

# TECHNICIAN ENGINEER

MARCH, 1962

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

INTERNATIONAL BROTHERHOOD OF ELECTRICAL WORKERS — AFL-CIO

## FOUNDING THE METAL TRADES DEPARTMENT (AFL) Chartered July 2, 1908

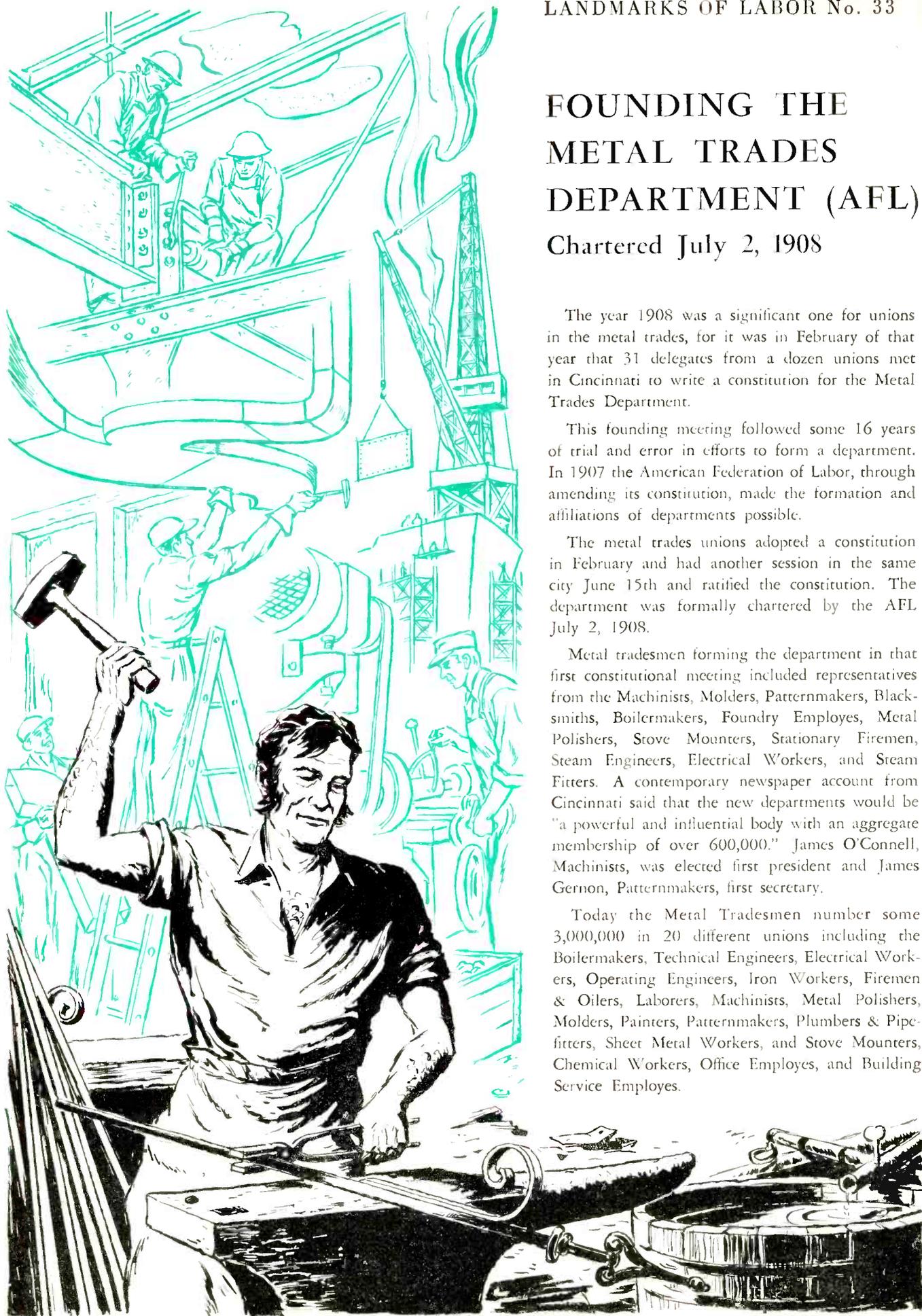
The year 1908 was a significant one for unions in the metal trades, for it was in February of that year that 31 delegates from a dozen unions met in Cincinnati to write a constitution for the Metal Trades Department.

This founding meeting followed some 16 years of trial and error in efforts to form a department. In 1907 the American Federation of Labor, through amending its constitution, made the formation and affiliations of departments possible.

The metal trades unions adopted a constitution in February and had another session in the same city June 15th and ratified the constitution. The department was formally chartered by the AFL July 2, 1908.

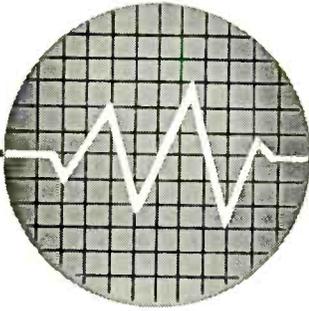
Metal tradesmen forming the department in that first constitutional meeting included representatives from the Machinists, Molders, Patternmakers, Blacksmiths, Boilermakers, Foundry Employes, Metal Polishers, Stove Mounters, Stationary Firemen, Steam Engineers, Electrical Workers, and Steam Fitters. A contemporary newspaper account from Cincinnati said that the new departments would be "a powerful and influential body with an aggregate membership of over 600,000." James O'Connell, Machinists, was elected first president and James Gernon, Patternmakers, first secretary.

Today the Metal Tradesmen number some 3,000,000 in 20 different unions including the Boilermakers, Technical Engineers, Electrical Workers, Operating Engineers, Iron Workers, Firemen & Oilers, Laborers, Machinists, Metal Polishers, Molders, Painters, Patternmakers, Plumbers & Pipefitters, Sheet Metal Workers, and Stove Mounters, Chemical Workers, Office Employes, and Building Service Employes.



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



# TECHNICIAN ENGINEER

VOL. 11, NO. 3  
 ALBERT O. HARDY, Editor

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*the cover* A view of the busy AFL-CIO Building and Construction Trades Legislative Conference, held this month in Washington. For a story on the conference see Pages 4 and 5.

*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 1961 figures: The January, 1962, consumer price index stands at 104.5. It averaged 0.7 per cent higher than January, 1961, but it remains unchanged from December, 1961. (Please Note: With this index the reference base is changed to 1957-59=100. Up until this latest report, the index base was 1947-49, and under this former base the January index would be 128.2.)

## COMMENTARY

The U. S. taxpayer—both in the higher and lower income brackets—is not hit nearly as hard as most Europeans . . . if this is any consolation at income tax time.

An American with two children who earns \$17,000 yearly will be taxed 19 per cent of his income. But if he were German or British he'd pay 36 per cent. If he were Swedish, he'd give up to 42 per cent.

Only when Americans climb into top income brackets do they pay more than Europeans. However, Americans do pay three to four per cent more in state taxes. These figures, compiled by the British National Institute of Economic and Social Research, are adjusted for standard of living differences.

The findings appear in the latest issue of the *Michi-*

*gan Journalist*, University of Michigan Department of Journalism laboratory newspaper.

The article says that low income Europeans are more heavily taxed due to high social security doles. U.S. taxes are easier on low income groups and income levies are steeply graduated. There is low reliance on indirect taxes—such as the sales taxes—in the U.S. as well as abroad.

