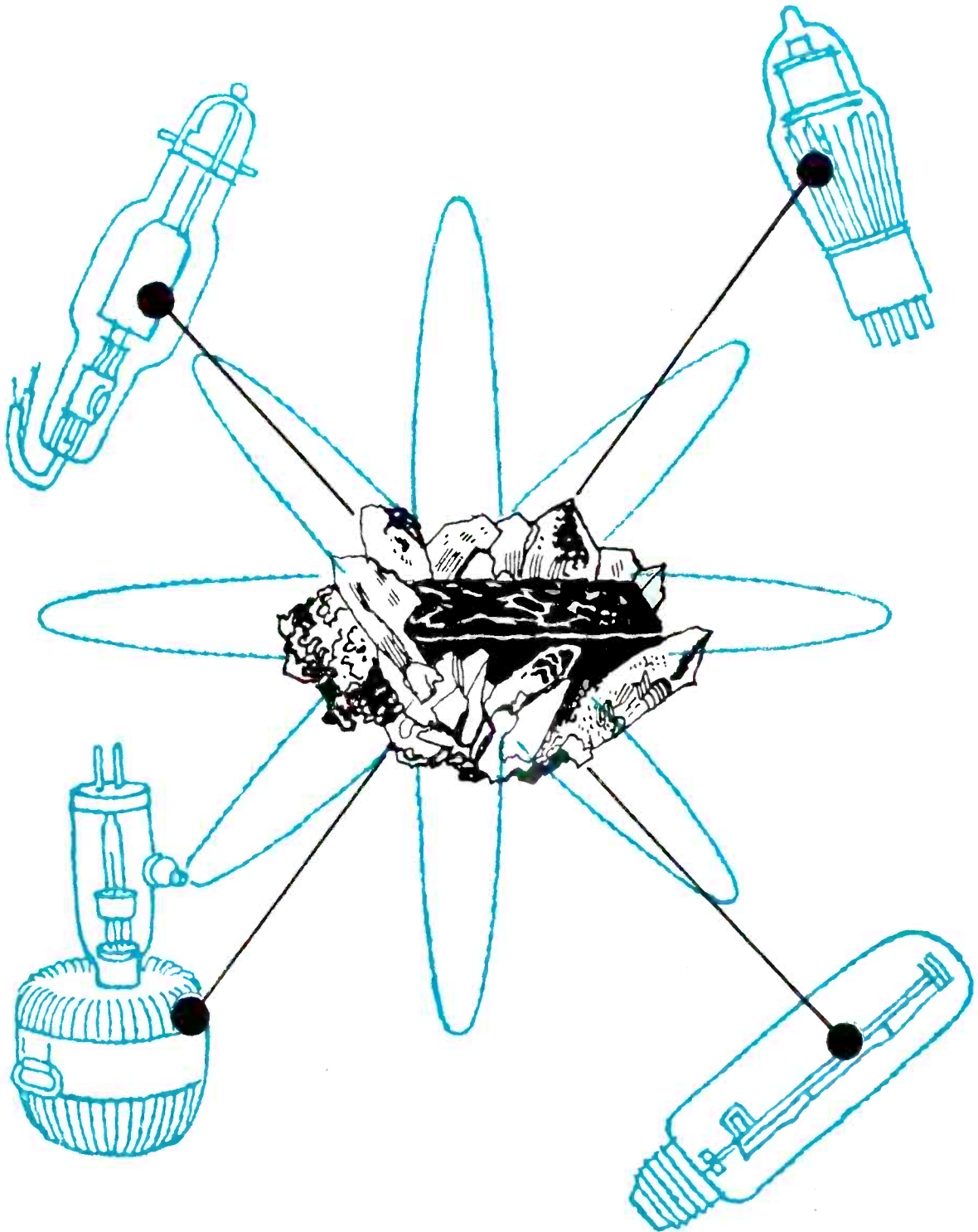


RADIO, TV and RECORDING

TECHNICIAN-ENGINEER

JANUARY, 1958



WOLFRAMITE CRYSTAL

Source of Tungsten For Electronic Tubes

RADIO, TV and RECORDING

TECHNICIAN-ENGINEER

VOLUME 7 17 NUMBER 1

PRINTED ON UNION MADE PAPER

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

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... the cover

Without tungsten filaments, radio and television tubes would go dead, for tungsten stands virtually alone as the metal of high heat resistance necessary for electronics. Atomic energy research is finding new metals which have not yet been adapted to electronics use. Transistors have taken the place of tubes in many instances, but still tungsten filaments remain as the mainstay of electric light bulbs and many vacuum tubes.

Our cover, this month, shows tungsten ore as it comes from the mine as wolframite crystals encircled by typical electronic tubes. For a full story on tungsten and its uses, turn to pages 12 and 13.

commentary

"We say that the trade union official who takes refuge in the Fifth Amendment should be able to explain that action where trade union money is concerned. . . . We are not saying that we want to take his liberty away. We are just saying that if he cannot explain to his fellows, the taking of refuge in the Fifth Amendment, from a trade union point of view concerning trade union finances, we don't want that fellow associated with us any more. That's all we are saying." . . .—AFL-CIO President George Meany, IUD 2nd Constitutional Convention, 1957.

An interesting contrast—between the convention of the AFL-CIO and the National Association of Manufacturers—should be noted by all and sundry.

At the AFL-CIO convention, 90 per cent of the discussion was "on self-criticism and self-regulation."

At the NAM convention, the only linen they washed belonged not to employers or employers' organizations but to labor unions and labor leaders. They said nothing at all about the Sheffermans and their numerous clients in the business community. . . .

We are indebted to Msgr. George Higgins of the National Catholic Welfare Council for calling this contrast to our attention.

(Dec. 28, 1957 "AFL-CIO News")

the index . . .

For the benefit of local unions needing such information in negotiations and planning, here are the latest figures for the cost-of-living index, compared with the 1956 figures:

November, 1957—121.6; November, 1956—117.8

Published monthly by the International Brotherhood of Electrical Workers, AFL-CIO, 1200 Fifteenth St., N. W., Washington, D. C., for the men and women in the recording, radio and television industries. Entered February 20, 1952, as second-class matter at Washington, D. C., under Act of August 24, 1912. Subscription Price: U. S. and Canada, \$2 per year, in advance.



*From their stand
high and to the right
of the speakers'
platform, cameramen
and technicians
look down on a . . .*

Crucial AFL-CIO Convention

WHEN the leaders of the AFL and the CIO decided to merge two years ago they knew they were putting together a system in which the binaural sounds of two labor groups would often be dissonant. Nevertheless, at an historic convention in New York City in December, 1955, they hooked the components together with the hope that pressures outside would eventually level off the peaks inside.

For the past two years, AFL-CIO President George Meany and his Executive Council have been riding gain on jurisdictional disputes, investigations of corruption, and departmental growing pains.

Last month at the Second Constitutional Convention of the Federation in Atlantic City came the major test of labor unity. Three union affiliates were under charges of corruption and must be judged. Many differences between craft and industrial unionism were still unresolved. Labor's economic advisors saw a hard year ahead in 1958, with indications of recession. All the issues were considered and acted upon.

