Association has asked the Federal Communications Commission to extend for a year the relaxed radiation requirements for ultra high frequency television receivers.

UHF sets, which operate on frequencies between 470 and 1000 mc, are required under a temporary condition to limit radiation to 1000 microvolts per meter. EIA's request is to extend this temporary period, which ends next April 30, for one year, until April 30, 1965.

VHF sets are allowed a radiation of no more than 500 microvolts per meter.

EIA submitted information collected by its R-4.9 Subcommittee on TV Tuners showing improvement in the ratio of UHF sets with radiation of less than 500 microvolts per meter since 1960, based on measurements by 10 companies.

The association said the introduction of semi-

Wear Your Lapel Button Proudly



Your Brotherhood lapel button costs little, but its value is high. It signifies membership in an old and respected craft. It tells all who see it that you belong to an organization which stands firmly for good wages, fair working conditions, and a decent standard of living for your family and your fellow man. Wear your IBEW jewelry proudly. If you don't have a lapel button, order one now.

conductor devices shows promise of "significant further improvement," but there is insufficient data as of now to determine the extent. A number of industry members who have had experience with semiconductor devices in current tuner designs are concerned with their inability to make production models radiating as little as 500 microvolts per meter, EIA said, and added that more production experience on current designs and pre-production experience with advanced designs are needed for accurate evaluation of capabilities.

Both vacuum tube and semiconductor tuners will be required to implement the all-channel set requirement which goes into effect next April 30.

And It's A Fish Story!

'Tho 'tis the winter season, it's nice to reflect upon the golden (summery) past. Brother Jim Duffy, the treasurer of L. U. 1200, hit a jackpot just a few months back when he landed a 344-pound denizen of the deep at Oregon Inlet, North Carolina. A blue marlin, almost 11 feet long, gave Jim the thrilling battle of fishermen's dreams.

Not to be wholly outdone, Mrs. Duffy landed a white marlin of about 100 pounds and nearly 7½ feet long.

All in all, it was an auspicious day which began the month of August and now Brother Duffy can only sit in the counting-house with the local's record books, dreaming of next summer's fisherman's luck.





STATION BREAKS

WTMJ-TV SIGNAL EXPERIMENT

The FCC, last month, gave a go-ahead to WTMJ-TV, Milwaukee, Wis., (which employs members of Local Union 715) to conduct an experiment with super-audible signals which would activate off and on switches in home TV receivers.

The station plans to use the device in measuring the effectiveness of television advertising.

In approving the experiment, which will run for 90 days, the commission asked for a complete report on the technical aspects—"with particular reference to whether interference was caused to any service, and as to whether it resulted in any degradation of your signal."

WTMJ-TV told the Commission its experiment will employ two super-audible signals to "mute out" receivers in 40 selected homes of persons taking part in a long-range study of commercial effectiveness. The experiment as authorized by the commission will only test the technical aspects of the signal device which will be carried on the audio carrier of the station.

The social study which will follow the technical experiment will be possible through the controlled situation made feasible by the on-and-off signal device. The 40 selected families will have no commercials on their home receivers and will have their product selection habits studied during the course of research.

INDIANA STATION TO CBS

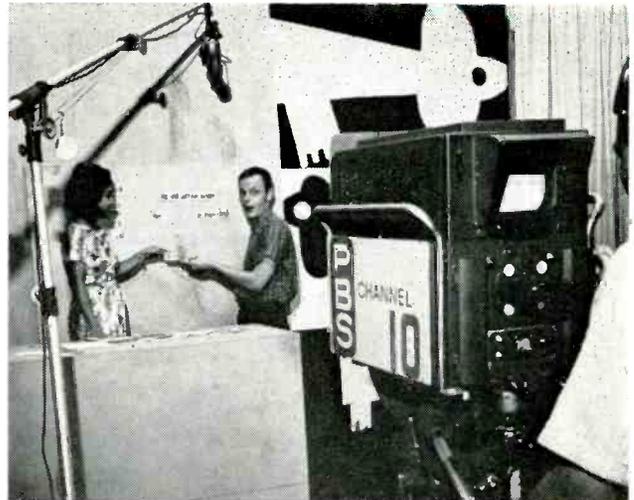
Station WFBM, Indianapolis, Indiana, where engineers belong to Local Union 1225, begins affiliation, this month, with the CBS Radio Network. Owned by Time-Life Broadcasting, Inc., it operates full-time on 1260 kc with 5 kw.

The station is resuming a CBS affiliation which was in effect between August, 1929, and June, 1955. CBS had been affiliated with WISH (now WIFE) until that station's sale by Corinthian Stations to Star Stations, last November.

WCCO-TV PLANS NORWAY LINK

WCCO-TV, Minneapolis-St. Paul, has completed arrangements for a special two-way live telecast, via Telesat II, between Norway and Minnesota, next spring.

PEACE CORPS, MANILA



The Peace Corps has been conducting a small-scale educational TV effort in the Philippines. It launched an English-teaching program, several months ago, in which Corpsman Blaine Larson-Crowther, above, worked before cameras with Rosalina Morales of the public school system, left above.

LAST LAUGH



ALEXANDER BROWDY
 1062 S. STEARNS DR.
 LOS ANGELES 24 CALIF.
 45
 RM