In percentage of total wealth which goes to governments, the U. S. is eleventh behind advanced European countries, reports the article by Joan Kittle, of Lansing.

Highest is West Germany, which takes 34 per cent of the total wealth. The U. S. taxes only 26 per cent of its total wealth. Between the two are: Austria, Finland, Norway, France, Sweden, Luxembourg, Britain, The Netherlands and Italy. (PAI)



Delegates crowded the vast meeting hall at the Sheraton-Park Hotel in Washington on the first day of the conference.

## Shorter Workweek Called a 'Must'

### BUILDING AND CONSTRUCTION TRADES UNDERSCORE NATION'S JOB NEEDS

**G**EORGE MEANY, AFL-CIO president, stated the case for a shorter workweek simply and bluntly in a speech before the 8th annual Building and Construction Trades Legislative Conference in Washington, early this month.

"I would like to see the workweek in America short enough so that it will provide full employment for all Americans who are able and willing to work. If this means 35, 34, 33, 30 hours or less, so be it," the AFL-CIO leader told the 3,500 delegates attending the four-day meeting.

A shorter workweek seems to offer the best long-range remedy for problems of unemployment, most conference speakers felt.

"Unless somebody comes up pretty soon with a better answer," said Sen. Pat McNamara of Michigan, "we are all going to be for a shorter workweek. This is one way to get people back to work."

"The question is," said Department President C. J. Haggerty, "are we going to put America back to work and how by a wait-and-see, standby policy or by positive action now?"

He criticized President Kennedy's request for a standby public works program to combat "future" recessions

as "too cautious an approach to the unemployment problem."

Meany called unemployment the number-one domestic problem of the nation and conceded that labor does not have the complete answer to it.

"But it is quite obvious," he declared, "that if we go on producing more and more with less and less people, then we must—positively must—reduce the workweek without any reduction in the income of the American worker."

He noted that each of four recessions in the past decade had started from a higher base of unemployment than the previous one, leading to a continued jobless rate of 5.8 per cent in January.

"Unless we make a rapid improvement in that figure, that is the base figure from which our next recession will probably start," he warned.

If the work force could not assimilate an average annual growth of 820,000 workers in the 1950s, he declared, "it is quite obvious that we will not assimilate 1,350,000"—the average estimated for the 1960s—"unless we take some radical measures."

Meany described as "a lot of nonsense" the arguments that a shorter workweek "would stand in the

way of progress" and that "these things will take care of themselves in the long run."

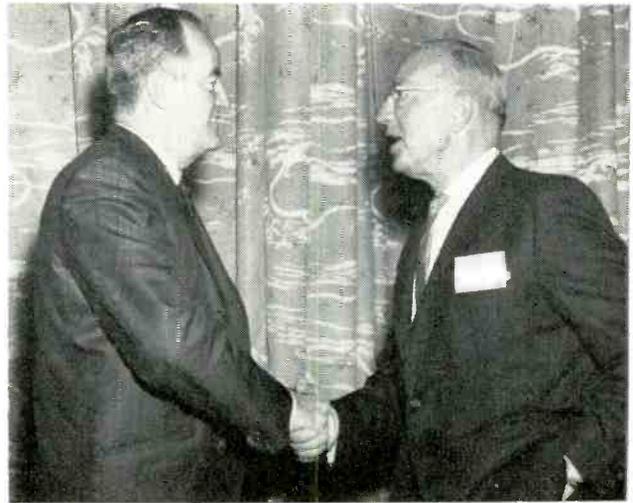
"It is not a question now of progress," he said. "It is a question of maintaining a stable economy."

He called the recent increase in automation a much more serious threat than technological developments of the past. Automation in American industry has advanced further in the past five years than it did in the previous 100 years, he observed.

"We are not opposed to machinery lifting the burden of human labor, making life a little better," he declared, "but we are opposed to machinery when it imposes misery on thousands and hundreds of thousands of people by casting them permanently on the industrial scrap heap."

The conference heard also from House Speaker John W. McCormack, who told the delegates that while he "strongly favored" proposed Federal standards for unemployment compensation, "immediate consideration" must be given to extension of the temporary benefit program, due to expire in April, to avoid a gap that would mean "an awful lot of hardship."

There were several other speakers, including Secretary

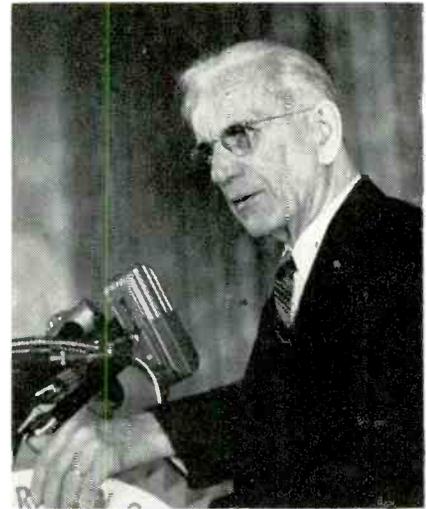


Senator Hubert Humphrey of Minnesota, a long-time friend of labor, is welcomed to the rostrum by Building and Construction Trades Department President Haggerty.

of Labor Arthur Goldberg, on the opening day of the conference. Following the preliminary talks, delegates visited Capitol Hill and talked to legislators from their respective states on behalf of the Department's legislative proposals.

