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The INTERNATIONAL BROTHERHOOD of ELECTRICAL WORKERS

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ALBERT O. HARDY Editor, Technician-Engineer

. . . in this issue

. . . the cover

Two members of Local 1481, Pittsburgh, Pa., in the video control room of Station WTAE. Albert Puntel sits momentarily in the director's position, left, as John Smyda handles switching. The clock shows 4:30 p. m. and the afternoon hiatus gives the technicians time to go over the program schedule for the balance of the day. This picture, like those on Pages 8 and 9 of our February issue, was taken by International Representative Russell Lighty.

commentary

A self-styled National Right to Work Committee, financed largely by big business sources, recently attempted to picture Samuel Gompers, founder and long-time president of the American Federation of Labor, as a "right to work" supporter.

This propaganda tactic drew immediate fire from George Meany, AFL-CIO president, who accused the committee of taking three sentences out of context from a statement made by Gompers at an AFL convention in El Paso, Texas, shortly before his death, and using them "to deceive the American people and harm workers."

The sentences underscored the late leader's devotion to the principle of "voluntarism"—that is, against compulsion from the outside. But, the "right to workers" have been twisting those words as opposition to the "union shop."

As Meany pointed out, "voluntarism" as Gompers used it had nothing to do with the union shop.

Meany then quoted from another address Gompers made squarely on the issue of the union shop. In part, Gompers said:

"The union shop, in agreement with employers, is the application of the principle that those who enjoy the benefits and advantages resulting from such an agreement shall also equally bear the moral and financial responsibilities involved."

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 1958 figures: January, 1959—123.8; January, 1958—122.6.

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The busy city on the banks of the Mississippi is picked as meeting site.

1959 Progress Meeting in St. Louis

THE eighth annual gathering of the broadcasting and recording local representatives of the IBEW has been scheduled for June 12, 13, and 14, St. Louis, Mo. Notices have been mailed to all locals, urging each to send delegates and telling how to make arrangements to attend. Reservation cards were enclosed with each notice. These cards are to be sent directly to the Sheraton-Jefferson Hotel in the Progress Meeting city.

The International staff is now preparing the agenda for the sessions, and it is still open to suggestions. As in past years, items of top interest will be legal problems, welfare plans, remote control operations, and organizing.

Each local union should make every effort to have an official representative present to meet and confer with other representatives and the International staff. The meeting can be most worthwhile if all local unions are represented.

No set schedule has yet been evolved for the sessions, nor will any fixed schedule be resorted to—since some subjects on the agenda will consume more time than others and additional subjects will undoubtedly be added as the meeting develops. Reports from local unions should be brief, however, to permit more time for floor discussions.

Subject to last-minute change, arrangements have been made for an extremely interesting speech on Friday, June 12, the opening day, by a guest speaker. His subject will be unannounced, but it is of vital importance to all those having any interest in the industry.

Hosts for the 1959 meeting will be the members of Local 4 of St. Louis.

Last year, you will remember, the Progress Meeting was held in Cleveland, Ohio, immediately preceding the Brotherhood convention. Previous meetings have been held in Memphis, Kansas City, Chicago, Dallas, Miami Beach, and New Orleans.

St. Louis is a pioneer city in the field of broadcasting. Technicians at broadcasting facilities there have been members of the IBEW since 1926, when the technical personnel of KMOX joined the Brotherhood. Some members carried electricians' cards before going into station work.

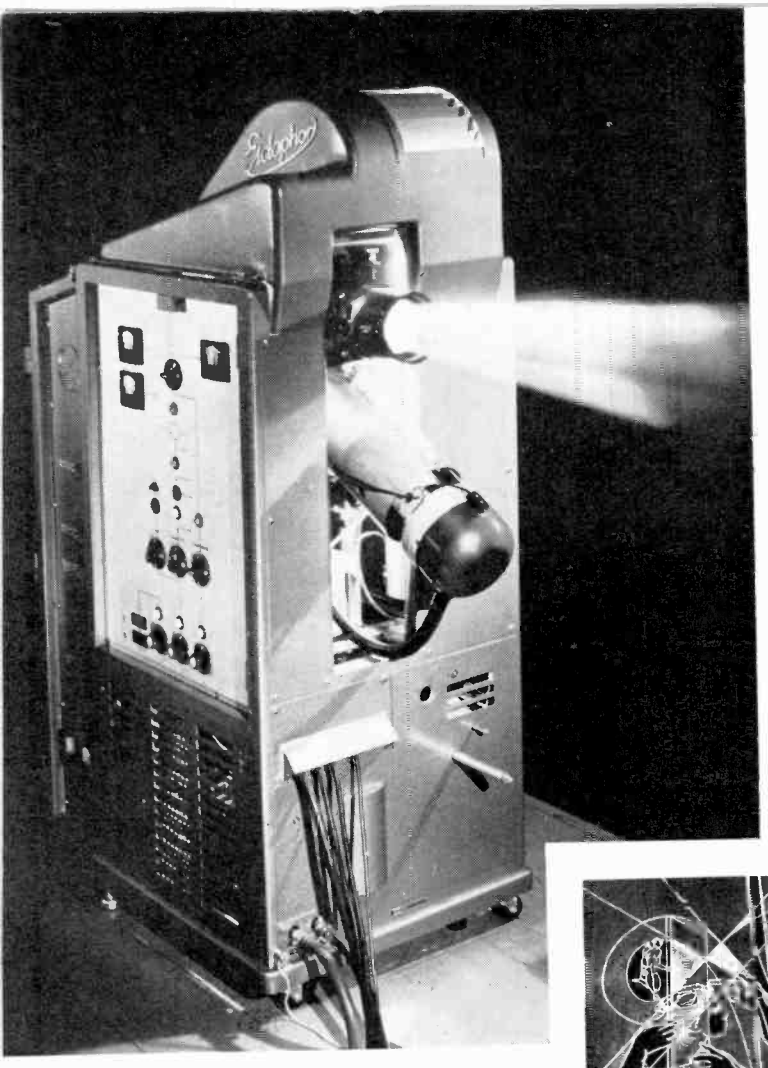
St. Louis is eighth largest city in the United States, with its city limits encompassing an area of 61 square miles. Settled in 1764 by a French fur trader, it is still the largest raw fur market. Strategically located near the center of the continental US, it is served by 18 trunk line railroads. It reaches the entire Mississippi River Valley with water transportation, and it is served by seven airlines. Delegates should have no difficulty in making good rail or air connections to St. Louis.

We look forward to meeting you or your representative in St. Louis in June.

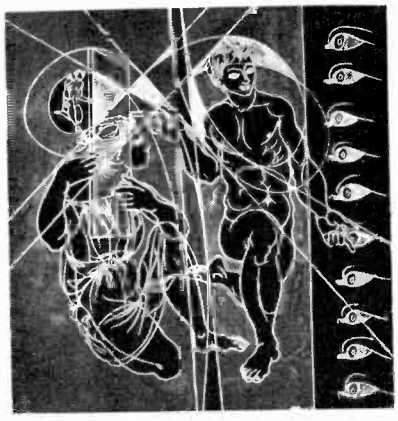
The statue to St. Louis is a city landmark.

EIDOPHOR*

A Swiss-developed, control layer projection system which produces a theatre-size, bright color TV image



ABOVE: The five-foot-high Eidophor projector weighs only 800 pounds. It can project a sharp, bright color picture measuring 12 x 16 feet.



RIGHT: A large audience views the 12 x 16 foot color picture during a live Eidophor telecast. The CIBA closed circuit unit will be used to present telecasts, live and in color, to large professional audiences in hospitals, universities, and at scientific meetings.

* Pronounced EYE-doe-for; a Greek word meaning "image bearer," hence, the symbolic illustration by Swiss Artist Hans Erni at left; Eidophor is a registered trademark.

A TELEVISION projector which produces a bright and sharp 12 x 16-foot color picture was unveiled a few weeks ago at the annual session of the American Association for the Advancement of Science in Washington, D. C. Scientists from all over the nation sat in a large conference hall and watched a theatre-sized image demonstrating surgery techniques. Microscopic organisms were blown up to mammoth proportions for examination. A panel of specialists from the National Heart Institute, assembled in a nearby room, diagnosed heart diseases in patients.

Eidophor is a complex, yet basically simple, projector, a little over five feet high, 25 inches wide, and four feet deep. Set up in the middle of the hall, it used a 2,000 watt xenon lamp and a series of mirrors, lenses, and oiled surfaces to produce an image which can reach, if

needed, a 100-to-1 contrast. It weighs about 800 pounds.

Eidophor uses the field sequential system of color reproduction. Remember the whirling discs with which CBS once took color television leadership from RCA? Eidophor is similar, using color wheels in the camera and in the projector.

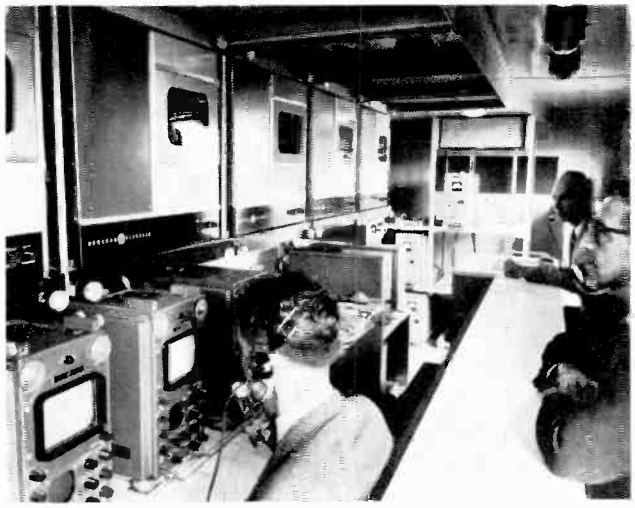
This "control layer system" of television was invented in 1939 by Dr. Fritz Fischer, professor of applied physics and director of the Department of Industrial Research at the Swiss Federal Institute of Technology at Zurich. Before he could see his invention reach a practical stage, however, Dr. Fischer died in 1947.

Work continued on the system under the direction of Professor Ernest Baumann at the Institute. In 1951 the technical development was turned over to the firm of Dr. Edgar Gretener A. G. of Zurich, which had been formed with the backing of CIBA, the international pharmaceutical company. Work then began to make this system, which up to this time had been limited to monochrome projection, into a more practical instrument capable of operating in color.

Dr. Gretener died in October, 1958, soon after the projector had been perfected and success assured.

The basic elements of the control layer process are as follows: electrical impulses from the camera control an electron beam which bombards, and thus modifies, the surface of a film of oil on a concave mirror. Light passing through the resulting "wrinkles" in the oil film is projected through a special grating onto the screen.

The control layer projection system differs fundamentally from the Schmidt system which uses a high intensity television tube. Rather than the electronic generation of the projection light, the Eidophor system uses an electro-optical control of the light beam from an outside source to produce the picture. It is, therefore, a relay system, the light output of which is limited mainly by the power of the light source (carbon arc, xenon arc, etc.).



ABOVE: Interior of the Eidophor mobile unit. The 35-foot-long motor trailer houses four television cameras, two projectors, a complete public address system, two large screens and control equipment.

To build goodwill for itself and its products CIBA is using Eidophor for special closed circuit telecasts to large professional audiences in hospitals, universities, and at scientific meetings.

The whole CIBA package is housed in a 35-foot-long trailer. Equipment includes four television cameras, two projectors, a complete public address system, two large projection screens and control equipment. A crew of four cameramen, two video operators, one audio engineer, and one projection engineer operate the mobile unit. The completely equipped unit cost $336,000.

Such a colorful and dynamic entry into the television field has not gone unnoticed by Hollywood. CIBA is now working with 20th Century Fox Film Corporation on the broad commercial use of Eidophor.