Among the major actions of the convention were the following:

- Three unions already under suspension—the Teamsters, the Bakery and Confectionery Workers, and the Laundry Workers—were expelled following a hearing of the Appeals Committee.

- The United Textile Workers, who had effectuated a clean-up, were brought back to good standing.

- Action on the corruption charges leveled against the Distillery Workers was held in abeyance for anticipated clean-up.

- The convention confirmed and adopted the six ethical practices codes approved by the Executive Council since the 1955 merger convention and affirmed the principles of the Council resolution on union officers who invoke the Fifth Amendment in response to charges.

- Delegates pledged to renew organizing efforts in an effort “to bring trade unionism to every worker in America.”

- They passed several resolutions of major import regarding the increasingly difficult economic and employment situation.

Pay-TV Given Consideration

A Resolution, presented by International President Smith of NABET, against broadcast pay-TV was submitted to the Convention as Resolution Number 58. On the sixth day of the Convention, this resolution was carried unanimously as reported out of the Resolutions Committee. The amended resolution reads as follows:

“WHEREAS, The issue of paid TV from the viewpoint of its impact on the American public, in general, and the membership of organized labor in particular; and

“WHEREAS, In the public interest free television must be maintained: Now therefore, be it

“Resolved, That the Second Constitutional Convention of the American Federation of



Gerd Lohmann of Paul Noback Recording Studios, of Washington, D. C., a member of Local 1215, records the proceedings of the International Labor Press Association conclave at Atlantic City.



IBEW President Gordon Freeman talks to Secretary of Labor James P. Mitchell.



The first nationwide contest for a "Miss Union Secretary" was held last year. Sponsored by Remington Rand, the competition was open to secretaries working for labor organizations. The winner, Mrs. Kathleen Kinnick of Berkeley, Calif., shown at right in picture at left, won a trip to the AFL-CIO Convention among other things. The day before the convention opened she went to New York to be interviewed by Helen O'Connell on the "Today" television show.

Labor and Congress of Industrial Organizations assembled in Atlantic City, New Jersey, unreservedly opposes pay TV, and urges that the membership use its efforts to defeat those who are trying to penalize the public and destroy free TV, and that the AFL-CIO notify the Federal Communications Commission of organized labor's opposition to pay TV; and be it further

"Resolved, That the Federal Communications Commission, the Congress of the United States and all other authority having jurisdiction in the premises be urged to defeat the efforts of those private advocates of pay TV who seek to deprive the American public of its rights to unrestricted and free use of the public broadcasting privileges."

Secretary Mitchell Speaks

The Secretary of Labor, James P. Mitchell, addressed the Convention in Thursday, December fifth, and began by delivering a message from the President of the United States. Mr. Eisenhower offered his personal congratulations on the sec-

ond anniversary of the merger of the AFL-CIO and praised the efforts of the organization to eliminate corrupt elements.

Some of the interesting things Secretary Mitchell had to say include:

"... It is [thus] with profound confidence in the AFL-CIO that I pledge to you today the sympathetic support of the Executive Branch of your Government in your efforts to maintain the integrity of the American labor movement. And I am glad that here today for the first time, I am able to announce the specific proposals that the Administration will make to Congress to effect this support.

Before I tell you of these proposals, however, I would like to set forth some general principles which have guided and will continue to guide the Administration with respect to labor management relations.

"First, it is the firm and permanent policy of our Government to protect by law the right of American working men and women to organize into unions and to bargain collectively

Technician-Engineer

through representatives of their own choosing.

"Second, it is the policy of our Government that the proper functioning of labor-management relations depends on the actions and sense of responsibility of labor and management themselves; and that vital to the strength of American labor-management relations and the trade union movement is that each be free from governmental domination. We do not propose to depart from this basic principle.

"Thirdly, it is the policy of our Government to provide a framework of laws to protect the basic rights of individuals when voluntary processes fail to do so.

"These are the principles upon which we base our proposals for improvement in the framework of laws surrounding labor-management relations."

Position on Union Security

Three terse sentences express the Administration's position on union security agreements:

"I promise you here today that this Administration will not propose and in fact will vigorously oppose any legislation designed to bust unions. We will not recommend any changes in the Taft-Hartley Act having to do with the right of a union and an employer to enter into a voluntary agreement which provides for union security. In short, we will not recommend a so-called national right-to-work law and we will oppose such legislation if it is proposed."

"No Man's Land" Abolition Proposed

Secretary Mitchell mentioned the problem of NLRB jurisdictional declination in the course of his address.

"In the area of Federal-State jurisdiction in labor disputes affecting commerce, some problems have arisen, as you know, due to recent court decisions (Supreme Court in the *Guss* and related cases). We are not recommending concurrent Federal-State jurisdiction in labor-management disputes, which I feel would tend to



IBEW delegates include (near side of table, left to right) Gordon M. Freeman, International President; Joseph D. Keenan, International Secretary; Frank C. Riley, L. U. 58; Jeremiah P. Sullivan, International Treasurer; C. M. Preller, business manager L. U. 26; Joseph W. Liggett, International Vice President, Third District; Horace Dove, L. U. 1329; W. Farquhar, business manager L. U. 353; E. J. Bourg, vice president L. U. 995; Sinway Young, business manager L. U. 382. Far side of table (left to right): Peter Zicarelli, business manager L. U. 1377; Louis Marcianti, International Executive Council, First District; John J. Duffy, International Vice President, Tenth District; V. G. Pearson, business manager L. U. 57; William Sorenson, business manager L. U. 215; Joseph Gramer, business manager L. U. 25; Marcus L. Loftis, business manager L. U. 520; A. E. Edwards, International Vice President, Seventh District; W. B. Petty, International Vice President, Twelfth District, and Armand D'Angelo, recording secretary L. U. 3. (Immediate right foreground are delegates of the Oil, Chemical and Atomic Workers International Union.)

break down uniform national labor-management relations. But we will recommend that these problems be met by amending the Taft-Hartley Act so that the jurisdictional gap which now exists would be closed by authorizing the States to act with respect to matters over which the NLRB declines to assert jurisdiction."

Mr. Mitchell closed his address with his conviction that "America without strong and upright labor unions, America without great labor leaders, would not be America as we know and love her. The challenge is clearly before us. To face it with courage, with resolution and with determination to make the labor movement completely free of all motives but the true and the right ones—this is the job that you have undertaken, and it is one that all men of good will everywhere will help with. I have no doubt that the result will be a new and a proud chapter for our country."

Opposition to State Laws

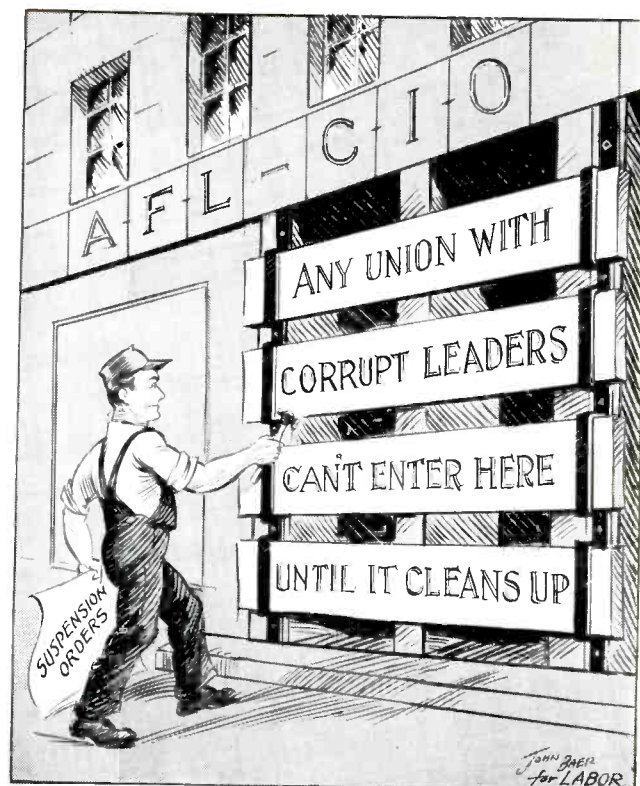
The Committee on Resolutions submitted a forthright and strongly-worded resolution against the so-called but mis-named "Right to Work" laws. Part of the comment of the Committee is worthy of reading and re-reading, along with the whole of the Resolution. The preamble to the Resolution states:

"... Union members want union security for the same reason that they want unions—to add to their bargaining strength. Workers form unions so that by acting together they can increase their bargaining power and secure better wages and working conditions, and greater personal security and dignity. A union's bargaining strength depends upon the number of workers adhering to it; and a worker who refuses to join a union, and is content to work on his employer's terms, weakens the union and his fellow workers and impairs their ability to win better wages and working conditions.

Workers therefore want union security for the added strength it gives their union; and they emphatically do not want to work along side of anti-union men who are unwilling to join with and act with their fellows.

* * * * *

"... Attacks upon union security are attacks upon unions; they are designed to weaken, at the least, unions and in some circumstances to destroy them outright. That is why reactionary, anti-union employers have for more than a decade lobbied incessantly and unscrupulously for so-called "right-to-work" laws—laws which guarantee no one's right to work, but do prohibit



Reprinted from Labor

all forms of union security. The claim of these selfish employers that they are concerned with the "freedom" of their workers is arrant hypocrisy for they seek only to weaken or destroy unions, to the end that they may unilaterally dictate the terms upon which their employes shall work.

* * * * *

"Only strong unions can properly meet their public responsibilities and serve the needs of their members. A broadly based and active union membership is the best and ultimately the only guarantee that union officials will be chosen for their dedication to the best interests of the nation and its workers. The cure for the corruption of a few is to bring about the active participation in union affairs of the many."

The body of the resolution:

Resolved: That laws against union security cannot help the labor movement. These laws are intended to do but one thing—to weaken and destroy trade unions. Union members and all those who believe in the rights of workers to form unions will oppose these laws with their whole strength. This union-breaking drive must be defeated and rolled back, and the discredited and misnamed 'right-to-work' laws now found in eighteen states must be repealed and stricken from the statute books. 'To this end we pledge our full strength.'

FCC Denies Our Petition

Commission Maintains Its Action Is Justifiable Reasonable and Satisfies Communications and Administrative Procedure Acts

IN a release dated December 2, 1957 (too late to meet this magazine's printing schedule for the December issue), the Federal Communications Commission handed down its decision in the matter of the IBEW's petition for Rehearing of the high-power and directional antenna remote control case. No reference is made, in the release, of official notice taken—or disposition of NABET's or IATSE's opposition and pleadings (See page 7-8, December 1957 *TECHNICIAN-ENGINEER*).

The *Memorandum Opinion and Order* purports to show that the IBEW's contention that due process of law have been circumvented or denied is untrue and it states that "... On the contrary, the Commission went out of its way to insure that petitioner was supplied with all information readily available . . ." Further, the Commission shows that it has reviewed its action and concludes that "The Commission properly considered its general knowledge and experience in the art of broadcasting in addition to the comments filed in reaching its decision."

The full text of the Opinion and Order is reproduced below.

B—FCC 57-1305—52141

**Before the
Federal Communications Commission
Washington 25, D. C.**

In the Matter of

Amendment of Sections 3.66, 3.274 and 3.572 of the Commission's Rules and Regulations relating to Remote Control Operation of certain Standard, FM and Noncommercial Educational FM Broadcast Stations.

Docket No. 11677

MEMORANDUM OPINION AND ORDER

By the Commission: Commissioners Hyde and Lee not participating.

1. The Commission has before it for consideration a petition for rehearing filed in the above-entitled pro-

ceeding on October 28, 1957, by the International Brotherhood of Electrical Workers (IBEW). ¹An opposition to the IBEW petition was filed by the National Association of Radio and Television Broadcasters (NARTB) on November 7, 1957; and the IBEW filed a reply on November 19, 1957.

2. Prior to the recent amendments adopted in this proceeding the Commission's Rules permitted remote control operation by AM nondirectional and FM broadcast stations operating with powers up to 10 kilowatts. Pursuant to a petition filed by the NARTB the Commission amended its rules to permit all AM and FM stations, whether directional or nondirectional, and operating with powers up to the authorized maximum, to operate by remote control under certain express conditions.²

3. The IBEW submits that it had urged in its comments filed in this proceeding that the material advanced in support of the petition to extend remote control operation was inadequate in some cases and completely lacking in others; that the Commission based its action not only on comments filed in the proceeding but on its "own knowledge and experience in the field, obtained through reports and records"; ³that the Commission failed to advise interested parties what "reports and records" were relied on or what substantial and material facts were contained therein; and that the Commission's determination on the basis of such reports and records is erroneous since it is grounded on non-disclosed material. The IBEW requests that the Commission vacate or suspend its order pending a redetermination of the issues raised by its petition; that the Commission furnish it with information as to the nature and identity of the

¹ The Commission's Report and Order (FCC 57-1015) in this proceeding was released September 24, 1957, and copies of the document were sent on that date by regular United States mail to petitioner's office and counsel in Washington, D. C. Since the petition for rehearing was not filed until October 28, it was not timely filed within the 30-day period specified by Section 405 of the Communications Act of 1934, as amended, and Section 1.894 of the Rules. However, the Commission within its discretion is considering the petition for rehearing on its merits as a new petition.

² The Commission's Report and Order (FCC 57-1015) was adopted on September 19, 1957, released on September 24, 1957, and published in the Federal Register on September 27, 1957 (22 FR 7682).

³ Petitioner quotes from Paragraph 22 of the Commission's Report and Order.

reports and records referred to in the Commission's decision; and that the Commission afford it an opportunity to rebut such material, including opportunity for access to such material in possession of the Commission and not generally available to the public.

4. The NARTB submits in opposition that it is a matter of public record that the Commission received an inquiry from IBEW dated March 20, 1956, seeking answers to a series of questions with respect to remote control operation; that on April 26, 1956, the Commission responded, furnishing the IBEW with such information as the Commission had in its possession with respect to the particular questions advanced; and that the Commission pointed out that several of the questions could not be answered since the information was not on file with the Commission. The NARTB points out that again on May 10, 1956, the IBEW requested further and more detailed information from the Commission's files, propounding some 15 questions; that the Commission responded on May 22, 1956, providing such information as it had; and that such action by the Commission affording IBEW information from its files relating to remote control operations went far beyond what it was required to do by law. NARTB urges that the instant proceeding is a rule-making proceeding under Title III of the Communications Act; that procedures for informal rule making pursuant to the Administrative Procedure Act apply; and that Section 4(b) of the Administrative Procedure Act does not require the formulation of rules upon the exclusive basis of a record, the agency being free to formulate rules on the basis of materials in its files, and on its own knowledge and experience.

5. The procedures followed by the Commission in this proceeding complied fully with the requirements of the Administrative Procedure Act and the Communications Act. The Commission issued a Notice of Proposed Rule Making on April 12, 1956, apprising all interested parties of the proposed amendments and affording opportunity for the submission of comments. The IBEW, as well as hundreds of other parties representing all segments of the industry, filed comments and reply comments. On the basis of its careful consideration of the comments filed, both in support of and in opposition to the proposed amendments, as well as its own knowledge and experience in the field gleaned from its experience in the administration of the AM and FM Broadcast Services, the Commission concluded that its rules should be amended as proposed to enable all AM and FM broadcast stations to operate by remote control provided certain safeguards, carefully spelled out in the rules are met.

6. The IBEW charges that the Commission erred in basing its action in part on its "own knowledge and experience in the field, obtained through reports and records." We find no merit in this contention. In advertising to "reports and records" the Commission was referring merely to reports and records prepared in the

Certificate of Intent

Taft-Hartley Filing Requirements

If your local union has been fulfilling the filing requirements of the Taft-Hartley Act, the time has arrived for considering the filing of the "Certificate of Intent" form.

Those labor unions which have been maintaining compliance with the filing requirements of the Taft-Hartley Act, and whose fiscal year expires December 31, 1957, will want to file a Certificate of Intent with the regional office of the National Labor Relations Board. (Copies of the Form NLRB-3054 are available at the offices of the Regional Directors). If this Certificate of Intent is filed, the NLRB will consider your organization to be in compliance with the *financial filing requirements* of the Taft-Hartley Act for a period of 90 days after the end of such fiscal year. At some time during this 90-day period, the necessary financial report form should be prepared and filed. It should be noted that effective for fiscal years ending June 30, 1957, and thereafter, a new financial registration form was issued by the United States Department of Labor.

This Certificate of Intent does not, of course, apply to the Non-Communist affidavit requirements of the law.

ordinary course of its administration of the radio broadcast services. The Attorney General's Manual on the Administrative Procedure Act makes clear that "... an agency is free to formulate rules upon the basis of materials in its files and the knowledge and experience of the agency, in addition to the materials adduced in public rule making proceedings."⁴ The Commission properly considered its general knowledge and experience in the art of broadcasting in addition to the comments filed in reaching its decision. Indeed, the Commission would have been derelict if it had not done so. The Commission, even in adjudicatory cases, can call on its expertise and accumulated knowledge of industry developments. See *Federal Communications Commission v. RCA Communications, Inc.*, 346 U. S. 86. And in rule-making matters an agency's authority to consider such material, even though it is not set out in the pleadings or the particular rule-making proposal, is considerably greater. See *Willapoint Oysters v. Ewing*, 174 F.2d. 676, 692-694, cert. den., 338 U. S. 860; *Bowles v. Willingham*, 321 U. S. 503, 519-521; cf., *Van*

⁴ Attorney General's Manual on the Administrative Procedure Act, pp. 31-32. (1947)

Curler Broadcasting Corporation v. United States, 98 U. S. App. D.C. 432, 236 F. 2d 727, cert. den., 352 U. S. 935.

7. The IBEW argues that the Commission relied on "non-disclosed" material in reaching its decision. We do not agree. The Commission's Report and Order fully satisfies the requirements of Section 4(b) of the Administrative Procedure Act in reciting the material considered and stating the basis and purpose of the amendments. What is more, the Commission made available to petitioner detailed material garnered from its files in response to direct inquiries from petitioner. All information readily available in the Commission's files bearing on the proposed amendments was furnished to the IBEW. By letter dated April 26, 1956, the Commission responded to petitioner's inquiry of March 20, 1956, furnishing petitioner with statistics on citations relating to violations of the rules in connection with remote operation. On May 10, 1956, petitioner filed a motion for an extension of time within which to file comments in this proceeding, urging that the Commission's reply of April 26 had not afforded it sufficient material, and petitioner renewed its request for information, propounding some 15 questions. The Commission on May 17, 1956, granted petitioner's request, extending the time for filing comments from June 1 to July 2, 1956, and by letter dated May 22, 1956, supplied answers to petitioner's 15 questions to the extent that such material was readily available in the Commission's files. Petitioner's requests for information and the Commission's replies thereto were set out in the public docket in this proceeding. It is clear from the foregoing that the Commission did not base its action on "non-disclosed" material. On the contrary, the Commission went out of its way to insure that petitioner was supplied with all information readily available.

8. In view of the foregoing, IT IS ORDERED, That the aforesaid petition of the International Brotherhood of Electrical Workers IS DENIED.

FEDERAL COMMUNICATIONS COMMISSION.

MARY JANE MORRIS,
Secretary.

Adopted: November 27, 1957
Released: December 2, 1957

Your contributions to

COPE are insurance for YOU.

Give now and benefit later.

Notes and Quotes

Educational TV Class Scores Big Response

In New York City at the unlikely hour of 6:30 a. m., New York University and WCBS-TV began on September 23 to telecast "Sunrise Semester," the City's first full college credit TV course (Comparative Literature) consisting of 72 half-hour telecasts. Before the program series began, NYU had received nearly 10,000 requests and at least 500 applications to take the course for college credit (at \$75). It was after the first pre-dawn lecture that Educational TV's pulling power became apparent to booksellers. One store reported a sellout of 1,000 copies of a book used in the class and the publisher stated he was getting rush orders from dealers all over the area. —*TV Digest*.

Meany Pledged Fullest Support by IUD

"This 1957 Convention of the Industrial Union Department, AFL-CIO, whole-heartedly supports President George Meany, the AFL-CIO Ethical Practices Committee and the AFL-CIO Executive Council in their struggle against corruption in our ranks, recognizing that the first requisite for further progress in the labor movement is a labor center whose integrity is beyond question." delegates to the IUD convention pledged in adopting a resolution calling for the elimination of corruption from labor's ranks.

The resolution asserted that there is no room for corruption or corrupt influences and declared that "those who bring corruption into our ranks must ultimately betray our cause."

It added that the American people have a right to demand "the highest standard of conduct from our organizations" and declared that "only if we come before the nation with clean hands can we hope to command the sympathy our unions need and deserve."

"Reactionary forces are now seeking to impose upon the labor movement legislation designed to destroy or weaken this movement. We point out to the American people that such a reactionary drive imperils all freedoms and that a weakened labor movement will benefit big business which will not hesitate to take advantage of such a situation," the resolution declared.

TO SHIPS IN ATLANTIC • SOUTH AMERICAN • EUROPEAN WATERS

**THE FIRST DIRECT VOICE
BROADCAST TO SHIPS' CREWS**


EVERY SUNDAY • 1620 GMT

"The Voice of the MTD"

WFL-35, 19850 KCs
Range in Caribbean
East Coast of South
America, South Atlantic
and East Coast of
United States.

WFL-45, 15850 KCs
Range in Gulf of Mex-
ico, Caribbean, West
Coast of South Amer-
ica, West Coast of
Africa and US East
Coast.

WFL-95, 15700 KCs
Range in Mediterranean
area, Indian, Pacific
Oceans and US East
Coast.



UP-TO-THE-MINUTE
UNION AND MARITIME
NEWS
OF SPECIAL INTEREST
TO YOU!

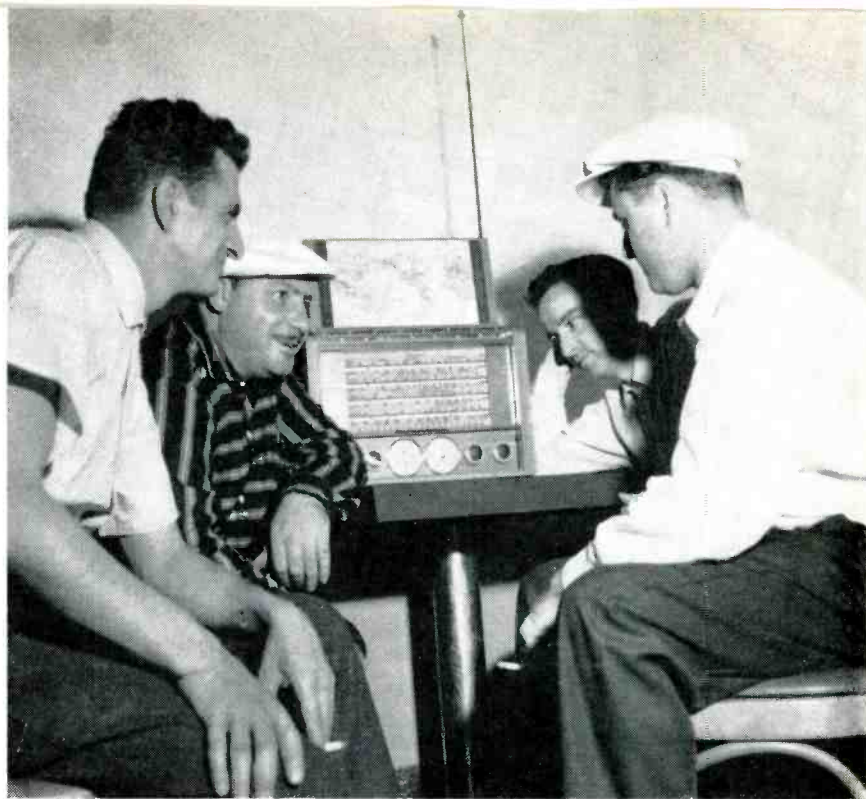
BROUGHT TO YOU BY THE DEEP SEA UNIONS OF THE

MARITIME TRADES DEPARTMENT 150,000 STRONG!

SIU-A&G DISTRICT • SUP • MFOH • MCS • ROU • MM&P • BME • SIU-CANADIAN DISTRICT

Meanwhile, MTD
Round-The-World
Wireless Broadcasts
Continue . . .

<p>EVERY SUNDAY, 1915 GMT (5:15 PM EST Sunday) Europe and North America WCO-13020 KCs East Coast South America WCO-16908.8 KCs West Coast South America WCO-22407 KCs</p>	<p>EVERY MONDAY, 0315 GMT (10:15 PM EST Sunday) Australia WMM 25-15607 KCs Northwest Pacific WMM 81-11027.5</p>
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Seagoing MTD members keep up to date on the latest happenings in their unions, in the maritime and labor fields, and in the world at large, via shortwave radio.

To All Ships At Sea:

'The Voice of The MTD'

Reprinted from The Maritime Register, publica-
tion of the Maritime Trades Dept., AFL-CIO.

"Attention all ships at sea. This is the 82nd
weekly newscast by the Voice of the Maritime
Trades Department of the AFL-CIO in New York.

"The Maritime Trades Department is the offi-
cial maritime division of the AFL-CIO represent-
ing 150,000 maritime workers at sea and ashore.
Its members include the Masters, Mates and Pi-
lots/Brotherhood of Marine Engineers/SIU At-
lantic and Gulf District/Radio Officers Union/



Scripts for both voice and wireless broadcasts are prepared by editorial staff at Brooklyn, N. Y., head-
quarters of Seafarers International Union, Atlantic
and Gulf District.

Marine Firemen's Union/Marine Cooks and Stewards Union/Staff Officers Association/Sailors Union of the Pacific and eleven other unions on all coasts of the United States and Canada.

"The Maritime Trades Department news service is the first of its kind in maritime history and is transmitted every Sunday at this time.

"Now, here is the news. . . ."

And so begins another broadcast of "The Voice of the MTD"—a broadcast which, supplemented by MTD Morsecasts, each Sunday in the year brings the world's news to MTD members, wherever they may be.

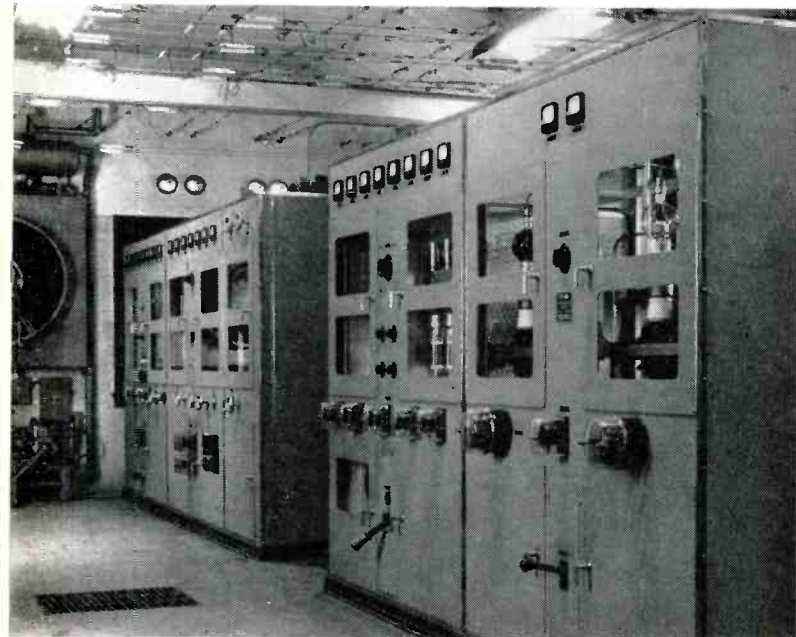
Whether it's Sydney or Singapore, the lonely stretches of the North Atlantic or the South Pacific—wherever MTD members are, the MTD voice and wireless broadcasts keep them informed

Of the two broadcasts, the MTD Morsecast is the older—and the MTD innovation started in August, 1955.

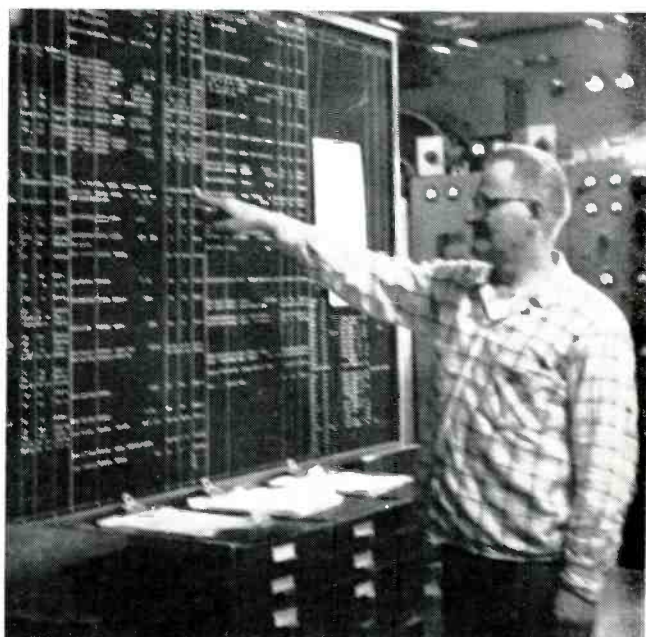
So popular were the wireless transmissions that eight months later—on April 15, 1956—the MTD launched another "first" in maritime: direct voice broadcasts, via shortwave radio, to ships in Atlantic, South American and European waters.

It is hoped that future FCC permission can be obtained for the MTD to begin direct-voice broadcasts to the Pacific. Meanwhile, those areas not served by the voice programs are being covered by the Morsecasts.

Both the voice and the Morsecasts are transmitted every Sunday, when ships' crews have the most leisure time, and are scheduled to reach the



Closeup of transmitters at Press Wireless station, Hicksville, Long Island. These are well-known worldwide facilities often used by the broadcasting industry.



Technicians at Hicksville consults schedule board. In schedules are MTD broadcasts from 1620 to 1640 GMT (11:20 to 11:40 EST), Sundays.

of latest developments in their unions, in the maritime and labor fields generally, and in the world.

For many of these men, the MTD broadcasts are the No. 1—and sometimes the only—source of information. Thus, some men who were at sea at the time have reported that they first learned of the closing of the Suez Canal "from the MTD."

And, of course, the specialized items of information about their unions, and about the maritime and labor fields, represent news that many of these men could obtain from no other source, until their return to the States.

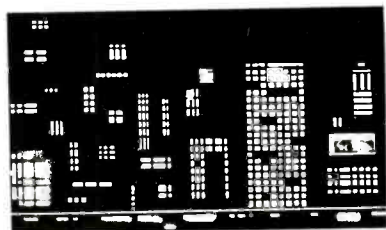
ships of foreign ports at the most convenient time in that particular part of the world.

The broadcasts are, of course, not heard only by MTD members. Amateur radio enthusiasts and others in all parts of the world regularly report reception of the programs and are sent QSL, or varification cards.

Thus the broadcasts not only keep MTD members among the best informed union members anywhere; they also familiarize peoples in every area of the globe with the work of the MTD and the American labor movement generally.

The building block of electronics . . .

TUNGSTEN



In this electronic age, the vacuum tube is the heart of virtually all electrical devices. Tungsten in the pure metal form fills the bill as no other substance does.

THE foundation of electronics was Edison's discovery in 1883 that when a metal is heated to a high enough temperature it gives off a stream of electrons. These electrons enable a vacuum tube to function as a rectifier, amplifier, modulator, or detector. To turn Edison's discovery into a practical electronic tube a metal was needed which had an extremely high melting point and an extremely low rate of evaporation.

Tungsten filament alone met the requirements, and, until the recent discovery of germanium's properties as a transistor solid, was the indispensable building block of all electronic devices.

Without tungsten filaments, the world's electric lights would fade. Radio and television tubes would go dead.

Tungsten components are used in distributor points of automobile engines, in telephone systems, radar, and navigational aids. Tungsten alloys stand up under the white heat of howling jet engines. Others help aviation break the heat barrier—supersonic speed at which most metals warp.

Tungsten carbide drills probe for oil, ream out dental cavities (with little pain), and put hair-size holes in the gears of ladies' wrist watches.

A dense, silvery element, once thought to prey, wolflike, on other metals, now helps shape the destiny of nations.

Tungsten always occurs in combination with other minerals. Separated, it withstands more heat than any other metal. As tungsten carbide it ranks second to the diamond in hardness.

Such qualities are vital for tools of high-speed production, for electronics, and for weapons, says the National Geographic Society.

Tungsten's early reputation as a nuisance stems from 16th century English miners in Cornwall. They were positive that one of its mineral forms,

a brown-black ore, devoured good tin. Hence the ore's name, wolfram, or wolframite.

The other chief tungsten-bearing mineral, scheelite, was named for the Swedish chemist, K. W. Scheele, who first isolated tungsten in 1771.

Though tungsten's characteristics had been demonstrated by the time World War I broke out, only Germany saw its strategic potential. The Kaiser's tremendous war production caught the world off balance. It was made possible by high-speed, tungsten-steel tools.

Germany took another trick during World War II, putting tungsten carbide cores in armor-piercing shells. Fired from tanks, they sliced through opposition armor and almost won the North African campaign for Hitler.

Since the war, tungsten has played an increasing role in industrial growth. Alloyed with steel, it can cut hard substances at high speed without distortion. So it helps boost production rate, lowering the cost to manufacturer and consumer.

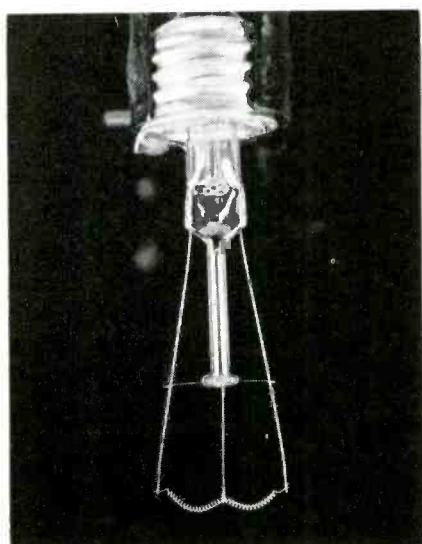
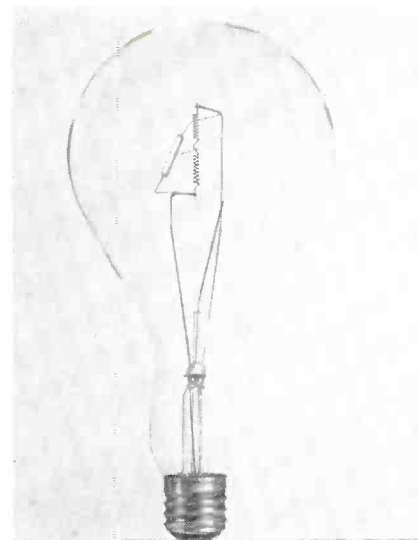
United States tungsten mines dot the Rocky Mountains and Sierra Nevada. A big eastern mine produces ore on land once owned by the Jefferson Davis family in North Carolina. But domestic resources of the mineral barely meet industry's increasing demands. Prospectors are encouraged to look for more.

South America, Canada, and Australia have important wolframite and scheelite mines. But the biggest pockets of ore have been reported in Asia, mostly in Communist China.

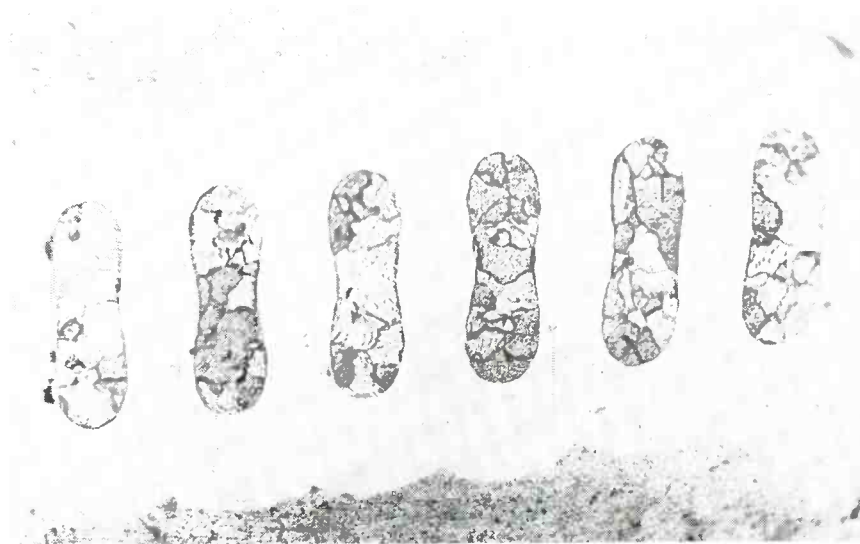
One huge deposit of tungsten lies in South Korea. A few miles below the 38th parallel, this deposit is just out of reach of Red Korea, where the peninsula's iron ore is concentrated, and where most of the important metallurgical works are operated.

TUNGSTEN IN THE LIGHTING FILAMENT

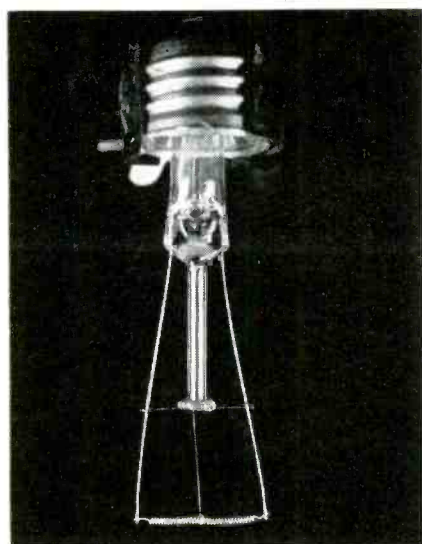
The first patented process for drawing tungsten filaments came in 1904, and development of the tungsten filament for lighting came in 1909. To-day filaments can be made so light, so fine, that enough for more than 20,000 electric lamps can be obtained from one pound of tungsten. The finest wires drawn from a tungsten bar have a tensile strength of more than 300 tons per square inch. Good, non-sagging filaments call for long, interlocking grains of the basic metal. To overcome sag, General Electric has developed a "bonus" lamp with a vertical, coiled filament, as seen in photo at right. (GE Photographs)



A 100-watt tungsten filament which over a testing period has shown poor sag characteristics.



A photomicrograph section view of the tungsten filament in the picture at left. The tungsten coil is comprised of many small, equi-axed grains. These contribute to poor sag structure.



A 100-watt tungsten lamp filament which has been in use and which exhibits good non-sag characteristics.



A photomicrograph section view of the tungsten filament in the picture at left. The long, interlocking grains of the tungsten in this filament account for the good sag structure.

Technical

NOTES

Tube Interchangeability And Replacement List

Thanks to Mrs. Josephine K. Moffitt and Mr. C. P. Marsden, of the National Bureau of Standards, we are able to list some replacements (or equivalents) for tubes of foreign manufacture. The influx of radios manufactured in West Germany, in particular, has led to the confusion in some service shops as to where to begin when one of these sets shows up in need of repairs.

This list must necessarily be split—some foreign types have American equivalents and others may necessitate some modifications of circuitry. The directly-replaceable types are:

EF 86—6267	EAA 91—6AL5/5726
EF 89—6265	EL 84—6BQ5
ECC 81—12AT7	EL 34—6CA7
ECC 82—12AU7	EZ 81—6CA4
ECC 83—12AX7	EZ 80—6V4
ECC 85—6AQ8/6201	

With some modification of circuitry possibly necessitated, the following substitutions may be possible:

EBF 80—6AR7
EF 89—6BH6
EF 804—6BH5/6065
EL 12—6CH6/6132/6677

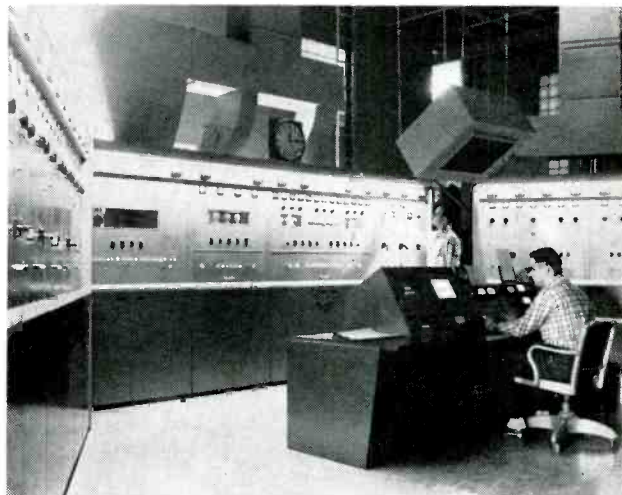
(Editor's Note: If some of these don't work, fellas, don't call us—we'll call you!)

Magnetic Tape Editor

Alonge Products Inc., N. Y., announces device for editing magnetic recording tape. It cuts and splices $\frac{1}{4}$ -inch tape. Cutting is accomplished by center blade which pivots and can be set for precision cuts at 90, $67\frac{1}{2}$ or 45 degree angles. Recording tape is laid into track on unit and held in place by two spring bronze pressure pads. To cut tape, arm is lowered and top knob

firmly pressed. Engraved center line marks point of cut and index marker on unit indicates point $1\frac{1}{2}$ inches from center as reference in editing and marking. To splice, splicing tape is laid over recording tape and splice is achieved in single downward stroke of cutting arm. Two side knives cut splicing tape to exact width of recording tape, while two tapes are pressed together for firm bond. Unit measures $4\frac{1}{2}$ by $3\frac{1}{8}$ by $3\frac{3}{4}$ inches and weighs less than one pound. Price: \$29.95.

Most Powerful TV Station



Somewhat resembling the engine room of a battleship, this ultra-high-frequency (UHF) broadcast transmitter controls the nation's most powerful television station—WDAU-TV, the new channel 22 station in Scranton, Pa. Specially designed by the General Electric Company's Technical Products Department, the transmitter is a 45,000-watt unit. Coupled with a unique switching system and a high-gain helical antenna, the transmitter is capable of broadcasting at 2,000,000-watts effective power. According to Vance L. Eckersley, vice president of WDAU, high power operation permits better home reception of TV programs in the mountainous areas surrounding the Scranton-Wilkes-Barre area. The Scranton-Wilkes-Barre area is recognized as the nation's largest and most successful UHF market, and VHF telecasting is no longer a competitive factor there. Building housing the unit was designed around transmitter.

TV-Picture Telephones

The day of televised telephone calls is almost here. This was disclosed December 21 by a General Electric Company electronics expert.

William J. Morlock, general manager of the Company's Technical Products Department, announced that a system for transmitting pictures over conventional telephone lines by slow-scan television has been successfully demonstrated to the military. Department engineers, he added, will be making the first installation for the military early next year.

Because of security restrictions, Mr. Morlock did not elaborate. However, he described slow-scan TV as a principle for reproducing televised pictures "at the rate of one image about every five to ten seconds instead of the customary 30 frames per second in commercial television."

Army TV Pushed

The army, last month, awarded a \$1,500,000 contract to push development of television and other electronic methods for watching the enemy in future battlefields.

Cornell aeronautical laboratory, Buffalo, N. Y., received the two-year contract to improve systems of surveillance which will permit night and day observation of battle areas under all weather conditions.

The electronic "battlefield eye" systems—under study for a number of years—include surveillance of the enemy by radar, television, infrared, sonic, meteorological, drone reconnaissance and photographic means.

International Pact

Seven governments signed an agreement with the Pan American Union in December for an exchange information service of radio broadcasting wave lengths.

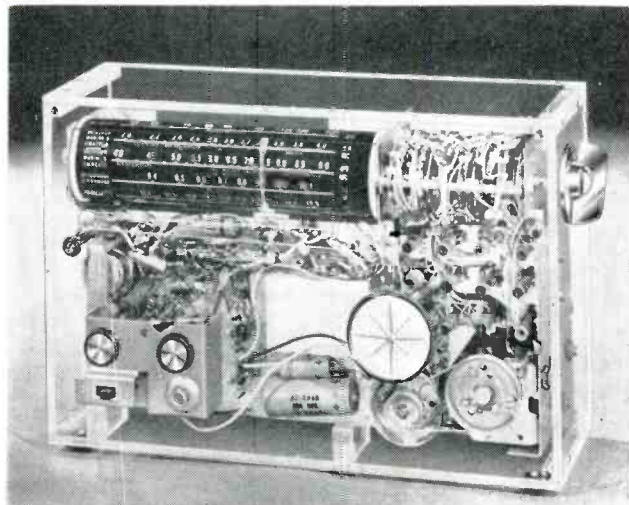
The agreement provides for a registration service supervised by the Pan American Union that will keep the participating nations advised of proposed assignments of frequencies to broadcasting stations.

The countries that signed are: Canada, Cuba, the Dominican Republic, Mexico, the United States, and the United Kingdom of Great Britain and Northern Ireland for the territories in the North American regions (Bahama Islands and Jamaica). Haiti will sign the agreement at a later date.

In carrying out the radio wave length exchange, the Pan American radio office of Havana, Cuba,

was set up in 1937. Brazil, Nicaragua, and Panama that ratified the 1937 agreement did not take part in the one signed December 20.

Transistor Short Wave



Here's the "world's first" all-transistor standard and band-spread short wave portable—Zenith's Trans-Oceanic radio. Miniaturization of components for use with transistors made compact receiver possible.



Telescoping antenna, extending three feet, disappears into handle when not in use. The set operates on nine flashlight batteries, which are installed in a leak-proof compartment. There are nine transistors and seven tuned circuits. Radio has 500 milliwatts of undistorted power output.

Station

Breaks

Record Station Price

CBS proposes to buy, subject to FCC approval, WCAU-AM-FM-TV, Philadelphia for \$20 million—which sets a new record high for the price of a single broadcast property. This would bring the quota of CBS owned-and-operated stations up to the legal maximum. Not included is the Muzak franchise or the majority ownership of WDAU-TV, Scranton, Pa.—other interests of the *Philadelphia Bulletin*.

The proposed transfer breaks down to \$3 million for the AM and FM facilities, \$12.6 million for television and \$4.4 million for land, buildings and other real property. No change in management or personnel is contemplated.

WCAU, Inc., has technical and operating personnel agreements with Local Union No. 1241, IBEW.

Pay TV Opposed by IUD

Paid television was hit as an “infringement” on the rights of the public in a resolution adopted by the Industrial Union Department’s Second Constitutional Convention.

The resolution also called upon the IUD “to make known its opposition to paid TV to the Federal Communications Commission, the Congress of the United States and other agencies having jurisdiction and interests in the matter as being contrary to the public interest.”

Subliminal Showing

The Subliminal Projection Co., Inc. of New York City put on a demonstration of the “subliminal perception” advertising technique in Washington, D. C., January 13 for members of Congress and the FCC.

Under the method, split second commercials flashed across the television screen are said to make an impression on the subconscious but are not seen by the viewer’s eye.

The FCC has been studying the new method to determine whether any action was warranted.

The demonstration was conducted over the closed-circuit facilities of Station WTOP-TV, an IBEW-manned facility.

NARTB Changes Name

The National Association of Radio and Television Broadcasters, management organization which has been pushing remotely-control broadcasting operations, changed its name as of January 1 to the National Association of Broadcasters. The organization was founded in 1922 as the NAB, but it was changed to NARTB in 1951 following merger with the Television Broadcasters Association.

First 1212 Pensioners

Bob Goll, veteran member of Local 1212, New York City, and long-time employe of WINS, recently became the first member of Local 1212 to apply for his IBEW pension. The pension became effective this month.

The next member of the local to become eligible was Al Kalbfleisch, treasurer of the local since 1945 and a member of the executive board prior to that. He retired from CBS January 1, shortly after reaching his 65th birthday.

“Reported” Picketing

MIAMI—Circuit Judge George E. Holt, already well known for his anti-union injunctions, has enjoined Hotel & Restaurant Employees Local 255 from picketing a hotel before the hotel has been opened or the picket line established.

Union lawyers called Holt’s action “fantastic.” The order enjoins the local from picketing the \$20 million Deauville Hotel, due to open soon, which is owned by Morris Lansburgh whose five other non-union hotels have long held out against organization.

Hotel officials admitted they sought the injunction on the basis of reports the union might seek to organize the Deauville and picket in the attempt.

(Dec. 28, 1957 “AFL-CIO News”)

Technician-Engineer