#### CONFERENCE LEGISLATIVE GOALS

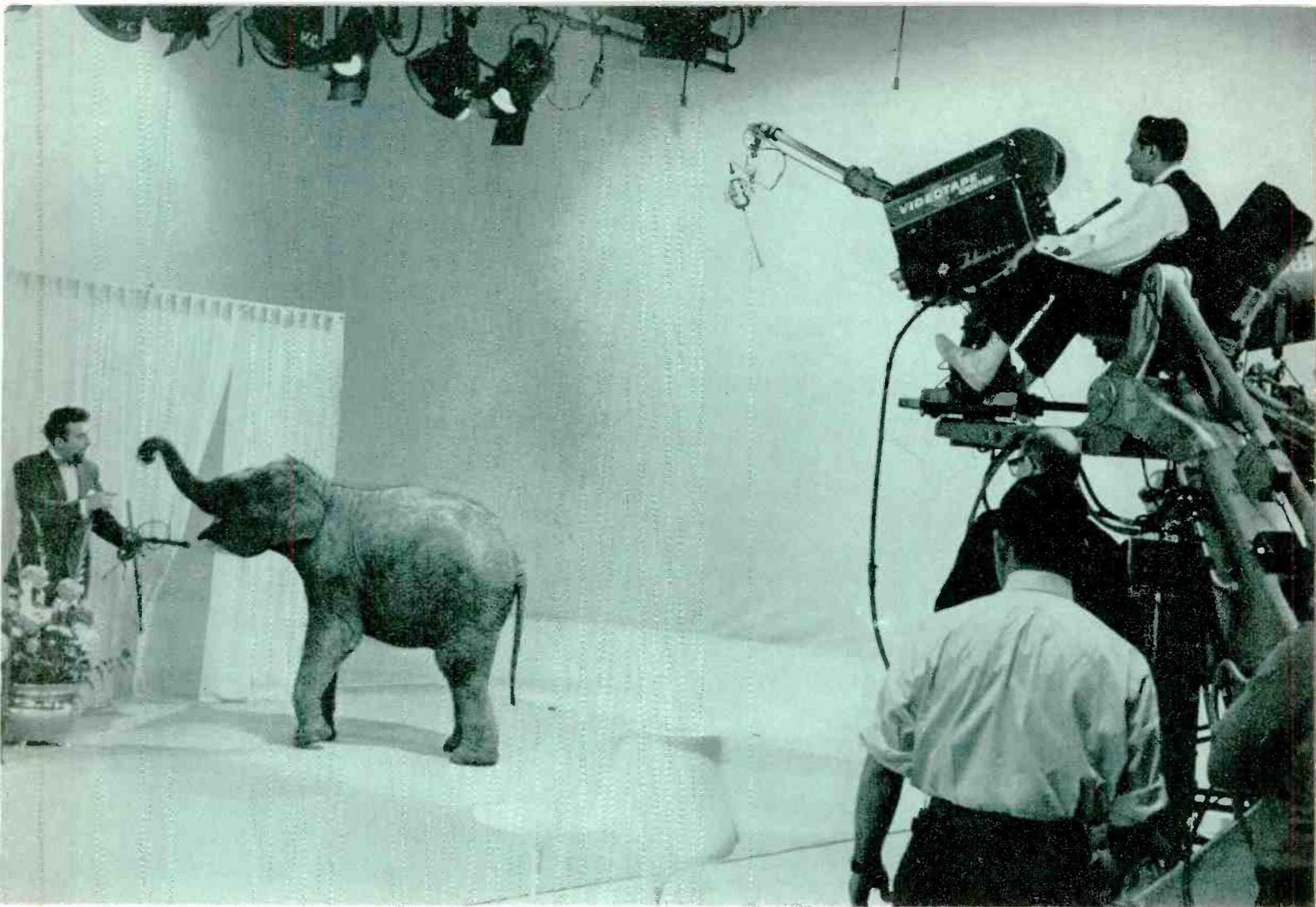
- The Anderson-King Bill to provide health insurance for the aged through the Social Security system. Delegates called this an "inevitable reform and a great boon to retired persons."
- Equal employment opportunity legislation. Department President Haggerty called this "absolutely necessary" to end discrimination in employment practices.
- Proposed amendments to the Davis-Bacon Act to include certain fringe benefits in determining prevailing wages for Federal construction projects. "This would protect workers and employers alike from cut-throat competition of non-union contractors."
- A proposed amendment to the 8-hour day law which would require time and one-half payments after 40 hours a week as well as after 8 hours a day. The conference felt that this would "end the practice of unfair contractors working their crews 56 hours a week without overtime."
- The Department intends to press forward its support of legislation to permit common situs picketing and to continue discussions with the AFL-CIO Industrial Union Department to resolve differences over the measure.



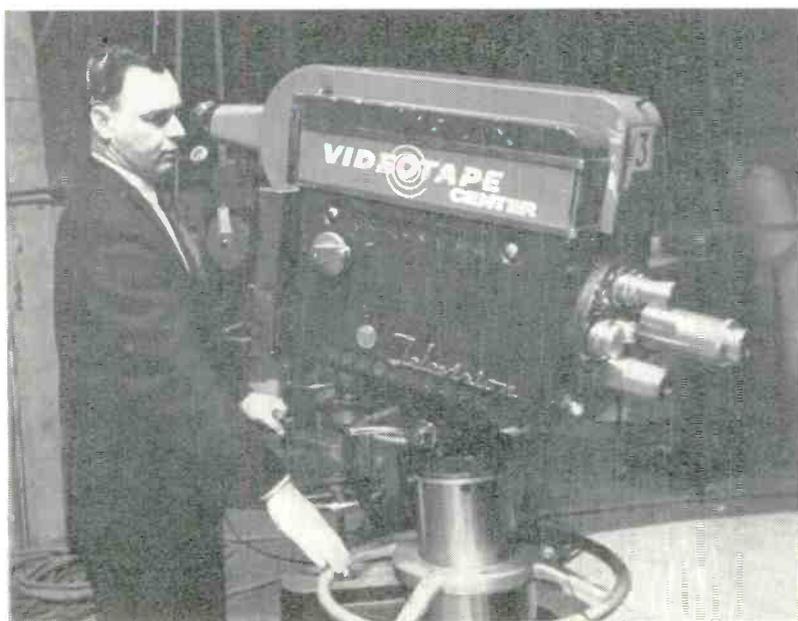
ABOVE: House Speaker John McCormack told delegates that extensions were needed now on unemployment compensation programs.



LEFT: Senator Joe Clark of Pennsylvania talks to a group of home-state construction tradesmen who visited him on Capitol Hill during the four-day legislative conference. Face-to-face discussions with Congressional representatives is a vital part of the annual gathering in Washington.



# Videotape Center NEW YORK CITY



A busy hub of activity today is Videotape Center, New York City, which produces taped programs and commercials for a steadily-growing list of clients. Videotape Productions of New York, Inc., the employer, uses the services of several members of Local 1212 in all phases of production. Operating from a headquarters at 101 West 67th Street, it is geared to meet the demands of many networks and agencies. In the picture above, for example which is obviously a BIG commercial, Dean Alexander of IBEW manages to stay on top of things at upper right. At left, John Mastropolo lines up a camera for a closeup.

## STORY BY DEAN ALEXANDER

**V**IDEOTAPE Productions of New York, known as Videotape Center, first opened its doors for business in February of 1959. In these few years since its modest beginning as a single-studio operation in the Century Theatre on 58th Street in Manhattan, Videotape Center has grown into a giant multi-studio production center, the largest independent tape producer in the East.

Videotape went into operation with a staff of six technicians, but as the demand for taped commercials and shows grew, so did the technical staff of Videotape Center. Since the Center moved its plant from the old Century (which has since been razed to make way for a new apartment structure) to the new 67th Street and Columbus Avenue studios, the technical staff has swelled to twenty. This is an encouraging note in the light of the increase of automated functions and reduction of personnel in other phases of broadcasting and TV recording. The total number of employees at the Center has grown from twenty-three at its inception to the present operating staff of over seventy-five.

### FAITH IN TAPE WELL-FOUNDED

Howard S. Meighan, the founder and president of Videotape Productions, is a former vice president of CBS-TV in Hollywood and a pioneer in Videotape recording and broadcasting. The creation and rapid growth of Videotape Productions stand as a monument to his foresight and continuing faith in tape. He has been ably supported by an outstanding executive staff headed by the vice president and general manager, John B. Lanigan, who was a vice president and Eastern sales manager at NBC and vice president and account supervisor at Compton Advertising. Charles Holden, Videotape's director of production, is the former assistant national director of TV programming at ABC and production manager at CBS-TV. Donald R. Collins, Videotape's chief engineer, was a member of the research division of Philco, officer in charge of the studio division of the Army Pictorial Center and a former engineer at ABC-TV and General Electric. He also designed the Metropolitan Educational TV Facilities in New York.

Over the past three years these key men have screened and selected the outstanding team of production and operating personnel who have, to date, turned out over 2,500 high quality studio and remote commercials and 130 shows for 145 different corporate advertisers.

### GOOD EQUIPMENT AND MEN

Several factors contribute to the technical excellence of the product bearing the Videotape Productions' label, but the two most important are, of course, the equipment and the men who operate it. The technical facilities of the Center are unrivaled in the industry. The first three Marconi Mark IV image orthicon cameras to be placed in commercial operation were introduced at Videotape Center. These cameras produce the finest

quality monochrome TV picture and are in constant demand by commercial producers. The Center also has a working arrangement with Tele-Tape Productions for the use of a mobile tape cruiser for remote pick-ups, and, if necessary, three additional Marconi cameras for studio use. There are also, in the studios, twelve RCA cameras to afford complete flexibility in the choice of equipment to a client in presenting a particular show, or commercial product to best advantage.

There are also two complete film chains with 16mm and 35mm projectors as well as slide and telop facilities.

The tape room is equipped with five 1000C tape Ampex Videotape recorders, and it is estimated that more than 450 miles of tape have been recorded on these machines, according to Herbert W. Hobler, Videotape Center's sales manager. The tape technicians have all the latest electronic developments at their disposal. The most revolutionary of these developments is "Inter-sync" which permits the mixing of sync sources and allows the "rolling in" of one or more tape segments from differing machines, with studio or film originations, thereby eliminating much of the older and more precarious cutting technique and allowing the instant insertion of dissolves and other special effects.

Another of the "tools" provided Videotape Center's tape technicians is Amtec, a time element compensator, designed to eliminate picture jitter, a problem prevalent in earlier intersync mixing. This was an important break-through since, as Mr. Hobler points out, about 50 per cent of the productions recorded at the Center employ intersync editing in one form or another.

The IBEW technicians responsible for the fine technical operation of Videotape Center are recognized in the industry as among the most accomplished craftsmen in the Videotape recording industry. They came to Videotape Center from the various networks, TV and recording studios around the country and were selected from a huge number of applicants eager to break into this new and rising industry.

### NEW BREED OF STUDIO TECHNICIAN

A Videotape recording studio technician is of an entirely new breed for he is involved in an industry that incorporates the best features of film, television broadcasting and magnetic recording and requires the skills and knowledge of all of these. The recording of commercials on Videotape demands unprecedented precision. For, unlike shooting film, the client, agency representatives and other principals involved are able to view and criticize the playback of a recording instantly and note any errors or necessary changes right on the spot. This ability to take a second look requires that the technicians always maintain a painstakingly high professional standard. Before any finished tape is allowed to be accepted as a final "buy," it must first pass the

*(Continued on page 8)*

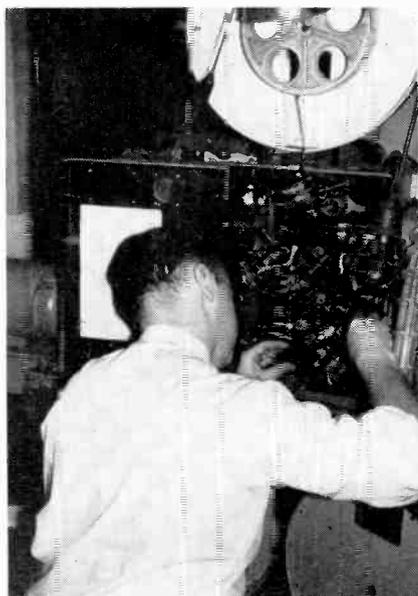
# Videotape Center

## NEW YORK CITY

(Continued from page 7)



Lucian Lessard  
taping a remote  
job with the Sports  
Network Unit.



Allen Yonetti  
repairing one of  
the 16 mm  
projectors in  
Telecine.

*Pictures  
were taken by  
Russell Lighty  
and Earl M.  
Silver.*



The man responsible for technicians and technical—  
Chief Engineer Don Collins.

scrutiny of the engineering supervisors who must rate it as “technically acceptable” for air use. Any flaws are immediately brought to the attention of the director and client, even in cases where they might not be aware of some of the minute, sometimes highly technical irregularities. In this way, the technicians can be sure that any tape bearing their approval will be of the highest playback quality and will be a product to which each man can point with personal pride.

But individual achievement is not the only goal of the employes at Videotape Center. Of equal and possibly more importance is the success of the company as a whole. Videotape Productions is looked upon by those employed there as “a nice place to work.” The management prides itself on having a “family organization” because of the close working relationship between employes and employers. The business of producing tapes is a mentally and physically demanding one, but the atmosphere is extremely amiable and comfortable at Videotape Center. Each employe is an almost fanatical believer in the future of Videotape and each considers himself a sort of “salesman without portfolio.” Employee-management relationships are aided by the easy accessibility of the management to any employe and it is a common sight to see a technician or a group of employes discussing company matters or personal problems or just “shooting the breeze” with Mr. Lanigan or Mr. Meighan, in spite of their crowded schedule.

### FINE UNION-MANAGEMENT RELATIONS

A good illustration of the fine union-management relations at Videotape Center occurred during the last contract negotiations in November of 1960. All points were readily agreed to by the company management and the IBEW with the exception of one minor question. Instead of a drawn-out disagreement and possible hard feelings developing as a result of this, Mr. Meighan and Mr. Lanigan invited all of the technicians to an informal gathering and as a result of this open discussion, the matter was amicably settled.

When the company moved its quarters to the spacious studio building on 67th Street, Mr. Meighan spoke to the assembled employes to thank them for their cooperation in moving the entire operation in a single week-end from the Century (this monumental task began Friday evening and by Monday morning the first recording was made) and to reassert his sincere desire that in spite of the tremendous expansion of the company, they would continue to maintain the present “family” atmosphere. If the past half-year since the move is any indication, his wishes have been and will continue to be fulfilled.

The IBEW can be justly proud to be represented in this model television tape recording studio with its staff of able technicians (they average almost eight years in the industry apiece) and can look forward to more of the same pleasant and productive relationship in the years to come.



When Videotape Productions moved from the Century Theater to West 67th Street, busy packing were Lucian Lessard, Edward Henning, and Philip Riddle.



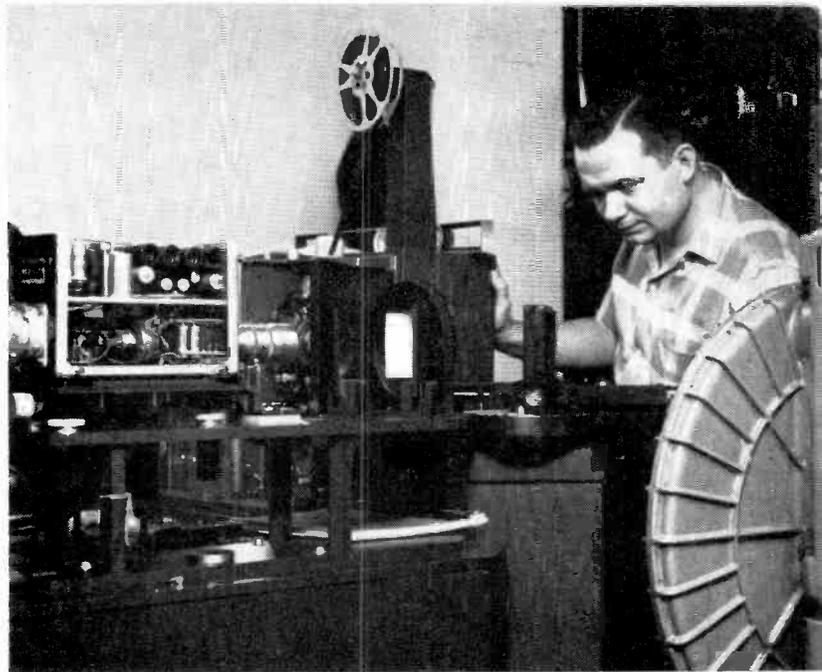
An underneath-and-upside-down connection receives the close attention of Paul Pekurney.



Gino Lombardo at one of the audio control positions in Videotape Center.



International Representative Russell Lighty and Shop Steward Lou Lessard have difficulty suppressing inner-merriment.



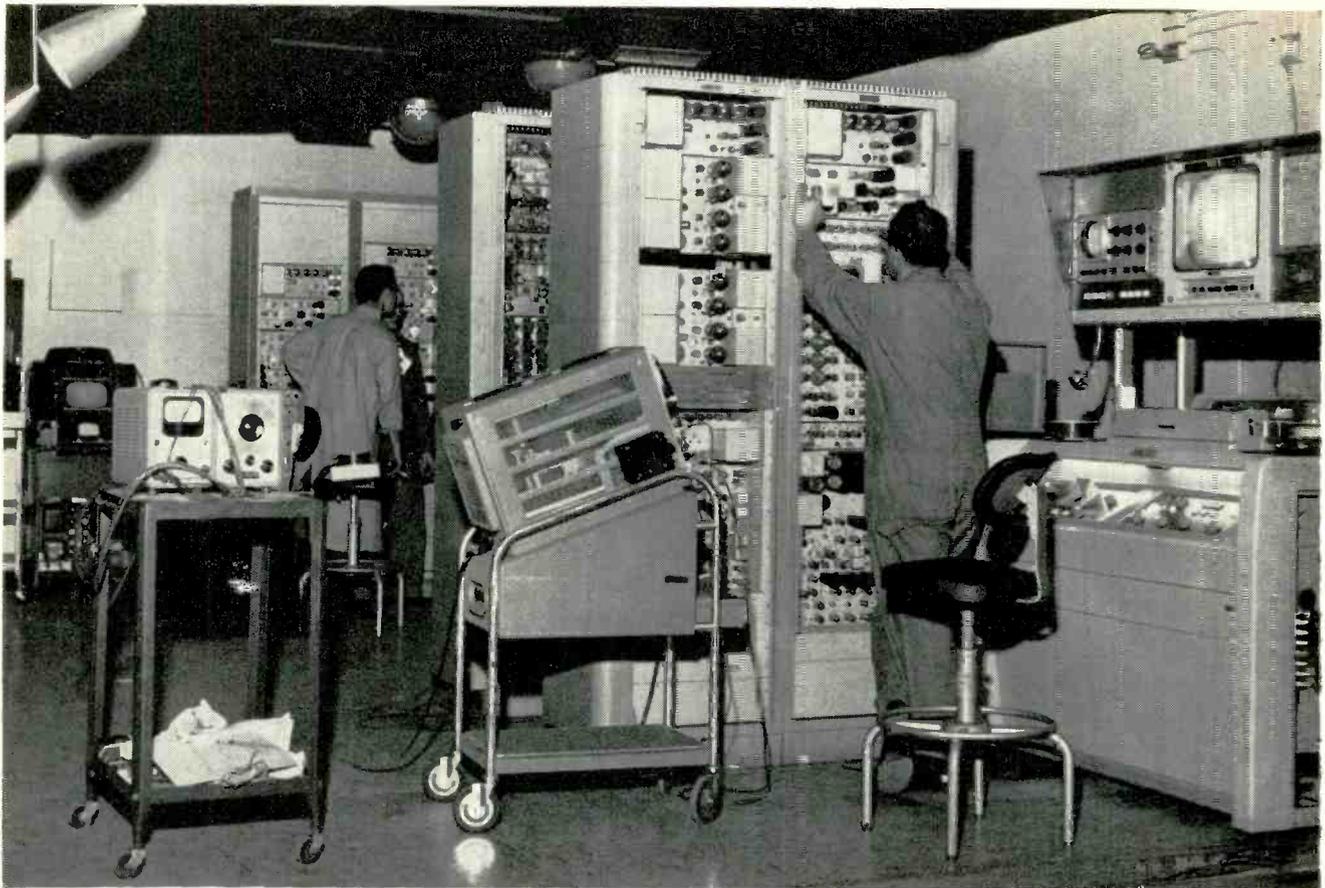
Phillip Riddle is critical of focus in Telecine.



Joel Dolberg prepares a camera angle while Stagehands Bill Hallahan and Ken Williams hold an extra-curricular conference.

Eddie Henning and Dick Sens in one of the video control centers.





The taperoom at West 67th Street, looking down the bay past two tape recorders. At work are Richard Sens, Lucian Lessard, and Ernest Gellman.

**Videotape Center**  
NEW YORK CITY



D. Alexander and Joseph Polito dismantling at the former location on 58th Street for the move to West 67th.

**TV'S BAD EFFECTS?**

A new research study by Elmo Roper offers some surprising data as to who's *really* worried about TV's bad effects on children. The Roper survey shows that the groups most concerned about the gravity of the TV picture are (1) those having no children (55% of this group thought the problem serious); (2) those who have no TV set or don't watch TV (52% of these were really worried); and (3) those whose education stopped

at grade school or lower (47% of these were alarmed). Those with college educations showed the least concern of all (38%).

**'MISBEHAVIOR' WARNING**

The Screen Actors Guild has warned "a few" of its members that they will be subject to trial under union procedures for misbehavior on television and movie film sets.

## PRESIDENT ON AUTOMATION

Destruction of jobs by automation has been tagged "the major domestic challenge of the Sixties" by President Kennedy.

He declared that unless the economy experiences a faster growth rate it will not be able to absorb the more than a million workers who are currently losing their jobs to the new science each year.

Pointing to the steel and coal industries, Kennedy told a press conference that a number of industries may experience "structural unemployment" even if the economy moves ahead at a faster pace.

The Chief Executive's open concern over the continuing high rate of unemployment provoked one of his strongest statements on the problem. In many ways it echoed the views of labor economists and AFL-CIO President George Meany, who told the recent AFL-CIO Legislative Conference that we are not out of the last recession until we achieve full employment.

The question asked Kennedy was: "Mr. President, our Labor Department estimates that approximately 1.8 million persons holding jobs are replaced every year by machines. How urgent do you view this problem—automation?"

Kennedy replied:

"Well, it is a fact that we have to find over a ten-year period 25,000 new jobs every week to take care of those who are displaced by machines and those who are coming into the labor market.

"So, this places a major burden upon our economy and on our society, and it's one to which we will have to give a good deal of our attention in the next decade. I regard it as a very serious problem.

"If our economy is moving forward, we can absorb this 1.8 million even though in particular industries we may get structural unemployment. We've seen that in steel and coal and we may see it in other industries.

"But if our economy is progressing, as we hope it will, then we can absorb many of these men and women. I regard it as the major domestic challenge of the Sixties—to maintain full employment at a time when automation, of course, is replacing men."

## SOAP BUBBLE TROUBLE

In Tucson, Ariz., a soap company producing a television commercial on its product hired a publicity man to find an Indian who could send up smoke signals promoting the soap. The publicity man canvassed Indian reservation after reservation but nowhere was he able to find an Indian who could send smoke signals. Finally, tired and exasperated, he asked one Indian, "Well, what do you do when you want to send a message to some one on the next reservation?" "Why," replied the astonished Indian, "I use the telephone. What do you do?"

March, 1962

## FCC Revokes Licenses

RULE VIOLATIONS AND "CHICANERY"  
ARE CITED IN TWO CASES

The Federal Communications Commission Rules and Regulations are quite specific as to the requirement set forth in Section 3.93 (c):

*"The licensee of a station which is operated by one or more operators holding other than a radiotelephone first-class operator license shall have one or more operators holding a radiotelephone first-class operator license in regular full-time employment at the station whose primary duties shall be to effect and insure the proper functioning of the transmitting equipment . . ."*

By unanimous decision, the Commission has revoked the license of KLFT, Golden Meadow, Louisiana, for "willful violations of rules designed to protect the public; the nature of misrepresentations regarding these violations . . . (etc)."

After warning by an FCC field inspector, the owner repeatedly violated this FCC rule. He paid an operator to display his license at the station and the operator was found not to be employed full-time. The FCC alleges that the owner lied about this and encouraged his employes to make similarly untrue statements as to the facts. Thus, the Commission found that misrepresentations made by the owner and his lack of the character qualifications necessary to be the licensee of a radio broadcast station were primary reasons for revocation of the license.

In concurrent action, the FCC refused to renew the license of KRLA, Los Angeles. The owner of KRLA was found guilty of neglect of his statutory responsibilities as a licensee and of attempts to mislead the Commission. This was also a unanimous decision, although the hearing examiner had recommended a one-year renewal of the license. It was found that the owner attempted to "hoodwink the Commission into believing that KRLA's programming conformed with its program proposals," and decided that "A willingness to deceive a regulatory body, even as to matters unimportant in themselves, warrants denial of a renewal application." Other instances of what the Commission described as "chicanery" were found and it was established that program logs were altered to show programs which were not actually broadcast, in an effort to deceive the FCC.

**ATTEND YOUR LOCAL**

**UNION MEETINGS REGULARLY.**

**BE AN ACTIVE MEMBER OF IBEW.**

# Television Covers Colonel Glenn's Day

*Some behind-the-scenes shots of the CBS programming of the big man-in-space event.*

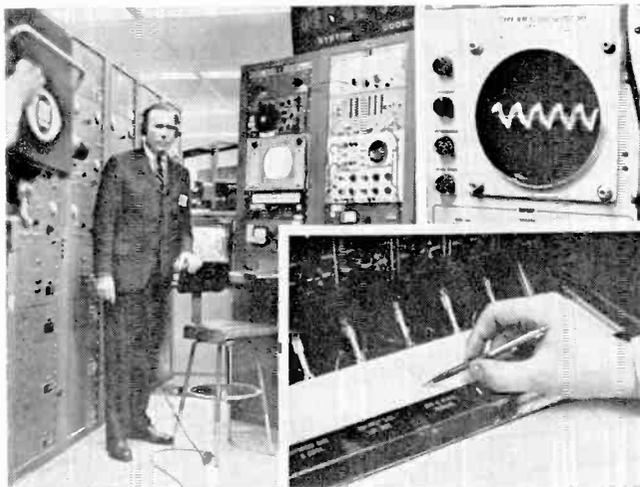


**ABOVE:** Colonel John Glenn, Jr., tells Congressional leaders of his historic flight.



**LEFT:** Cameraman Pat McBride focuses his camera on Astronaut John H. Glenn, Jr.'s Mercury-Atlas booster at Cape Canaveral, Fla., preparatory to the live on-the-spot CBS Television Network coverage of the launching of Col. Glenn into orbit.

**BELOW:** A CBS camera crew sets up a camera at Cape Canaveral, Florida, as Walter Cronkite and crew go over notes in the foreground.



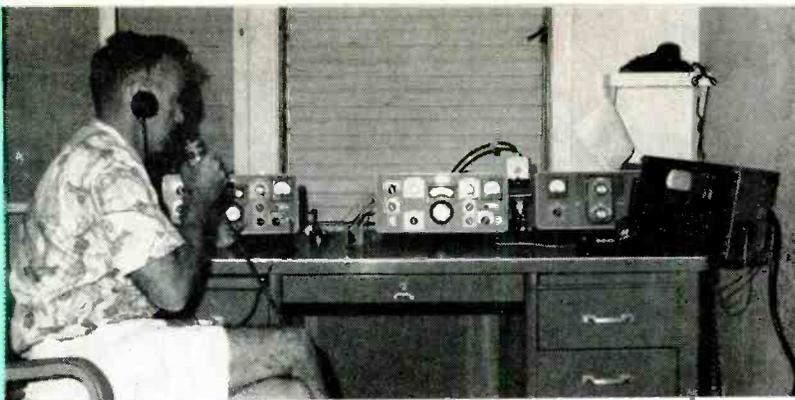
**UPPER LEFT:** The reactions of Colonel Glenn to the stress of orbital flight were seen during his journey through space, on the CBS Television Network. A CBS announcer is shown with instruments that measure pulse, heartbeat, and respiration rate at the Telemetry Data Processing Center of The General Dynamics/Aeronautics Co. in San Diego, Calif., where scientists tracked the space capsule.

**LOWER LEFT:** The networks provided live coverage from New Concord, Ohio, Glenn's home town, including interviews with the colonel's parents, shown here with Muskingum College students.



# OUR MAN ON GRAND TURK

Homer Lotier Mans the Controls  
At His Tropical Outpost.



*"We take you now to Grand Turk."*

Following that simple phrase began a broadcast account of the return to earth of Lieut. Col. John H. Glenn, Jr.

Responsible for the technical feed was Homer Lotier, a member of IBEW Local Union 1200 and a technician employe of the Mutual Broadcasting System normally assigned to their Washington studios.

Hank's job? To provide audio for the combined U. S. and Canadian radio and TV networks and to almost all the broadcast transmitters in the free world desiring to carry the account of America's first round-the-world astronaut, arriving on Grand Turk for physical examination at the hospital established for this purpose.

Such a broadcast from this remote little island in the Caribbean took a great deal of planning and the help and cooperation of many people. The final task of setting up the transmitting equipment, antennas, etc., and making sure that it all performed as planned was left to Hank. Having been a ham for many years, the job was only somewhat different from setting up a Field Day station—except for one thing; this was for real, with no excuses accepted if it didn't work. As millions of people in the free world now know, it worked, and just fine. In the language our ham readers understand so well, it was "Q5 all the way," or as the hams sometimes say, "Armchair copy."

The gear that produced the good signal was a pair of Collins KWM2 transmitters with a 30 LI linear amplifier. One KWM2 plus the linear was used to work RCA communications at River Head, Long Island direct from Grand Turk on 13,915 KC. The other KWM2 was used as a cue transmitter on 16,015 KC. The 13 MC. antenna was a simple vertical and contrary to popular belief, this one worked *good* in all directions.

One of the operational problems that had to be solved quickly was the matter of voltage regulation. The KWM2 transmitter would wander about frequency-wise as the line voltage varied making it difficult for the receiving location to keep up with the frequency drift and thus causing unacceptable distortion in the received audio. Nothing could be worse than Donald Duck single side band type audio in the homes of millions of people around the world. A voltage regulator helped

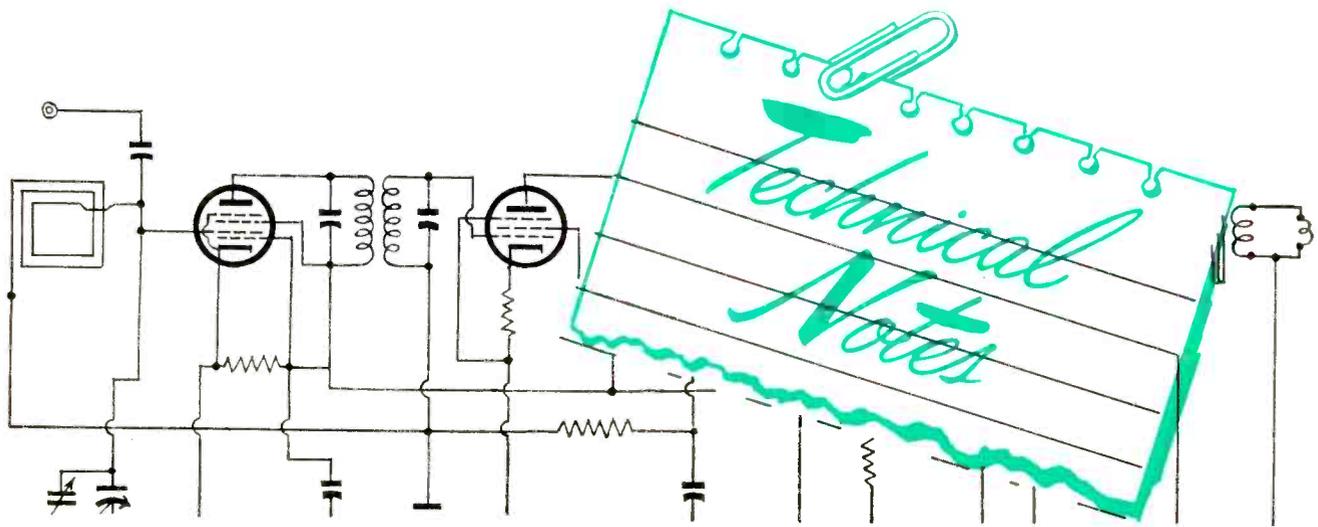
but the real answer to the problem was the insertion of about 30 per cent carrier which gave RCA's receivers something to follow, they being designed to automatically follow a drifting carrier. It should be pointed out that the 30LI linear was not designed for prolonged carrier insertion operation and, without care in tuning, it's possible to damage the final.

Receiving conditions generally are excellent on Grand Turk except for harmonics from other transmitter services operating on the island. Hank was in almost constant communication with the carriers *Forrestal*, 500 miles east of Bermuda; the *Antietam*, 500 miles south of Bermuda; the *Randolph*, 300 miles east of Grand Turk and with RCA Communications at River Head. At times it sounded like a country party line on the cue circuit.

A few days prior to the January 27 attempt, trouble developed in the 30LI linear and all concerned were pleased to learn the "barefoot" KWM2 with its 150 watts input continued to produce an acceptable signal at River Head. Arrangements were made to have another 30LI shipped to Grand Turk. This is almost a whole story in itself and again represented great cooperation on the part of many people to make it possible on short notice.

Grand Turk is located 135 miles north-northwest of Cap Haitien, Haiti. The town is the capital of the Turks and Caicos Islands, a dependency of Jamaica. There is a cable relay station on the island, and in 1953 a guided missile observation station was completed. The chief commercial activity is salt raking. Others are sisal growing and the processing and export of conches and crawfish. The native population today is about 1,600. Living accommodations on the island are excellent for American personnel. The electronics division of Pan American Airways, in addition to their other work on the island, also operate the mess hall. The food is excellent, although not served by a pert PAA stewardess. The Grand Turk Hilton is a typical WW2 Quonset hut.

The excellent spirit of cooperation shown by the Grand Turk personnel of RCA, Pan American Airways and the Air Force made a pleasure out of what otherwise would have been a difficult assignment, our man on Grand Turk reports.



## NEW TV TAPE CONVERTER

RCA says it will introduce a converter in May designed to halve the cost of television tape and thereby bring video tape recording within the economic means of more users.

The development converts RCA TV tape recorders from a conventional 15-inches-per-second operating tape speed to 7½ inches per second. Although there are similar conversion devices in use at tape houses, firms using them report reproduction values usually are not up to that gained in conventional tape speeds.

C. H. Colledge, division vice president and general manager, RCA Broadcast & Communications Products Division, said the economies of half-speed operation should extend the use of TV recording among broadcasters, schools and armed forces and should open new video tape applications. He said the development of a new headwheel assembly, the recording/playback heart of TV tape recorders, has made it possible to reduce operating speed while retaining a high-level quality reproduction.

RCA says its new converter will cut network and station storage space requirements. The conversion equipment also includes a new two-speed capstan motor and modified circuit. It will cost approximately \$3,500. Beginning in May, RCA will make deliveries of the accessories required to convert two types (TRT-1B, TR-11) of its TV recorder line to the new operating mode.

## NEW THIMBLE-SIZE TUBE

A new addition to the nuvistor family of thimble-size tubes—a medium-nutriode for industrial and military applications—has been announced by the RCA Electron Tube Division.

The tiny RCA-8056 is specifically designed for operation from a plate voltage supply of 12 to 50 volts. It may be utilized in a wide variety of electronic applications where compactness, stability, low drain, and abil-

ity to withstand mechanical shock, vibration, and operation over a wide thermal range are design requirements. In applications of this type, the RCA-8056 is especially useful in low-noise rf and if amplifier circuits, control and multivibrator circuits, cathode-follower circuits, and in other special circuits requiring a device having very high input impedance. When used with a low-voltage power supply, it can provide high gain with low noise in small-signal amplifier applications at frequencies up to 350 Mc, according to the Tube Division.

The nuvistor has high transconductance at very low plate supply voltage and low plate current (8000 micromhos at 12 volts and 5.8 milliamperes). The RCA-8056 contains a 6.3-volt low-wattage heater and a specially designed cathode made of passive material to assure exceptionally long life with very low interface resistance and leakage. In addition, this new triode utilizes a very rugged all-metal and ceramic construction including a lightweight, cantilever-supported electrode structure. The 8056 can operate at any altitude and has a high resistance to nuclear radiation.

The thimble-size tube is 0.8 inch long and 0.440 inch in diameter, and weighs approximately ¼<sub>15</sub> ounce.

## PLASMA MAY BE SPACE FUEL

Engines of future spaceships may be run on plasma, a substance that is neither solid nor liquid, or a gas.

A plasma is a substance so hot that its atoms have violently smashed one another to bits. The result is an angry swarm of electrons and positive ions, the remainder of the atoms from which electrons have been stripped away.

Until recently, few people except astronomers realized that most material in the universe, including the stars and many loose particles in space, is in this unfamiliar "fourth state" of matter, the National Geographic Society says. Only in exceptional places, as on earth, does matter settle down into solids, liquids, or gases.

The sun, being a star, is largely plasma. So is the visible path of a bolt of lightning, and so are the earth's ionosphere and the Van Allen radiation belts that present a hazard for astronauts. Man-made plasmas occur in neon and fluorescent lamps, electric arcs, the exhaust of jet and rocket engines, and, terrifyingly, the fireball of a hydrogen bomb.

Recently, scientists of the Republic Aviation Corporation reported success in developing a "plasma pinch" space engine that will spit out bursts of plasma at 100,000 miles per hour. Though the thrust itself is tiny, they believe it can push a vehicle through space. Space ships need little power once they have overcome the earth's gravitational pull.

But the vehicles must produce some force over weeks or months to reach their distant destinations. The Republic plasma pinch engine reportedly can run for a year on a pound of nitrogen. Solar cells convert the energy of the sun into electricity, which turns the nitrogen gas into a plasma and then squeezes the substance with magnetic power to squirt it out at enormous speed.

The plasma may reach a temperature as high as 200,000 degrees Fahrenheit. In contrast the 3,000 degrees of the gas flames on a kitchen stove seem almost chilly. Until recent years, man could not create temperatures above some 7,000 degrees, though in nature they range into millions of degrees on the hottest stars. Plasma research has led to creation of sustained temperatures up to 40,000 degrees and momentary duplication in the laboratory of the fantastic stellar temperatures.

Control of thermonuclear reactions in superheated plasmas is a major aim of current research. Physicists have already succeeded in solving many of the initial problems. Eventually they hope to build a machine that will make fusion power available for public use, just as fission power is now.

Fission—the breaking up of uranium and other heavy elements—produces vast amounts of energy as does fusion—the joining of hydrogen atoms to make helium atoms. But fusion has important advantages: It produces no radioactive waste, and it uses heavy hydrogen as fuel rather than rare uranium.

With a virtually inexhaustible supply of heavy hydrogen in the oceans, the fuel equivalent of 300 gallons of gasoline might be extracted for a little as 4 cents. In a world of shrinking oil and coal supplies, fusion power could solve man's energy needs for millions of years.

## I.R.E. MEETS IN NEW YORK

I.R.E. celebrates its Golden Anniversary this year with its "Golden Age of Electronics" Convention and Show. Headquarters for the event is the Waldorf-Astoria Hotel and the Show will be at the Coliseum, in New York, March 26 through March 29.

**March, 1962**



## WORKER DEMONSTRATION

### *Japanese Style*

In Tokyo, Japan, the city's labor movement laid claim to the world's championship for unusual demonstrations. Tokyo's highly diversified unions, it was contended, have invented more ingenious ways to capture public attention and grab publicity than any other labor group in the world.

The "zig-zag parade," guaranteed to snarl downtown traffic to a faretheewell, originated in Tokyo. So did the "funeral demonstration" in which the pickets turn up in front of the employer's home. Instead of carrying placards of protest signs, the pickets simply burn pungent funeral incense at the boss's entrance gate. Two months ago, a group of imaginative strikers picketed their employer's main offices on the 6th floor of a downtown building, and solved the altitude problem by renting a couple of surplus Navy barrage balloons. In Yokohama 13 striking chorus girls, dressed in the briefest of costumes, picketed a night club by bouncing up and down in front of the establishment on pogo sticks.

A once-popular type of demonstration—that for some reason has faded out—had pickets chaining themselves to factory smokestacks. A suburban bus strike was nearly broken when the anti-union employer imported two dozen scab drivers and conductors. With an anti-violence injunction hanging over their heads it took the strikers three weeks to figure out a way to get rid of the scabs. Came a Friday night, the scabs collected their paychecks and stopped in at a tavern across from the company garage to down a few quick ones before going home. Eventually they left, one by one, and a strange thing happened. Outside in the darkness every one of the scabs received a dousing of inexpensive but powerful perfume. Then went home reeking not only of liquor but of cheap fragrance. On Monday morning only three of the 24 strikebreakers turned up for work; the other 21 phoned in that their wives had told them "to get better jobs or else." A few days later the bus company settled on the strikers' terms.



# STATION BREAKS

## INTEREST ON LOST WAGES

On February 14, a trial examiner recommended for the first time that a worker fired for union activity be paid interest at 6 per cent a year in addition to lost wages.

Examiner Herman Marx ruled that the interest payment would not be "punitive" but provide a suitable remedy for the illegal discharge.

The ruling came in a case involving Allen F. Walker, a former Carpenters' Union steward, and the Puget Sound Bridge & Dry Dock Co., of Seattle.

Marx found that Walker was fired unlawfully last August 15 for pressing safety demands on the company at a bridge-building project near Spokane.

An attorney from the office of NLRB general counsel Stuart Rothman urged that the backpay order include interest.

## JOBLESS PAY URGENT

President Kennedy has declared that the McCarthy-King bill is a vital part of the Administration's program "to assure sustained prosperity and to strengthen our manpower base." He renewed his request to Congress that it act speedily to establish a permanent Federal program of up to 13 weeks of additional benefits for those who have exhausted state benefits.

The President estimated that 150,000 workers will exhaust their state benefits in April and that more than 100,000 per month will do so during the remainder of the year. He said that many of them are jobless because of automation or other technological developments and that responsibility to them cannot be abdicated.

Financing of the program would be by the taxation of employers on the first \$4,800 of a worker's annual earnings, replacing the present \$3,000 ceiling.

## NEW JOBS ARE AVAILABLE

*Electronics*, the McGraw-Hill publication, reports that "talent scouts" will be busy during the I.R.E. Convention, recruiting engineers for a considerable number of electronics, space and nuclear companies. Reportedly, recent graduates will be offered starting wages of \$6,500 to \$9,000. Junior engineers with one to two years' experience

are now receiving from \$7,000 to \$10,000 and the digital data equipment field offers from \$8,000 to as much as \$14,000.

Experienced component designers salaries are running as high as \$16,000 to \$20,000 per year and military systems engineers are in about the same bracket. Advanced data processing and some missile guidance and control engineers are in the \$14,000-\$18,000 bracket.

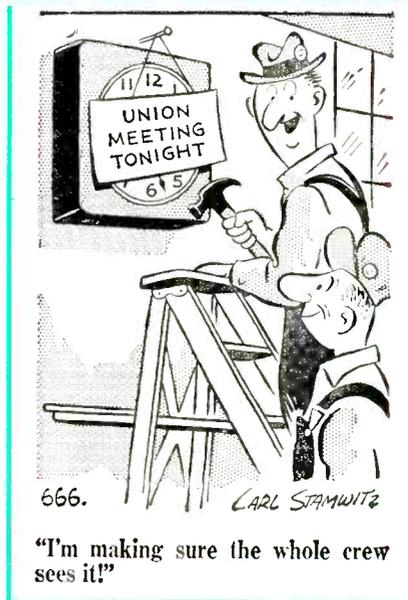
The Space Age has developed many new jobs. NASA estimates that by 1970 it may need as many as 13,000 new, trained people. Currently, NASA is endeavoring to recruit 2,000 scientists and engineers for the new Manned Spacecraft Center in Houston, Texas.

## WE DON'T WIN 'EM ALL, but . . .

Local Union 349, Miami, was recently certified by the National Labor Relations Board at WLBW-TV, Miami's newest station.

Local Union 1241, Philadelphia, scored a 7-0 victory in an election at WIBG, this month.

## LAST LAUGH



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