BELOW: Specially designed for CIBA, this 35-foot-long motor trailer houses all the closed circuit television equipment necessary for an Eidophor telecast.

The Principle of Eidophor

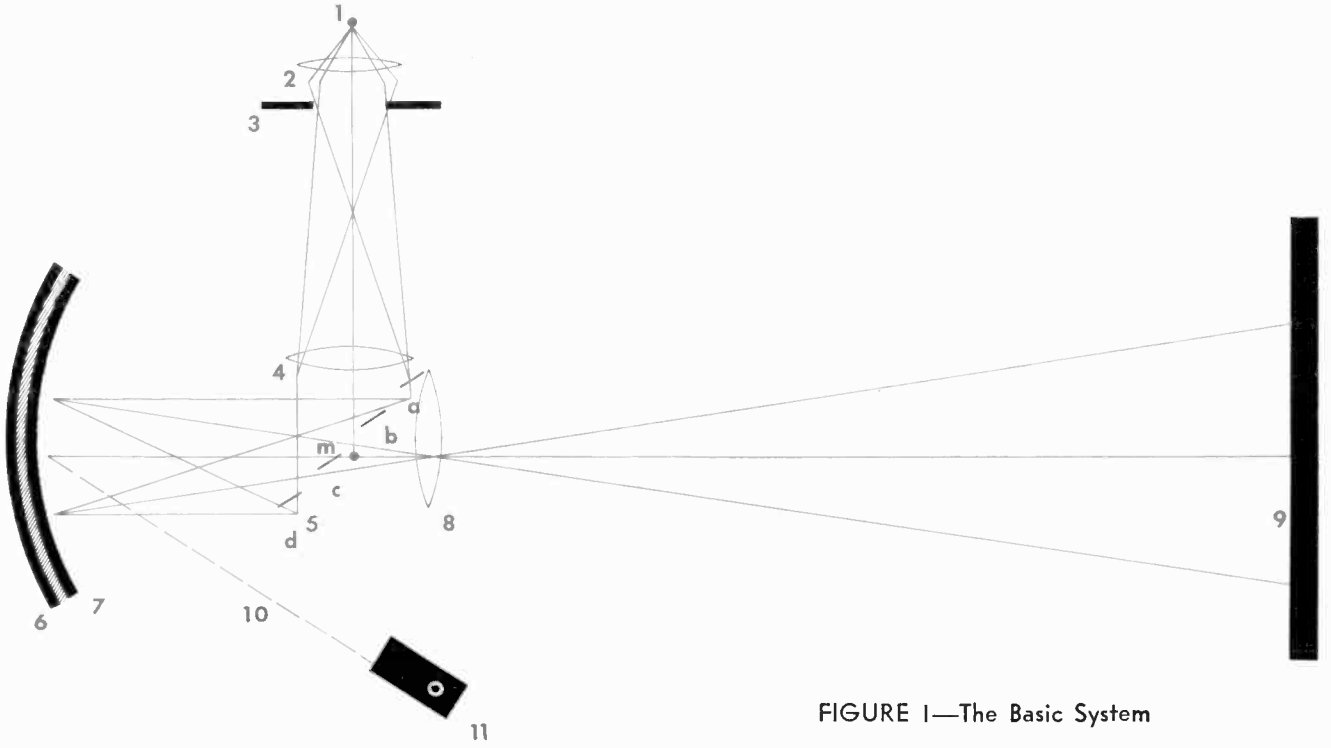


FIGURE 1—The Basic System

THE Principle of Eidophor is illustrated by Figure 1. The picture window 3 is uniformly illuminated by light source 1. Lens 2 images the light source 1 onto the slotted mirror 5, while lens 4 images picture window 3 onto the spherical mirror 6. The slotted mirror 5 consists of several reflecting bars, a, b, c, d . . . and is therefore called the "bar system."

Since the center of bar system 5 coincides with the center of curvature M of spherical mirror 6, 5 is imaged in itself by 6. This means that light coming from each point of the opening in picture window 3 and falling, for instance, on bar *a* is reflected towards the spherical mirror 6 and from there back towards bar *d*, situated symmetrically to *a* with respect to M. From bar *d* this light is then thrown back, through lens 4, in the direction of picture window 3. Thus, the total light reflected from mirror 6 retraces, in its return to the light source, the path it originally followed to the mirror.

In this arrangement, none of the light reflected by mirror 6, although it is intensively illuminated, escapes between the apertures of bar system 5. Thus, screen 9, onto which objective 8 images mirror 6, remains unilluminated. This is called a "dark field projection system."

To illuminate screen 9, means must be found to divert slightly part of the light returning to bar system 5 from mirror 6. For that purpose a thin layer (approximately 0.1 mm.) of a viscous oil is uniformly spread on the concave surface of mirror 6. As long as the surface of this oil layer shows no deformation the light reflected by 6 is not deflected and screen 9 remains dark. Now, if on a certain spot of this layer a small deformation is impressed, light will be deflected out of its original path of reflection and passed between the slits in bar system 5 towards objective lens 8 which then images spot of deformation onto screen 9.

The Deformation of the Oil Surface

The forces producing the deformation of the oil layer are of an electrostatic nature. If one of two mutually insulated metal plates of a parallel plate condenser is grounded (see figure 2) while a charge is fed to the other one, the same amount of oppositely charged elec-

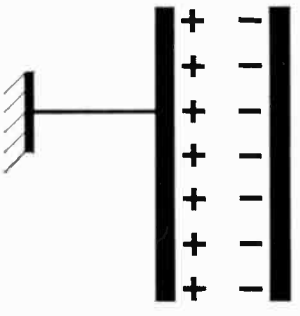


FIGURE 2—The Parallel Plate Condenser

tricity will accumulate on the grounded plate due to electrostatic influence. The reciprocal action between these two charges creates an attractive force that increases as the square of the charge.

Now, the surface of oil layer 7 and the metallized mirror 6 on which the oil is spread can be regarded as the two plates of a parallel plate condenser, between which, in the presence of electrostatic charges on the oil layer, attractive forces appear. Unlike in a metallized plate condenser, however, the charges put on any part of the insulated oil layer will not be able to distribute evenly over the entire oil surface, since the oil is practically nonconductive and exerts, according to the local charge density, a more or less pronounced pressure on the oil surface.

The distribution of these charges onto the oil layer is done as follows (see figure 1):

An electron beam 10 of small cross-section but constant current, originating from an electron gun 11, scans line after line at high speed that part of mirror 6 with its oil layer 7 that is imaged by objective 8 onto screen 9. (According to American standards, 525 equidistant lines are scanned 30 times each second; in Europe, 625 lines, 25 times each second.) If the size of the electron spot is increased so that the charges are approximately evenly distributed over the scanning area on the oil layer of mirror 6, this area will be under the influence of a constant pressure everywhere. Thus, the entire scanned oil surface is smooth except for edges of the image.

If the size of the electron spot is decreased to such an extent that two adjacent lines scanned by the electron beam no longer touch each other, a linewise charge distribution is created on the oil surface separated from each other by charge-free areas. According to this discrete linewise charge distribution, a similar pressure distribution exists on the oil layer, resulting in a corresponding deformation of the oil surface. These equidistant, horizontal rippled lines deflect the incident light on its return path to bar system 5 in upwards and downwards directions. This deflected light, therefore, passes through the slits of bar system 5 and uniformly illuminates picture screen 9 with the aid of objective lens 8.

Between these two extreme cases: size of the electron spot equal to line distance (uniform distribution of charge over the entire scanned area, screen dark); very small spot (separate, linewise charge distribution, screen bright) a brightness range exists, any degree of which can be achieved by varying the spot size. With suitable means this variation of spot size and the corresponding brightness on the screen can be attained both over a complete field as well as, according to the video signal to be reproduced, point by point along each line. This kind of spot size modulation is in direct contrast to the current modulation as used in normal television picture reproduction on a fluorescent screen.

If a complete television image is to be "written" on the oil surface 30 or 25 times each second without one raster impairing the succeeding one, the oil layer must regain its smooth surface before it is scanned again. Accordingly, the charges distributed on the oil layer during one frame must be removed before the next scan. This is achieved by adding to the insulating oil substances that impart to it the needed electrical conductivity. With the removal of the deforming charge the surface of the oil is smoothed by the surface tension, this being an extremely effective restoring force against steep deformations (small line separations—0.1 to 0.2 mm.).

As long as the deformation on the oil layer exists, light arrives at the picture screen. Therefore, it is preferable to choose the conductivity of the oil (as well as its equally important viscosity) so that during the scanning of a raster the deformation of the oil surface becomes as large as possible and does not disappear before the next scan. This storage effect, that can be extended in practice throughout the duration of an entire frame, together with the possibility of using an external high intensity light source that is independent of the power of the electron beam, is responsible for the control layer principle's superiority compared with all other principles of television projection.

Another quality-improving factor is the high contrast ratio (of the order of 100 to 1 or more both in large and small areas), belonging to all dark field projection systems.

Practical Realization of a Control Layer Projector

Since the scanning electron beam can only exist *in vacuo*, the electron gun 10 and spherical mirror 6 with its oil layer 7 are housed in a vacuum chamber evacuated by a pump.

a) The Mirror Cassette

The heart of the projector is the spherical mirror with its oil layer. In order to attain a smooth, constantly renewed surface of uniform thickness the control layer oil is delivered under pressure through a slotted bar to the mirror. This bar is fixed parallel to the surface of the mirror and lies in a radial direction.

As the mirror rotates, slowly, this oil is transported to a similarly arranged smoothing bar whose distance from the mirror is such that the thickness of the oil layer becomes 0.1 mm.

After one revolution of mirror 6 the oil leaving the delivering bar in a direction opposite to the mirror rotation pushes away the oil layer already bombarded and hence partially polymerized by the electron beam. This oil, together with the newly delivered excess oil, flows into an oil container arranged under the mirror (figure 3). From here, this oil, well mixed with the oil in the container, finds its way back, through a recirculating

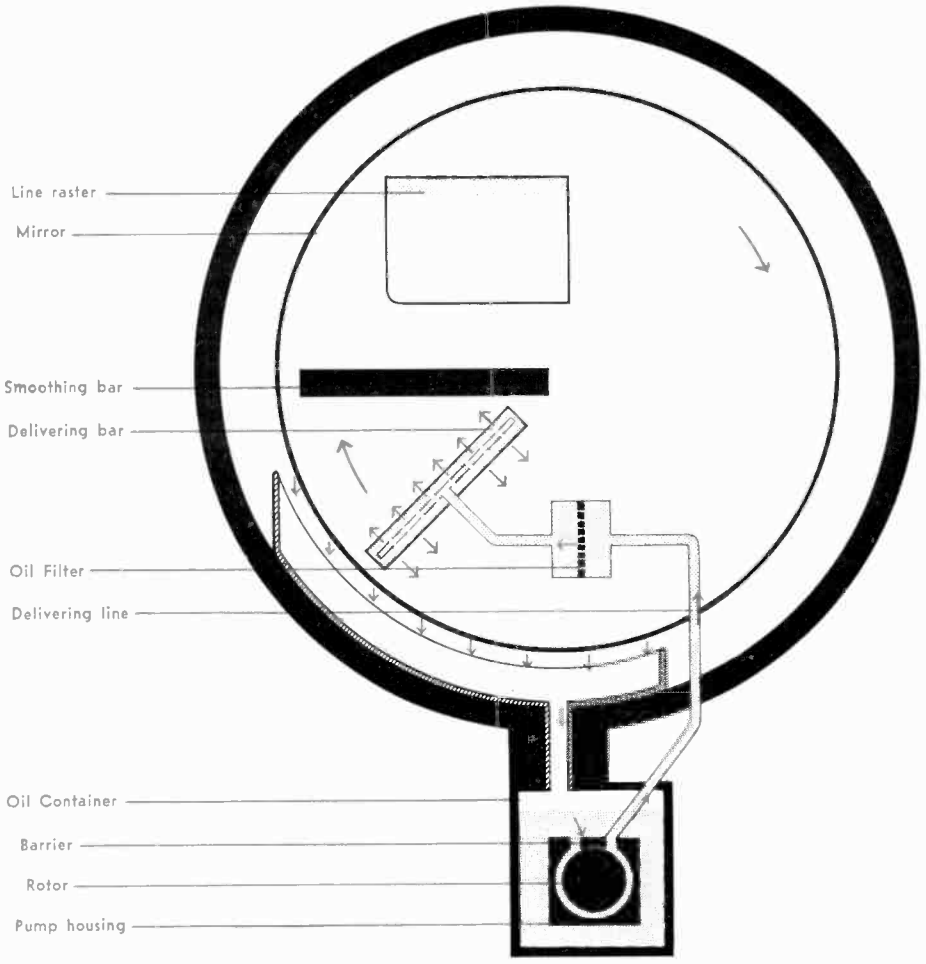


FIGURE 3—Functional Arrangement of Mirror Cassette with Pump

pump and an oil filter, to the mirror. Figure 4 shows the position of the smoothing bar (horizontal) and the delivering bar with its easily visible slit viewed from the mirror looking towards the bar system.

Spherical mirror, bars, oil container and pump are housed in a readily exchangeable cassette. To prevent the oil from coming into contact with the air the cassette has a cover that can be operated from outside and that renders the cassette vacuum tight.

In the oil pump, specially developed for this purpose, the rather viscous oil enters the rotor chamber where a slowly moving smooth rotor transports it along a narrow slit to a barrier that nearly touches the rotor, thus forcing the oil under pressure into the delivering line. This oil pump, which has no frictional parts, provides the constant pressure necessary to avoid undesirable disturbances of the oil surface.

To prevent any unwanted displacement of the mirror during transportation, the mirror can be clamped in a fixed position in which the driving motor is automatically disconnected from its power supply. The same interlock principle is used to disconnect the oil pump motor as soon as a "gate" is closed between the reflux line and the oil container.

b) The Cathode-ray Tube

The electron gun consists of a hairpin type cathode made of tungsten with its grid plate, the anode, the electrostatic modulation lens, the focus coil and the deflection yoke. The whole is incorporated in the cathode-ray tube (figure 5), without its high voltage cover and mumetal shield.

Under the influence of an accelerating voltage of 15 kv and an adjustable negative potential for the grid plate, the hairpin, heated to a temperature of about 2500° C emits from its very tip electrons which are then, somewhere between cathode and anode, united into a "cross over" approximately 30 microns wide. This cross over is then imaged on the oil layer by the longitudinal magnetic field of the focussing coil whose action is similar to that of an optic lens. There, in focus, an electron spot of approximately 50 microns diameter appears. With the aid of the crossed transverse magnetic

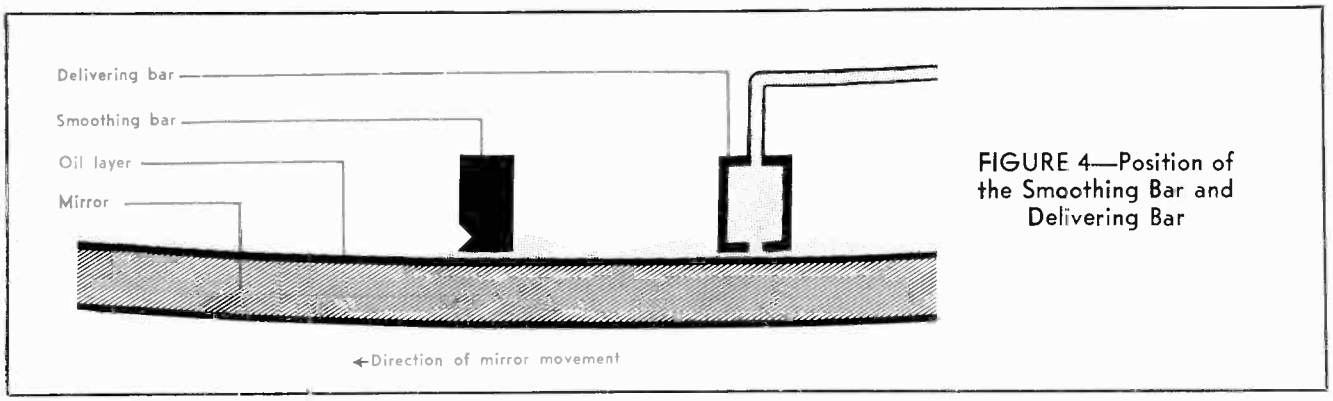


FIGURE 4—Position of the Smoothing Bar and Delivering Bar

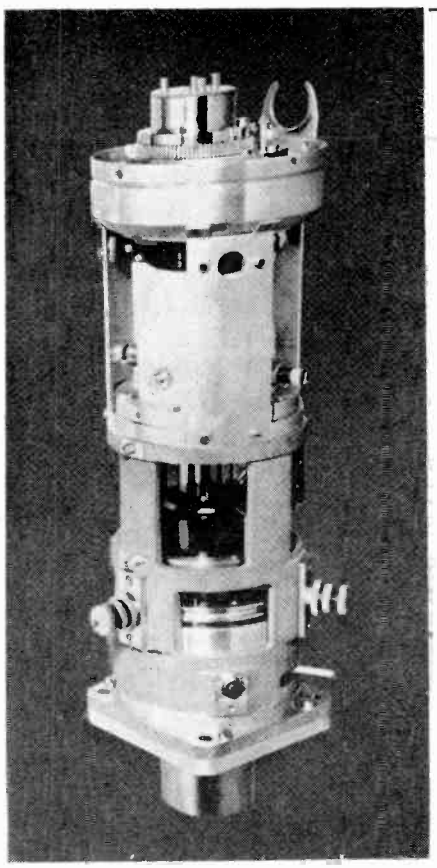
fields of the deflection yoke, this spot scans the oil layer corresponding to the chosen deflection standards.

By feeding a small voltage to the electrostatic modulation lens the spot size on the oil increases, decreasing the deformation of the oil layer and picture brightness. Instead of some arbitrary voltage, a video signal, slightly amplified, may be fed to the modulating lens, thus creating the corresponding television raster on the picture area.

The life of the cathode amounts to roughly 100 working hours for an electron current of 10 micro-amps. For this reason, the cathode is constructed as a replaceable unit. Furthermore, the electron gun has a cathode revolver in which there is room for three cathodes which can be readily interchanged under vacuum. The end of the life of the cathode is generally foreshadowed by a misalignment of the hairpin within the opening of the grid plate. Ample warning of this misalignment is given by the reading on the projector meters.

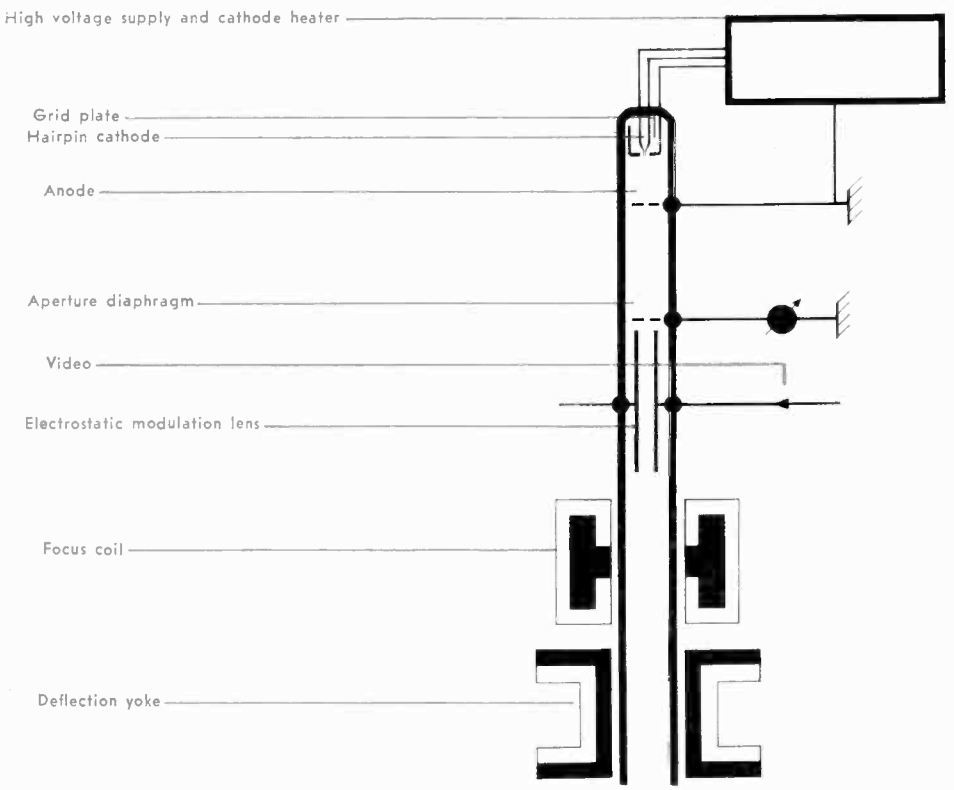
c) The Electronic System

The complete electronic system is housed in the rear part of the projector in a frame provided with two wheels and hinged to the projector. Within this frame are the following chassis: (1) D. C. voltage supply, cathode heater and high voltage supply; (2) deflection chassis, focusing unit and video amplifier; (3) receiver (if necessary). Contrary to normal television projectors for which focussing is required only once, the electron spot in the control layer projector has to be focussed



CATHODE RAY TUBE

FIGURE 5—Schematic Drawing of Cathode Ray Tube



continuously over the whole picture area if a constant spot size is to be guaranteed. This condition is of utmost importance since a variation in spot size, unlike in conventional television, does not principally affect the resolution but markedly alters picture brightness.

d) The Illumination System

A xenon arc, burning in a quartz glass bulb at a pressure of approximately 20 atmospheres, is used as a light source. In contrast to the ordinary way of using this bulb in a lamp house with a large elliptical projection mirror thus requiring large dimensions, the projector uses wide angle condenser optics and a small spherical homogenizing mirror behind the xenon arc to achieve a high intensity uniform illumination of the picture area. Therefore, the lamp house, which is cooled by a blower, remains small. In order to prevent the infra-red radiation of the xenon arc from reaching the mirror, a "cold mirror" reflecting only the visible light with high efficiency (95 percent) is introduced into the illuminating light path of the projector.

The reflecting stripes of the bar system are not arranged in a plane, (for if they were half of the light thrown from the light source in the direction of the bar system would pass through its slots and be lost) but rather in the position of slats in venetian blinds. (See Figure 7.)

Thus, the bar system, seen from the direction of illumination, appears as a single continuous plane without slots while seen from the mirror, the apertures necessary to pass the light coming from the rippled oil layer are plainly visible.

The imaging of the bar system through the spherical mirror in itself is not free of aberration. In addition, certain insufficiencies of the mirror surface and (undeformed) oil layer must be taken into account. Therefore, part of the light reflected from the bar system towards the mirror could, on its return, pass through the slots in the bar system and alluminate the screen. In order to prevent this, the edges of the reflecting stripes of the bar system may be blackened or beveled in such a way as to reflect the light falling on them in a direction that will keep it from reaching the screen. However, a one-sided beveling—equal in total width to the two-sided beveling—also gives satisfactory results.

The standard objective for the control layer projector has a ratio of picture width to throw distance of 1:4.3; however, other throw ratios are available.

e) The Associated Equipment

As already mentioned, the cathode ray tube and with it the whole mirror cassette and the pump must be continuously evacuated during operation. For this purpose the control layer projector uses a mechanical forepump as well as a high-vacuum oil diffusion pump.

The electrical conductivity of the control layer oil, mainly determined by its viscosity, is strongly dependent on its temperature which must be kept at a constant value. For this purpose the control layer projector is equipped with a closed circuit cooling system connected through a heat-exchanger to a small refrigerator unit. The principal structure cooled by this system is the mirror. Forepump, refrigerator, heat exchanger and a recirculating water pump are mounted on a common baseplate with shock absorbers. This plate can be lowered to the floor, thus isolating the projector from the mechanical vibrations originating in the units mounted on the baseplate.

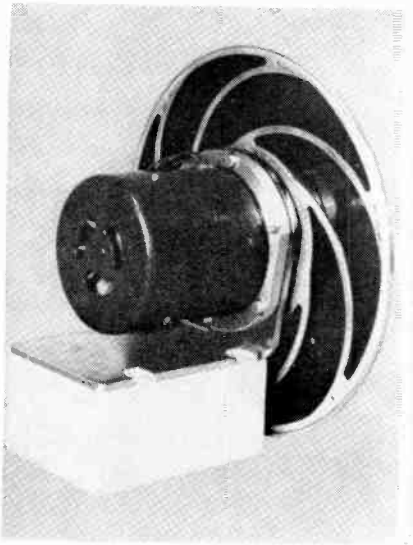


FIGURE 6—The Color Filter Wheel. Reminiscent of the whirling discs of the CBS color TV system, two Eidophor wheels spin synchronously in camera and projector.

To enable the operator to check the working function of the projector and to pinpoint possible trouble areas, the front part of the control panel is laid out as a simplified schematic—comprising several signal lamps—of the associated equipment. A variety of safety devices protects the projector from the consequences of misoperation and malfunction and insures the safety of the operator.

The projector makes relatively little noise and does not have to be operated in a sound-insulated booth. A main voltage supply with a capacity of 2.5 kw. 60 or 50 cycles per second, 220 volts A.C. (matched to other supply voltages with the aid of a transformer), D. C. supply for the xenon arc (1.8 kw. output, maximum 70 amps.), and cooling water for the diffusion pump (half a gallon per minute) as well as a video signal of good quality are all that is needed to operate the projector. It may be mentioned that a model needing no external water supply is under development.

The Light Output of the Eidophor Projector

The above described projector was constructed for the reproduction of black and white television pictures. With an 1800 watt xenon arc the maximum light output amounts to 2000 lumens. This, with a high light intensity of 5 foot candles, is sufficient to illuminate a 400

square foot diffusive screen or an 800 square foot metallicized screen with a gain of 2.

By using two synchronously rotating color filter wheels (figure 6) in front of the objective of the camera and the picture window of the projector, a color picture transmission can be achieved. In order not to lose any resolution, the scanning speed of the electron beam on the control layer oil must be tripled since, during the same time in which the black and white projector transmits a single complete television picture (1/30 sec. in the United States, 1/25 sec. according to European standards), three monochromes of equal resolution must be transmitted one after the other. As they are shown in fast sequence, the overall impression of their superposition will appear as a complete color picture, due to the physiologic laws of additive colorimetry.

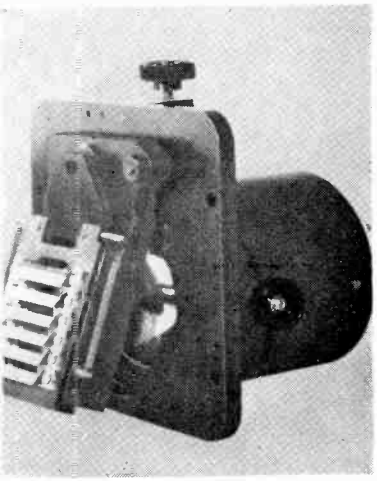


FIGURE 7—The "Venetian Blind" Bar System and projection objective. The slotted mirror permits images to pass from spherical mirror to screen.

As a result of the increased picture rate, the band width for sequential color signal transmission must be proportionately extended. This fact, as well as the loss of light due to the color filter wheel (approximately 4.5:1 with respect to monochrome projectors) narrows the realm of field sequential color projection. In closed circuit television, however, where band width is of less importance, the usability of the sequential projection is only limited by its smaller light output (450 lumens) which is, nevertheless, sufficient to illuminate properly a metallicized screen of approximately 200 square feet.

1959 Progress Meeting

for all local unions with radio, television, and/or recording members.

St. Louis, Missouri

June 12, 13 and 14

Your local union should be represented!

Top Businessman Speaks on Unions

Among top-ranking millionaires on the American business scene, the name of Jean Paul Getty head the list. The following declaration by Mr. Getty is of interest to every working man and woman.

I have very little patience with the fears and complaints expressed by the calamity howlers of our present day and age. . . .

Another woeful cry of the unsuccessful or faltering type of businessman is the 'exorbitant' cost of American labor. To hear some men talk, labor in general and union labor in particular are threatening to wreck the national economy.

"I'd go into business for myself tomorrow," an executive told me recently. "The only thing that holds me back is the labor situation. Wages are so high that I couldn't make a profit."

I hope this executive's boss is satisfied with him. I wouldn't hire the man on a bet. For my money, he's an idiot.

I am a "union man" myself. I don't carry a union card or pay dues to any local, but I do believe that free, honest labor unions are our greatest guarantees of continuing prosperity and our strongest bulwark against social and economic totalitarianism.

True, some unions and union officials abuse their power. A few, from all I can gather, are controlled by Communists or gangsters or both.

On the other hand, some businessmen abuse their power, too. Some are unethical or even downright crooks. Simply because "some" are this or that doesn't mean the entire system of private ownership should be condemned.

Newspapers sometimes carry stories about bank officials embezzling their depositor's funds. Despite these incidents banks continue to flourish. No one in his right mind would dream of suggesting that the entire banking system be abolished because of an occasional larceny.

Yet let a single union—or even a local—turn sour, and a loud alarm is raised castigating all organized labor. It doesn't make sense.

High pay and good working conditions mean more buying power and more production. As buying power increases, so do sales and profits.

We pride ourselves on the level of the American standard of living. We boast that the majority of Americans have decent homes, cars, radios, television sets and all the rest. This would hardly be possible if the great mass of workers—wasn't well—even highly paid. "Excessive" labor cost is a handy excuse to cover up inept management's inability to meet competition.

—JEAN PAUL GETTY.

Service Pins Presented At Local 4 Meeting

One of the veteran local unions of the International Brotherhood is Local Union 4 of St. Louis, Mo., which has 318 broadcasting and recording members and is an offspring of the very first local of the IBEW, Local 1 of St. Louis. On February 2, at its regular meeting, Local 4 presented service pins to eight of its members present at the meeting—each with more than 30 years of continuous membership.

ABOVE: International Representative Albert O. Hardy pins a 40-year membership pin to Brother Harvey Smith's lapel.

ABOVE: The honorees of the evening included, left to right, FRONT ROW, Robert Stetson, financial secretary; Nick Fehr; Frank Stengel; and Ed Goodberlet; BACK ROW, Ray Johler; Elmer Mueller; Paul Shock; and Harvey Smith.

BELOW: Business Manager Ralph Barnett speaks to the meeting. At the head table are Recording Secretary Richard Harvey and President Charles Scott.

RIGHT: Members of Local 4 give undivided attention to the proceedings of the business meeting. A total of 148 members were present—almost half of the total membership.

ABOVE: A confab takes place just inside the meeting-hall door, before the meeting is called to order.

ABOVE: Brothers Clayton Donaldson, Eugene Beller, Edward Felts, Ralph Howard, Harvey Smith, Bill Mansfield, Donald Rockwell, and Edwin Banta.

ABOVE: Another view of members attending the February 2 meeting. Here, they watch the pin presentations.

RIGHT: International Representative Hardy pays tribute to the old timers for their devoted service.

Reporting Under the Welfare and Pension Plans Disclosure Act

All local unions are reminded that if their local union has a welfare or pension plan, they must comply with the provisions of Public Law 85-836.

Plan descriptions are due not later than April 1, 1959 and annual reports within 120 days after the close of the fiscal year.

Plan Description Forms (in quantities of 50 or less) may be obtained from the following offices of the Wage and Hour and Public Contracts Divisions, U. S. Department of Labor:

Boston 10, Mass.	18 Oliver St.
New York 1, N. Y.	900 U. S. Parcel Post Bldg., 341 Ninth Ave.
Chambersburg, Pa.	Wolf Ave. and Commerce St.
Birmingham 5, Ala.	1401 South 20th St.
Cleveland 14, Ohio	216 Engineers Bldg., 1365 Ontario St.
Chicago 3, Ill.	105 West Adams St.
Kansas City 6, Mo.	2000 Federal Office Bldg., 911 Walnut St.
Dallas 2, Texas	Rm. 222, 1114 Commerce St.
San Francisco 11, Calif.	630 Sansome St.
Nashville 3, Tenn.	U. S. Courthouse Bldg., 801 Broad St.
Raleigh, N. C.	State Department Bldg., Salisbury and Edenton Sts.
Juneau, Alaska	201 Federal Bldg., P. O. Box 1030
San Juan 23, P. R.	New York Dept. Store Bldg., Fortaleza, cor. San Jose St. P. O. Box 4361
Honolulu 2, T. H.	345 Federal Bldg., King and Richards Sts.

Copies of the Annual Report Form, when available, may also be obtained from the above named offices or from:

U. S. DEPARTMENT OF LABOR
Bureau of Labor Standards
Welfare and Pension Reports Division
Washington 25, D. C.

Local 1212 Members Cover Plane Disaster

Three minutes before midnight on the cold and foggy night of February 3 a turbojet airliner with 73 persons on board plunged into the East River while attempting a landing at LaGuardia Airport. Though rescue work began immediately, 65 passengers and crewmen died.

Ten Local 1212 members employed in the CBS TV Field Shop worked through the day from a tugboat and from mobile trucks on shore, feeding live coverage to a microwave receiver atop the Empire State Building. Among the participants were Sandy Bell, Lou Scanna, Bob Johnson, Fred Cusick, Ray Satter, Lou Macsek, John Morris, Herman Lang, Bob Hanford, and Frank Marth.

Catholic Magazine Plays No Favorites

"Much of the present hostility to unions is due to the one-sided emphasis on the defects of union labor by newspapers and magazines" a Roman Catholic priest charges in The Sign, national Catholic magazine.

"We have tried to right that balance somewhat in the pages of The Sign," Rev. Ralph Gorman, C. P., the magazine's editor declares in his signed editorial in the March issue, adding, "While we condemn labor abuses, we uphold the right of the American workingman to free, strong, independent unions, dealing with management on an equal footing."

"It isn't surprising," Father Gorman notes, that "editorials and articles in The Sign on labor problems rub some readers the wrong way . . . Most peope know little about Catholic social teaching. Their ideas on labor-industry relations are derived from secular newspapers and magazines, and these publications follow a straight management line of thought.

"This is natural. They're big business. -Their voices are the voices of money.

"Just try to compute the capital investment in the New York Times, Time Inc., Reader's Digest, or the Hearst publications."

Having in mind that "a few of our readers have accused us of always siding with union labor, even of ignoring labor's faults," Father Gorman asserts, "We thumbed through some of the back issues and find we have lectured labor when it was wrong just as sternly as we have management."

Father Gorman recalls: "In February 1954, we published 'Big Racket in Small Change,' an expose of a certain James R. Hoffa, at that time little known. