

# TECHNICIAN ENGINEER

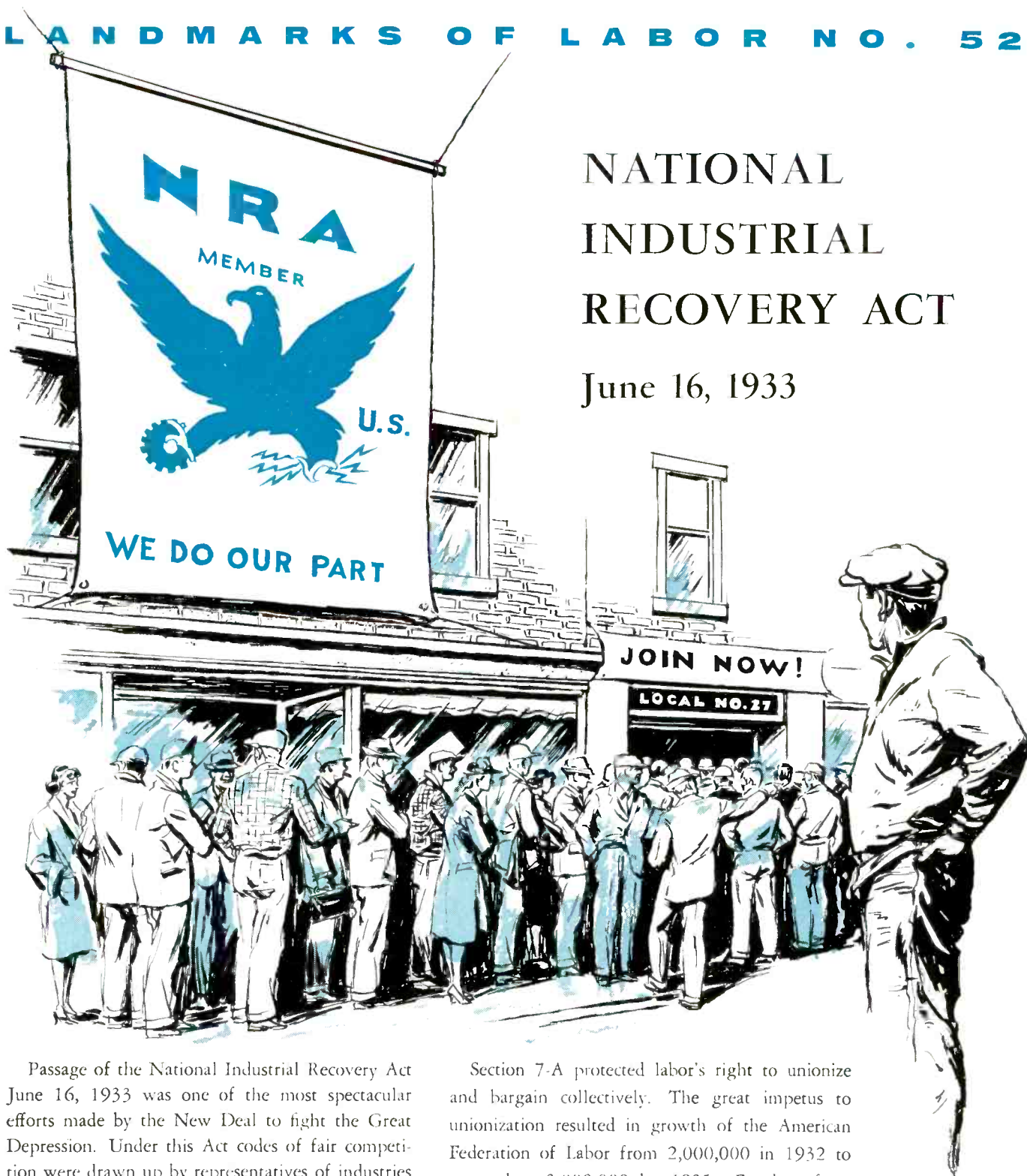
NOVEMBER, 1963

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

INTERNATIONAL BROTHERHOOD OF ELECTRICAL WORKERS — AFL-CIO

# NATIONAL INDUSTRIAL RECOVERY ACT

June 16, 1933



Passage of the National Industrial Recovery Act June 16, 1933 was one of the most spectacular efforts made by the New Deal to fight the Great Depression. Under this Act codes of fair competition were drawn up by representatives of industries under the NRA, National Recovery Administration. Maximum hours and minimum wages were fixed; child labor and sweatshop labor were outlawed and the Blue Eagle was the symbol of code compliance.

A great wave of unionization developed and in the great industrial cities parades were held honoring the Blue Eagle and pledging enforcement of the NRA codes. Seldom had the country seen such an atmosphere of enthusiasm and public demonstration in peacetime.

Section 7-A protected labor's right to unionize and bargain collectively. The great impetus to unionization resulted in growth of the American Federation of Labor from 2,000,000 in 1932 to more than 3,000,000 by 1935. Freedom from restraint, interference or coercion by employers was guaranteed.

The Blue Eagle was speared by a decision of the United States Supreme Court May 27, 1935 holding the NIRA unconstitutional and soon thereafter came the Wagner Act. But the steps taken under NRA and especially under Section 7-A will always remain landmarks of labor during a difficult period of economic depression.

The INTERNATIONAL BROTHERHOOD OF ELECTRICAL WORKERS

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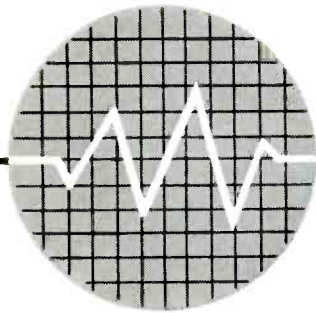
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# TECHNICIAN ENGINEER

VOL. 12, NO. 11

ALBERT O. HARDY, Editor

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## *the cover*

Piano-roll recordings of famous pianist-composers of a half century ago are being re-recorded on the West Coast in a unique pitting of modern recording skills with an ingenious device developed in Germany decades ago. The results are truly amazing recreations of Paderewski, Debussy and other masters, as they played the instruments themselves. Turn the page for the full story.

## *index*

For the benefit of local unions needing such information in negotiations and planning, here are the latest figures for the cost-of-living index, compared with 1962 figures: September 1963—107.1; September, 1962—106.2.

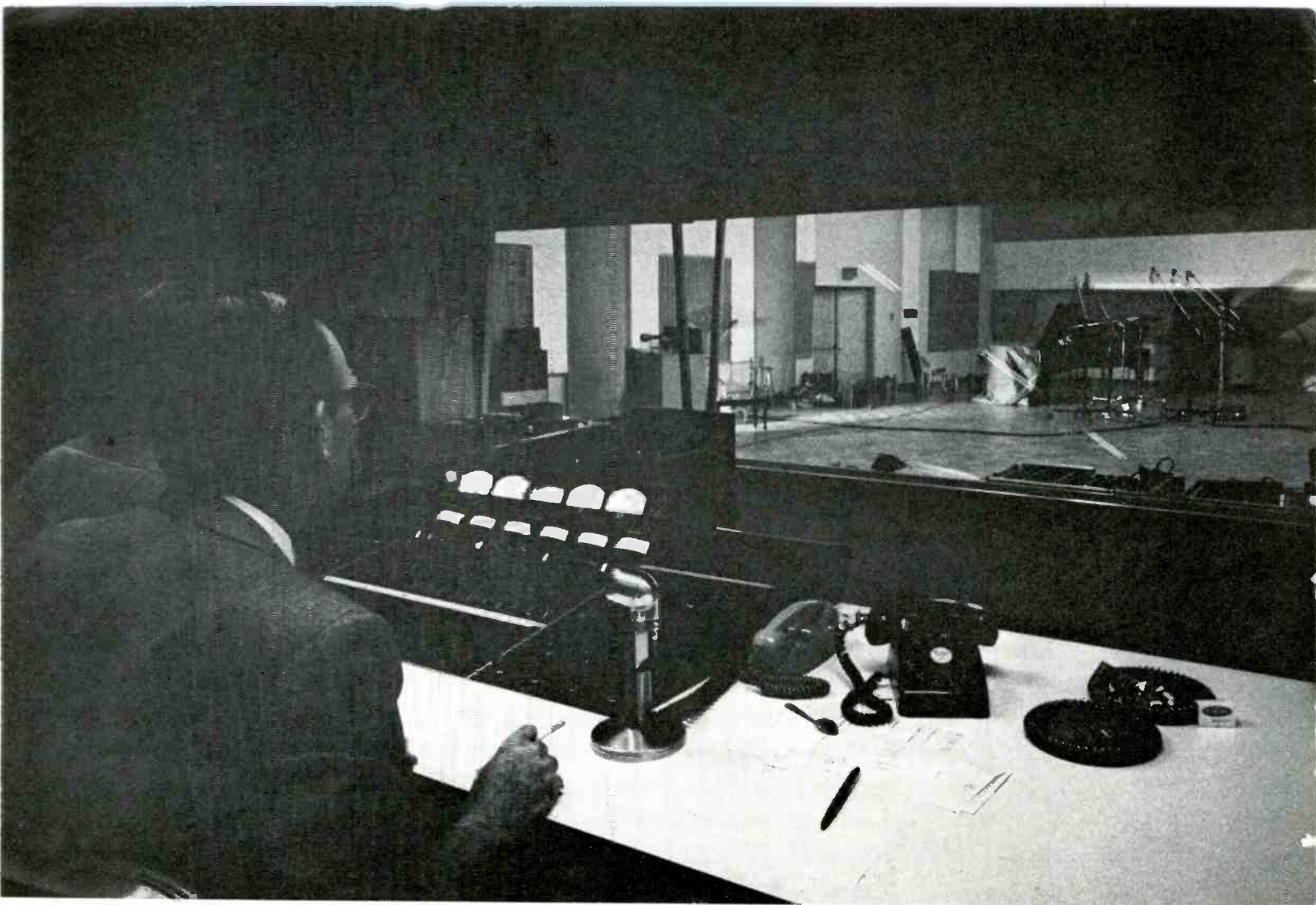
## *commentary*

● IN JEFFERSON CITY, MISSOURI, a conservative Republican wisecrack that the proposed tax cut now before Congress is just "cigarette money" has brought a sharp protest from Mrs. Esther Peterson, Assistant Secretary of Labor.

"The House-passed tax bill will mean the equivalent of 7½ cents an hour wage increase to the average worker," Mrs. Peterson said. "To prosperous Republicans, perhaps this is just 'cigarette money,' but to the average worker, it is 'milk money.' It means an additional \$3.00 a week. That will buy more milk for the worker's children, more food for his table, a more nourishing diet for his family."

● IN NEW YORK CITY, featherbedding is less of a sin of unions than of big business and industry. This was the considered judgment of A. H. Raskin, noted labor reporter and editorial writer for the New York Times. Writing in the Saturday Evening Post, Raskin declared, "Featherbedding goes on at every echelon. In fact, it is often worse at the executive level than in office or plant. This is especially true where corporate mergers have made it necessary to fuse whole empires of vice-presidents, controllers, promotion chiefs and their satellites in a single table of organization."





*'WAY OVER IN THE CORNER of the big studio the mikes hover over the Steinway and the wrapped Vorsetzer. Control-room activity, according to Walter Heebner, is confined to "listening and worrying."*

## Re-Recording The Old Masters

**T**WO IBEW members in Los Angeles have worked on one of the most intensely-challenging and, at the same time, richly-satisfying projects ever attempted by the recording industry.

Brothers Artie Becker and Brandy Kellogg of Local Union 45 worked as mixer and recordist, respectively, in the taping of performances of such renowned pianists and composers as Josef Hofmann, Paderewski, Debussy, Mahler, Ravel, Grieg, and Busoni. Because an ingenious German craftsman developed a device in the early 1900's which was christened "Vorsetzer," a recording studio session in Hollywood, California, produced authentic recordings of these masters 50 and 60 years after their original performances.

From tissue-thin paper rolls, and a process perfected by M. Welte & Sohne in 1904, literally playing a Steinway piano in *Universal Radio Recorders Studio 10-H*, both monaural and stereo recordings are now available. Hofmann might well echo his comment of 1913 about the Vorsetzer—"What a blessing to the generation to come!"

The Welte family became especially well-known for one of the first player pianos, in 1895. So mechanical in nature—and sounding mechanical—the player piano needed the ultimate refinement of delicacy of touch on the keys, the expression which a pianist can give to a performance. So Edwin Welte developed the Vorsetzer—the piano player. A felt-covered lever actuates each piano key, the levers each being of the same length as a man's fingers (measured from wrist to the tips), in an attempt to exert the same strength on the keys as did the original human player.

The original "recordings" were made on special pianos, equipped with tiny carbon rods, immersed to varying degrees in mercury by key-actuation, controlling an electrical current and the pressure of an inked rubber wheel on the paper roll. Thus, a faint mark if the corresponding key was struck lightly, a wider and darker mark for fortissimo. Pedal action (only loud and soft pedals were on pianos of the day; the sostenuto—sustaining—pedal was a later development) was similarly recorded. Presto! The shadings, technique and ec-

centricities of the performing artist were faithfully recorded—on paper.

How the enterprising Richard C. Simonton found the paper rolls, acquired them and finally got them to the United States is a story worthy of the best whodunit—too lengthy to detail here. But when he was able to get the rolls into the U. S. and Walter Heebner and the recording crew went to work, the product exceeded many fond dreams.

Hour upon hour of patient experimentation, with painstaking care all the way, results in a product worthy of its makers, time and trouble. For example, frequent checks on the speeds of the three Ampex tape recorders (two 2-track stereos, one mono), frequency-response checks, pauses for piano re-tuning (the Steinway must have been re-tuned at least 25 times, in the course of recording about 250 rolls).

Five RCA 44-B microphones and 2 Sony's surrounded the nine-foot piano. One of the 44's was the source of the monaural recording, the rest of the mikes were on stereo channels. The Vorsetzer had to be wrapped and padded with sound-absorbent material, to keep its mechanical noises out of the recordings—and quite an “unwrapping” had to take place each time the monster developed a problem—or even required inspection.

One of the most surprising things which can be said in this day of hopped-up recordings is that these records contain no artificially-added reverberation. And even more surprising—the dynamic range of the original roll-recordings is also untouched! After rehearsal run-through, the channel gains were set, and then left as set. To prevent distortion possibilities, maximum levels were “shaved” off, even the maximum level on the tapes were held down. Then from tape to master, etc., and finally to Polymax—each album should be as fine as it is possible to make. The “living room sound” produced in the studio should likewise be as pure and unadulterated as can be.

The Vorsetzer is the proud possession of Mr. Ken Caswell, a geologist from Houston, who not only loaned the machine for the project but then participated, as the master-mechanic, in all the recording sessions. Mr. Norman Neblett was the expert tuner, who also sweated out all the recording sessions, keeping the Steinway in as close to perfect tune as possible.

The Welte factory is gone—ruined by World War II. Those who built the Vorsetzer and the artists who made the recordings have also passed away, but, thanks to men of foresight and patience and to modern recording techniques, the old masters' works are preserved. The Classics Record Library, a division of Book-Of-The-Month Club, in New York, is offering the first of the albums for sale. Heebner plans to sell more albums by mail order—12 LPs a year in editions of 5,000 priced at \$12.50 each.



*What an incomparable instrument is the Welte - Signon! It has created a new musical world and assured the pianist an immortally equal to that of the composer. The pianist's art can now live for ever. It is a great loss to humanity that the Welte did not exist before. What a blessing to the generations to come!*

*Josef Hofmann*

1913.

## THE BEST OF TESTIMONIALS

When Josef Hofmann sat down at the Welte to perform Mendelssohn's Rondo Capriccioso a half century ago, he had no way of knowing that his rendition would suddenly become a spirited seller in long playing albums, distributed by the Book-of-the-Month Club in 1963. But he thought well enough of the Welte and Vorsetzer production to write out in longhand an early-day testimonial for the producer (shown above).

So good were the piano roll recordings, the Welte-Vorsetzer way, that the widow of Italian Virtuoso Ferruccio Busoni gasped when she heard one of his Welte rolls being played some months after his death and, it is reported, she ran from the music salon screaming "Ferruccio! Ferruccio!"

Edwin Welte, the system's inventor, had no trouble inducing masters of the period to come to his Musiksaal and contribute to his "Welte Legacy of Piano Treasures." He recorded Ravel, Debussy, and Mahler long before they gained popular acceptance.

Those who have heard the recordings taped in Los Angeles report that the old pianists seem far more individualistic and whimsical than today's players.



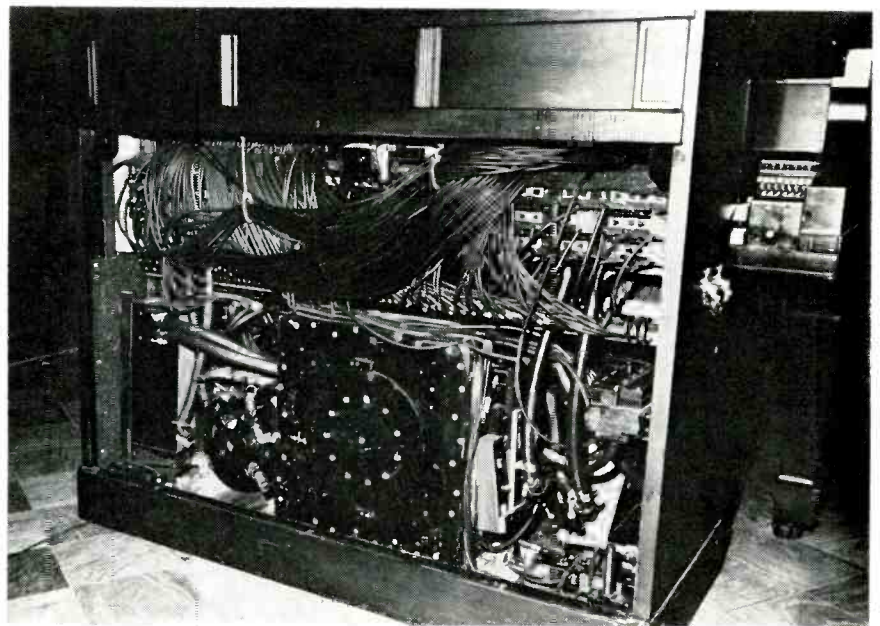


**LEFT:** Ken Caswell, a Texas geologist and owner of the rare Vorsetzer, inserts another thin Welte roll into the piano player in preparation for a recording. Caswell painstakingly rebuilt and conditioned the machine to bring it up to top performance for the high fidelity recordings.

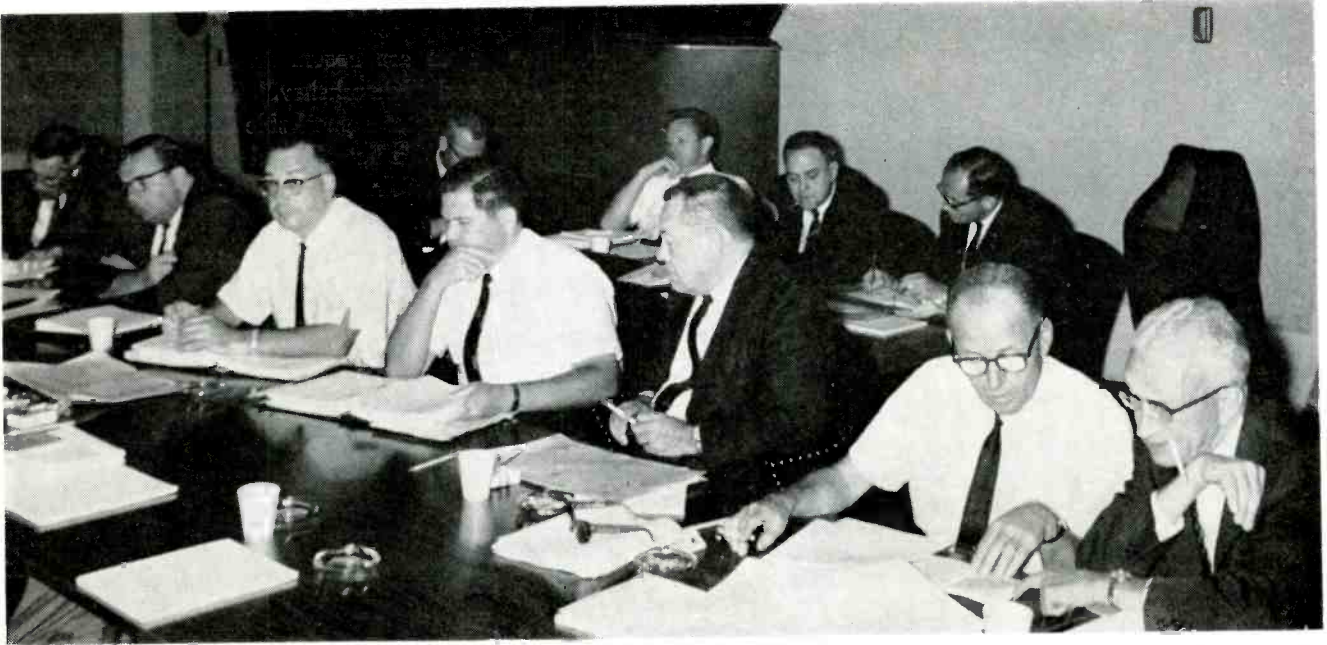


**RIGHT:** A view of the nimble and sensitive felt "fingers" of the Vorsetzer in position and ready to reproduce the actual playing techniques of the old masters of the piano. Steinway No. 261, the Concert Grand, was tuned frequently as the recording work progressed.

**RIGHT:** A rear view of the amazing Vorsetzer, showing the maze of electric circuits and motors which recreate the sounds produced more than a half century ago. Welte's electric terminals were a trough of mercury below the length of the keyboard and a tiny, almost weightless carbon prong on the underside of each key.



**LEFT:** A dry run of a recording session with the key members of the crew set to go. At the console are Walter S. Heebner and Artie Becker. Standing are Ken Caswell, Norm Neblett, and Brandy Kellogg.



The Negotiating Committee from the CBS local unions assembled at the bargaining table in a KNX studio. From left to right, front row: Pres. Marvin Balousek, L.U. 1220; Bus. Mgr. James McCurdy, L.U. 1228; Bus. Mgr. Andrew Draghi, L.U. 45; Bus. Mgr. Leonard Bader, L.U. 1212; Bus. Mgr. Ralph Barnett, L.U. 4; Bus. Mgr. Edward J. Bird, L.U. 202; Bus. Mgr. Frank Green, L.U. 1200. Back row: Milo Seeley, Rep., L.U. 1220; Ronald Wright, Rep., L.U. 45; Pres. Patrick Finn, L.U. 1212; and Vice Pres. Nat DeGutz, L.U. 1212.

## CBS Negotiations Conclude

### Multiple Benefits Increase in 30-Month Pact

**W**HAT must be one of the most complication-ridden negotiations in the industry has just come to an apparent conclusion in Washington.

Commencing in Los Angeles just after the Fourth of July, there have been on-again, off-again sessions, through the end of October. One of the most perplexing sets of problems was posed by the introduction of electronic data processing equipment in the plans for the company's "Broadcast Center" now under construction in New York. Already beset by reductions in force due to automated processes, until now mostly in radio, new waves of efficiency and economy to come gave rise to tides of strong feelings in the course of bargaining.

The added uncertainty of the status of networks in the future, contributed by statements of FCC Commissioners in recent months, did nothing to stabilize the bargaining relationship, either.

International President Freeman participated in and directed the final sessions of negotiations, by finally delegating his authority to International Representative Al Hardy and Business Manager Ed Bird of Local Union 202. The 2½-year pact which was evolved, and which was sent to membership referendum on November eighth, can be roughly summed up as follows:

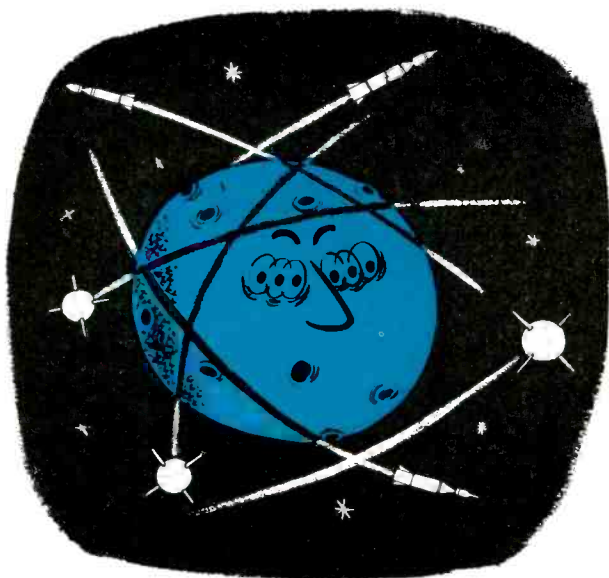
- Continuation of the 36¼-hour workweek.

*Continued on page 13*

Operation of electronic data processing equipment in TV operations is explained by Mr. Robert Hammer, CBS-TV; helping hold the chart is Davidson Vorhes, Vice Pres. of CBS Radio Operations.







## TELSTAR . . . ECHO . . . RELAY . . . SYNCOM

Those names are becoming almost as familiar as "Kennedy" and "Khrushchev." They are communications satellites, those remarkable little artificial moons with which America has chalked up an enviable record of scientific achievement.

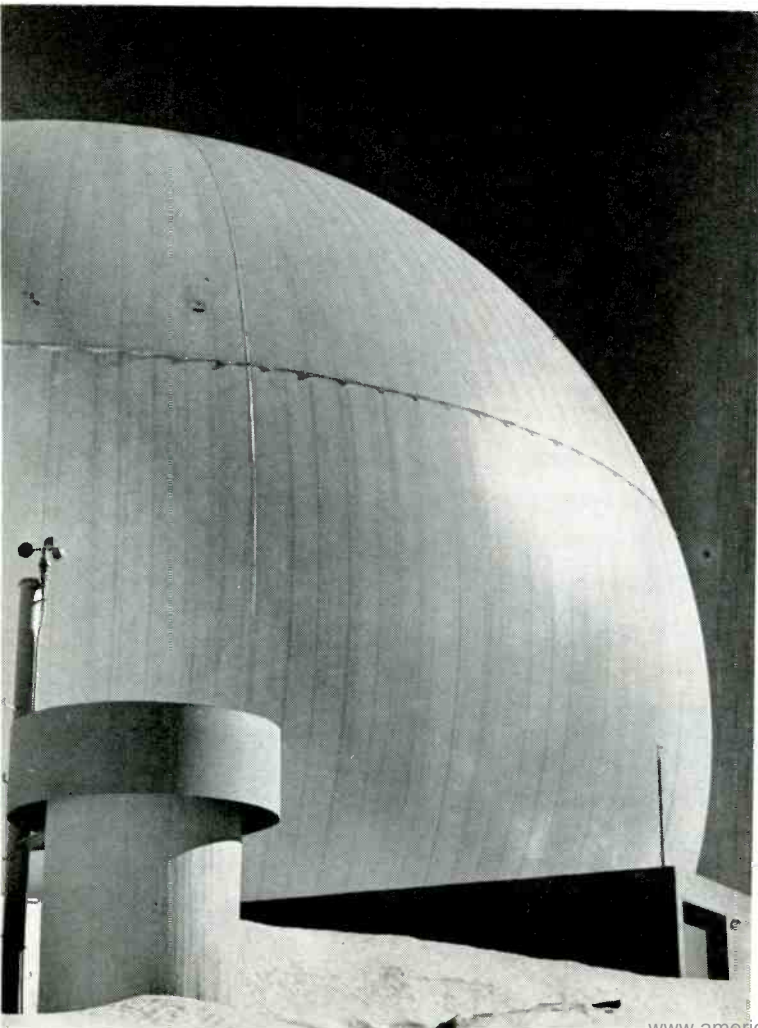
For example, on August 12 of this year, the ECHO balloon, the world's first passive communications satellite, which has been seen in the night sky by millions of people all over the world, completed its third year in orbit, having traveled some 450 million miles around the earth.

The SYNCOM II satellite was recently launched into orbit 22,300 miles out in space where it makes one orbit around the earth in exactly the same time it takes the earth to rotate once on its axis. Therefore the SYNCOM II appears to be stationary over a given spot on the earth. Three such orbiting satellites could relay

# SICK SATELLITES REPAIRED . . . *on the Run*

BY PAUL HERLINGER

*Director of Education and Public Affairs,  
KTNT-TV, Tacoma, Wash.*



communications between virtually any two points on earth.

Perhaps one of the most dramatic accomplishments in the realm of communications satellites took place last January. It was done with the Bell Telephone System's orbiting TELSTAR I, which relayed the world's first live trans-Atlantic television broadcasts. TELSTAR was launched on July 10, 1962 and immediately began its marvelous work in space, but early last Fall, engineers and scientists spotted some potential troubles in TELSTAR. By late November the difficulties turned from bad to worse when TELSTAR failed to respond to command signals from the ground. On the 23rd of November, after 185 consecutive days of successful operation, TELSTAR went silent and no human or electronic efforts could bring it back to life . . . seemingly.

Bell Laboratory experts who had born and bred the satellite were not the ones to give up very easily on this important one million dollar experiment. Fortunately, TELSTAR was not entirely unresponsive. The telemetry equipment was still transmitting bits of information, not the least of which indicated that TELSTAR was on a rather "hot" journey through the deadly Van Allen belts of radiation which pervade thousands of miles of space above the earth's atmosphere. With this information, Bell Lab men deduced that their little satellite was



# Space-electronics technicians outwit the gremlins in orbiting vehicles

probably suffering from a malady not unknown to earthlings . . . radiation disease.

Furthermore, the technicians isolated the areas where the disease was doing most damage . . . in the tiny electronic miracles of the Twentieth Century known as "transistors." Specifically, they were the transistors within the electronic decoding gear which translates ground signals into action for the satellite.

As if this piece of long-range trouble-shooting had not been enough of a feat, Bell experts next recalled some of their lab experiments with transistors. They remembered that when electronic voltage was reduced or removed from transistors which had been adversely affected by radiation, a partial recovery occurred. Now the ground control operators would merely have to turn off TELSTAR's batteries, thereby removing power from the ailing transistors. A simple task? Not quite, because the very equipment which was to receive the orders to cut off the power supply was itself inoperative!

By this time the whole affair was beginning to take on the aspects of a Scotland Yard detective story in which the elusive villain is constantly one step ahead of the police.

The Bell staff now had to devise a means of *by-passing* the malfunctioning equipment in order to give TELSTAR's batteries the signal to shut down.

After successfully attempting this maneuver under laboratory conditions, the scientists were ready to try it on TELSTAR. This was a somewhat momentous decision to make, because by turning off TELSTAR's batteries, there was a good chance they could never again be turned on. This would have muted the satellite forever.

The Bell technicians decided to take the chance, only to be outwitted by the villain once more. The satellite's brain misinterpreted some of the ground signals and disconnected its batteries ahead of schedule. Then, while passing through the darkness of the earth's shadow, TELSTAR healed itself and partially recovered from its near-fatal disease. By early January the complete ground command function had been restored and TELSTAR had new life.

TELSTAR has since suffered a serious relapse due to its continued path through areas of intense radiation. However, the "state of the art" of repairing orbiting satellites from far below on earth had been considerably advanced by the Bell Lab staff during those tense weeks last winter. Their remarkable work may well point the way to even greater achievements by our space age "doctors," as America moves ahead to establish instantaneous world-wide communications via satellites.

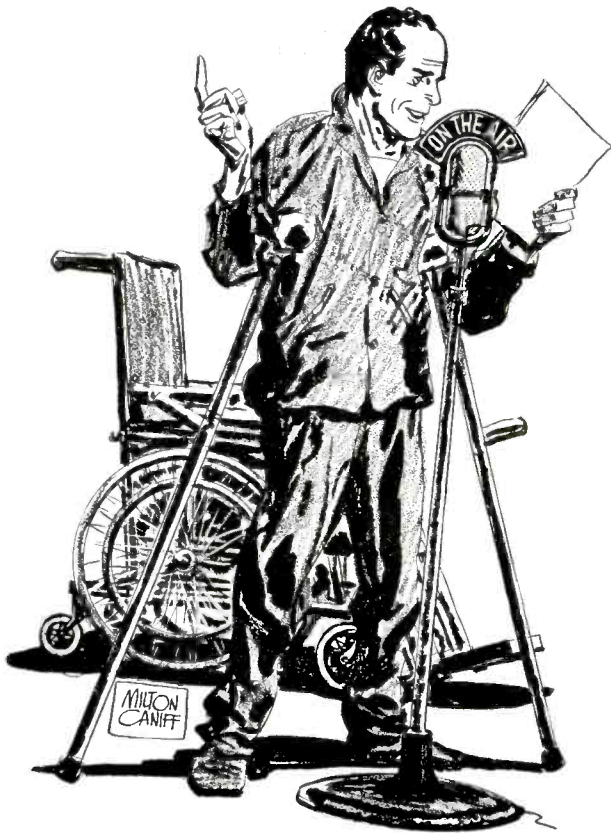


**LOWER PICTURE, OPPOSITE PAGE:**  
A Telstar tracking station in  
Maine, deep in snow.

**ABOVE:** A view of the Telstar  
satellite, showing solar batteries and  
some of its antenna system.

**RIGHT:** NASA technicians work to  
keep their erratic satellite  
in proper orbit.





## *The Bedside Story That's True!*

Technicians break  
the shell of silence  
which surrounds  
veterans confined  
to New York hospitals

**T**HE old-fashioned kind of genie helped only one man, Aladdin; a modern Jeannie has had a virtually magical effect on the lives of thousands of men.

She's Jean Tighe, a former singer, and co-founder of the Veterans Hospital Radio and Television Guild which is also known as "The Bedside Network." This is a group of some 400 volunteers including actors, writers, directors, advertising men, musicians and engineers who help hospitalized veterans to produce and perform in their own tape recorded shows for broadcast over the hospitals' closed-circuit radio and television networks.

It all began in 1948, when a group of entertainers put on a show for patients at a veterans hospital on Staten Island, N. Y. As the performers were leaving the hospital, Jean remembered that she'd left some sheet music behind. She went back to the ward—only to find that the same ex-GI's who had been laughing and joking with her only moments before had fallen silent and forlorn again.

Moved by this revelation and determined to find something that the patients could do to entertain themselves between performers' visits, Miss Tighe discussed the matter with A. Carl Rigrod, an advertising executive.

They learned that every VA hospital was equipped with its own radio system to pipe taped broadcasts or recordings into what the patients call "bed ears." Miss Tighe's idea: to help the patients produce their own shows, from conception to broadcast, using professional scripts, sound effects equipment and tape recorders trundled into the wards.

Today, the Guild reaches more than 100 of the nation's 174 VA hospitals, including five with television facilities, with their unique form of tape recorder therapy. This non-profit organization, with a staff of only three employees, has its office at 353 West 57th Street in New York City. In addition to the broadcasting industry people who handle the technical aspects of programming, volunteers include students or housewives who cope with the necessary planning and clerical work that make day or night visits to the local veterans hospitals possible.

**Bedside Network volunteers employ a unique form of "tape recorder therapy" in their recreation-rehabilitation service for veterans in more than 100 VA hospitals. All the patients can enjoy taped conversations, interviews, musical and dramatic shows, in which their buddies participate.**



**Technician-Engineer**





Volunteers of the Bedside Network help hospitalized veterans to tape record songs as part of a weekly music program which will be heard over the hospital's closed-circuit radio station.



Although the quality of some of the taped programs is thoroughly professional, the patients aren't aspiring to broadcasting awards. They reap more valuable rewards. They have a chance to escape, however briefly, from the grim tedium of their lives.

Even in geriatric and locked psychiatric wards, men who used to spend entire days within a shell of silence are now enthusiastic participants in tape recording sessions. In fact, the Guild has been sanctioned by the Veterans Administration as "prescription medicine" in its hospitals.

Nonetheless, a Guild handbook for members points out, "We are broadcasters, not doctors and nurses. We do not presume to analyze, diagnose or intrude into the personal lives of the patients. Some patients will not wish to join our activities at first, or ever in some cases. We know that we must respect a patient's feelings, never goad or prod. Our job is to make our program appear to be fun enough to make patients want to leave their inhibitions and fears and preoccupations behind them and 'join the fun'."

Broadcast and recording engineers who participate in the program in the New York City area come primarily from the ABC and NBC network stations and belong to the National Association of Broadcast Engineers and Technicians, AFL-CIO.

Though no IBEW technicians are presently working in the program, they have a standing invitation from the Veterans Hospital Radio and Television Guild to participate. (The address and telephone number: 353 West 57th Street, PLaza 7-8657.)

There are other ways in which IBEW members can help, too:

If you can play the piano, act, type, operate sound equipment, write, direct, or have a driver's license—you can volunteer your services by contacting the Guild at its New York address for information regarding the nearest VA hospital to you.

Needed, too, are contributions of equipment: tape recorders, tape, mikes, sound effects and music records, radio and TV show scripts.

With no financial support from Federal or state agencies, the Guild is wholly dependent on private contributions in its campaign to help hospitalized veterans to entertain themselves with the sound of their own increasingly hopeful voices.

## FISH STORY

● IN HULL, ENGLAND, union fishermen threatened to go on strike against fish. The union men, working on seagoing trawlers, told their employers they had nothing against fish—catching them, that is. But they did have objections, they declared, against a steady shipboard diet of nothing but fish, fish, fish. Either they got an occasional steak or chop or the fish would remain strictly in the water, the fishermen threatened.

The company agreed that there was "a certain monotony in the menu" and promised to introduce non-fish platters two or three times a week.



ONE OF ITS FIRST JOBS—The big unit on location at Metropolitan Stadium, Bloomington, Minnesota.

h-MMMMM! . . .

## Mammoth Midwest Mobile 'Module'

*Monitors Minneapolis, Minnesota Memorable Milestones*

By **Bernard Renk,**  
*Local Union 292*

"WCCO-TV is the proud possessor of the world's most modern and complete single mobile production installation," is the claim of the station's Director of Engineering, John M. Sherman. And he's probably right.

The 20-ton, 40-foot mobile unit was conceived and designed by the combined efforts of the station's engineering and production departments. "Everything—the chassis, the body, exterior and interior equipment and fixtures were constructed to our design and specifications," Sherman said, "and there's not another like it anywhere." Completely self-sufficient, the new WCCO Television mobile unit carries its own built-in 50 kw. generator, two 5-ton air conditioners, and adequate heating facilities. This equipment, plus insulation, provides comfortable operating conditions for the extremes of Minnesota weather. The unit is equipped with six cameras, and one vidicon film camera; 16 mm. projector; 35 mm. slide projector; audio tape facilities for recording and playback, and a special effects amplifier for wipes, fades, dissolves and keyed inserts.

In January 1964, a new transistorized video tape recorder, complete with electronic editor, will be installed in the mobile unit. Space is provided for a second video tape recorder to be installed when the need arises. The unit is equipped with a camera platform on top and a detachable "cowcatcher" camera platform on the front, thereby enabling action to be recorded on tape while the unit is under way.

The audio console has 24 audio inputs, plus patch panel to permit a wide variety of audio uses. Seven power driven cable reels, in special compartments, per-

mit the storage and use of 2400' of camera and power cable.

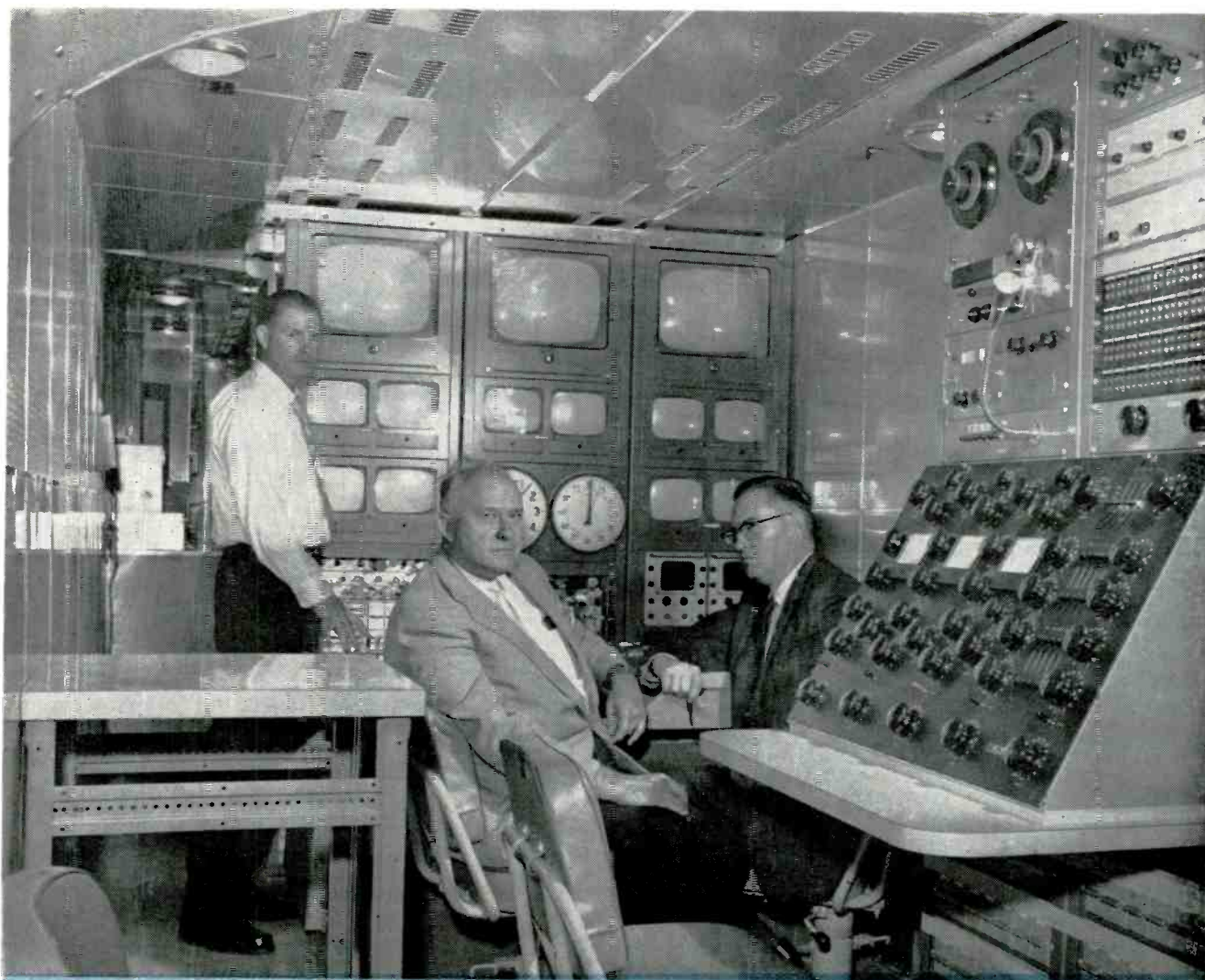
There is ample production room for a Technical Director, Director, Producer, Production Assistants, Audio Engineer, two Camera Control Operators, Projectionist, and video tape Technicians.

The station's original mobile unit, purchased in 1948, has served WCCO Television well, in originating over 2,000 remote telecasts, of which over 100 have been for the CBS network. A couple of the most memorable network originations were the 1954 Total Eclipse of the Sun, and the Black Hills portion of the first Telstar telecast to the European Continent in July 1962.



THE 20-TON MONSTER even looks big when it's parked beside the WCCO-TV studios and office building.





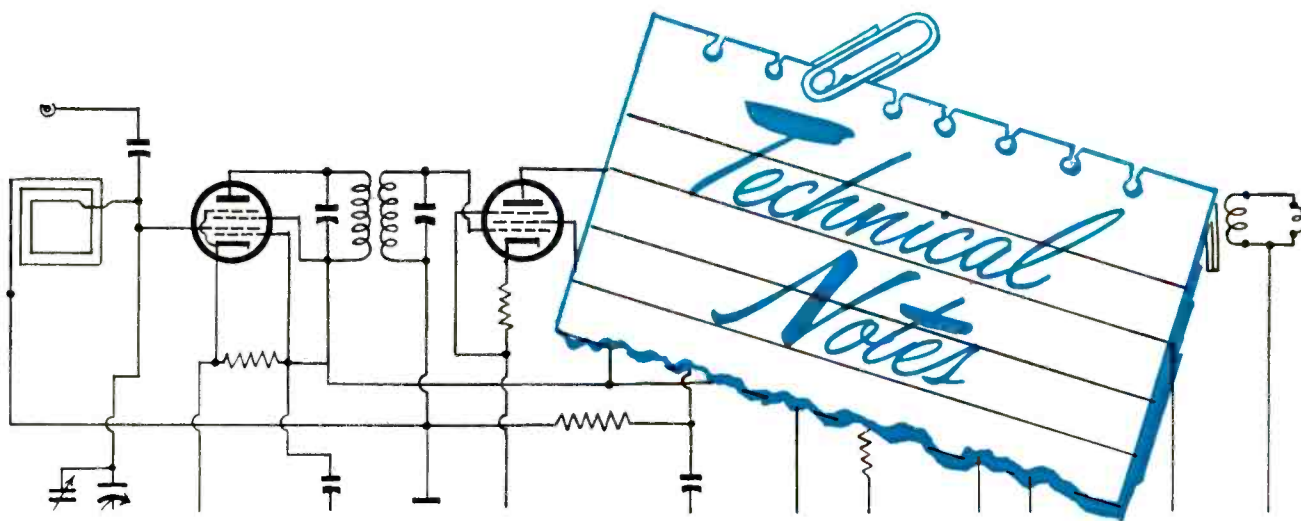
THE CONFERENCE in the mobile unit stopped long enough for a picture. Some idea of the self-sufficiency of the bus can be gained by this view. Left to right, Henry F. Sheppard, Jr., Studio Supervisor, John M. Sherman, WCCO-TV Director of Engineering, and William J. McGinnis, Studio Engineer.

## CBS Negotiations Conclude

*Continued from page 7*

- A sabbatical vacation of ten weeks after the 20th year of service and every 5 years thereafter.
- \$12 per week increase in wages, making the "top" scale \$212 per week.
- Retroactivity to August 1, 1963.
- Accident insurance increase to \$50,000.
- Increased assurance of work involved in computer operations and maintenance.
- Checkoff of dues and fees.
- Restriction of operation of Minitape-type recorders to air personnel or those regularly assigned to news or interview gathering.
- Option of participating in stock purchase plan.
- Acceleration of grievance and arbitration procedures.
- Screen credit for audio man on television programs.
- Continuation of 3-year rehire rights for those on staff or currently on layoff; 1-year for those who may be newly-hired hereafter, until they have been employed 5 years, and a 2-year rehire provision for such new hires following 5 years' service.
- The sick leave policy of the company, contributions to hospitalization and medical insurance, the long-standing pension plan and life insurance programs are also continued without change.

The National Agreement with CBS includes its network and local operations in AM, FM and TV in New York, Chicago and Los Angeles, and its AM and FM operations in Boston, St. Louis and San Francisco.



## BBC FAVORS U. S. COLOR

For the first time BBC has publicly declared itself in favor of the U. S. color TV system (set by the National Television Systems Committee). The BBC comes out strongly for the U. S. system (NTSC) in its just-published 1962-63 annual report.

If Europe does not accept the NTSC system the BBC-TV will have to delay the start of color broadcasts now set for early 1965. The report adds that it is important that agreement be reached on a color system by all European countries intending to broadcast color TV.

A European Broadcasting Union study group is coordinating experiments in several countries. The BBC hopes that these studies will be completed by the end of this year and agreement reached early in 1964. If this schedule can be followed a limited amount of color programs might be introduced into BBC-TV's second network early in 1965.

"If, however, the decision is in favor of some other system, more time will be needed to equip the studios and to enable the radio industry to put color receivers into production," the report states.

Hopes for an early start of color TV in Britain seem to be based on the adoption of NTSC by EBU, but the BBC says there are still problems to be solved. Among these the report cites the fact that although many experimental NTSC colorcasts have been made in the UK on 405 lines, new difficulties arise when this or any other system is used on 625 lines in the UHF bands. The report stresses the need for "adequate and reliable data" before a final decision is made.

Color TV development work has been carried out by the BBC for eight years. This has been complicated by the arrival of two new methods, the French SECAM system and the German PAL. These, together with NTSC, are now being considered by EBU.

BBC wants whatever system is adopted to be standard throughout Europe to facilitate frequency allocations, program exchanges and the export of TV sets.

## MOBILE VIDEO TAPE CENTERS

Now they're putting portable video tape recorders on wheels.

Last month Ampex reported that it could deliver in 120 days its "Minicruiser," a complete mobile video tape recording center, centered on the 97-pound portable VR-660 recorder.

The Ampex mobile unit is housed in a compact Studebaker station wagon, with a sliding roof to permit TV cameramen to shoot directly from the vehicle. The VR-660 is housed in a shock-mounted protective case at the rear of the cruiser. A vidicon camera with zoom lens and 200-feet of cable permits the camera to be used away from the vehicle. Both cameraman and recorder operator are tied into a communication link. An 8-inch preview monitor is also included.

The unit operates from a self-contained power supply, although it can be operated from normal 115-volt domestic power. The tape recorder may be removed from the wagon for remotes.

Another mobile recorder delivered last month to WJXT (TV) Jacksonville, Fla. by RCA uses a special body mounted on a Ford V-8 chassis. It was designed by RCA for the Florida station. The 55-inch-wide studio size recorder is positioned directly behind the driver's seat with its console facing the rear. The unit carries two air conditioners, power regulator and distribution equipment, a rack for test equipment, work counters and storage cabinets. TV cameras can be carried in a five-foot area at the rear.

## HOME TV TAPE RECORDERS

There's a rush on to develop low-priced home TV tape recorders, and at least one developer and manufacturer expects to have such a machine on sale next year.

An organization called Cinerama Telcan announced last month that it would have a Telcan recorder ready for demonstration in December. Meanwhile, at a recent



meeting of executives of Fairchild Camera and Instrument Co. it was announced that Fairchild is developing a home TV tape unit at Winston Research Corp., Los Angeles, and that the company definitely was in the competition for the consumer market.

## SEMICONDUCTOR DIAMONDS

The diamonds used for phonograph styli, or needles, weigh about 1/400th of a carat. Points are polished to be an accuracy of a thirtieth the thickness of a human hair.

Diamonds sometimes behave like Geiger counters. About one gem in a thousand will generate tiny electric pulses when near radioactive material.

While most diamonds are highly resistant to electricity, a few are semiconductors. These serve as transistors in the radiotelescopes that bounce signals off Venus and other heavenly bodies.

Semiconducting diamonds often are blue-white. This leads mineralogists to speculate that the fabulous blue-white Hope Diamond, now preserved at the Smithsonian Institution, may be the world's most expensive transistor.

## GROUP FILM EDITOR

A projectola with a large picture, permitting three or four people to sit in on the editing of 16 mm. sound film, has been developed by S.O.S. Photo-Cine-Optics Inc. of New York and Hollywood. It has a two-sprocket unitized timer/synchronizer and other features.

# READING TIME

A REVIEW OF RECENT BOOKS

**DICTIONARY OF MODERN ACRONYMS AND ABBREVIATIONS** by Milton W. Goldstein, Howard W. Sams Co., 4300 West 62nd Street, Indianapolis 6, Ind., 160 pp. \$4.95.

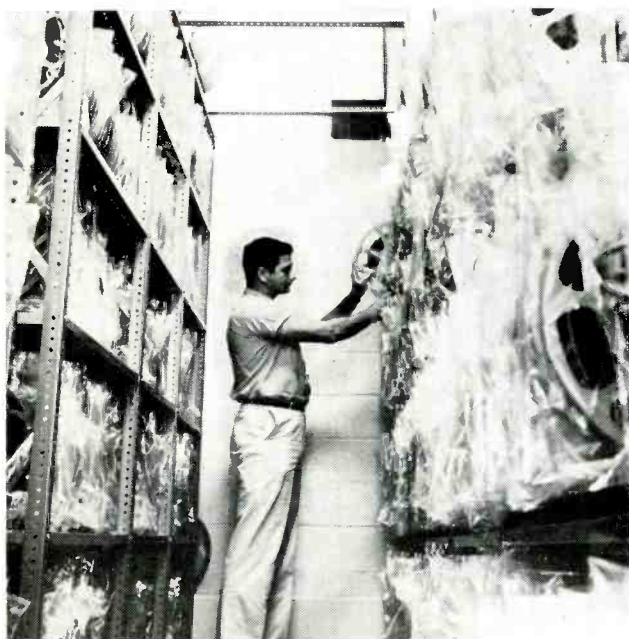
If you're one of those people who can't readily identify an SES as a small Edison screw or an NRD as a negative-resistance diode, this volume may be a handy reference for the shop shelf. It takes coined words and abbreviations commonly used in the language and breaks down the components. Some of the terms are an outgrowth of computer developments. Others are strictly for the space probers. But there are many electronic terms of importance to the broadcasting engineer. The book has more than 6,000 entries. Two samples: ERD—Exponentially retrograded variable capacitance diode; BADC—Binary asymmetric dependent channel.

**ABC'S OF ELECTRONICS DRAFTING** by Howard W. Sams Engineering Staff, Howard W. Sams & Co., 4300 West 62nd Street, Indianapolis 6, Ind., 96 pp. \$1.95.

Here's a little book which contains "all you need for a start in electronics drafting—drafting principles, tools, and techniques."

Drafting is a skill which adds to a technician's capability. *ABC's of Electronic Drafting* can get you started in the field, if you're a beginner. It can add to your knowledge, if you're already proficient.

## FILM FACILITIES AT THE NEW WMAR-TV STUDIOS, BALTIMORE



LEFT:

David McCann of Local Union 1200 selects a feature film from WMAR-TV's library in its new Baltimore facilities. The library contains more than 600 three- and four-reelers and 1,700 other films, 5 to 30 minutes in length. Also filed in plastic bags are some 2,000 spots announcements. Each day an average of 110 of these are pulled from storage for projection.

RIGHT: Gene Hamilton in the film editing room. Film Assembly has three editors, with sound readers for each technician, a show timer, viewer, and two power rewinds.





# STATION BREAKS

## KSTP NIMBUS WEATHER GEAR

KSTP-AM-TV, Minneapolis-St. Paul has placed an order with RCA for delivery next year of ground station equipment which will enable reception and display of earth surface weather photographs from the Nimbus weather satellite to be launched in polar orbit in 1964. Cost of the gear is around \$30,000.

The KSTP stations are probably the first broadcast customer for the RCA gear which so far has been produced chiefly for the research and government trade. The satellite weather pictures and data also are to be made available to the KSTP sister stations, KOB-AM-TV Albuquerque, N. M., and WGTO Cypress Gardens, Fla.

The Nimbus satellite will be equipped with an automatic picture-taking system and because of the polar orbit will pass within range of any given locality at least twice daily. When the ground station gear is installed, the operator will preset an antenna to the point where the satellite will cross the local horizon. The antenna then will pick up the signals transmitted by the satellite, route them into an amplifier and from there into a facsimile recorder.

## ROUSING FRINGE BENEFIT

IN CHICAGO, a new but minor "fringe benefits" was viewed dubiously by a local manufacturer's union employees. The boss made up a list of workers who more or less regularly turned up late for work and paid a telephone wake-up service to rouse the workers from slumber five mornings a week.

## DOMESTIC FILM PUSH

Steps were announced last month by the government to curb runaway film production by U. S. film companies. George L. P. Weaver, assistant secretary of the Department of Labor, said that movie producers will be encouraged to do their filming in the U. S. to help limit unemployment caused by the overseas shooting.

Mr. Weaver said no changes were planned in U. S. laws on motion picture production to implement the new policy. He said the government has agreed to

adhere to the code of ethics for international trade and financial transactions on movie films of the Organization of Economic Cooperation and Development.

The same day the government announced the curb on overseas production, the U. S. State Department disclosed that film producer Frank Capra and three others will visit the Soviet Union to study the Russian motion picture industry. The visit is part of a U. S.-Russia cultural exchange program and a delegation of Soviet film experts visited the U. S. last year.

## NEW WTVN STUDIOS READY

Members of Local Union 1300, Columbus, Ohio, employed by WTVN (TV) are working in a modernized plant. The station now has an additional 7,500 square feet of floor space and a streamlined exterior. It was a \$100,000 modernization job.

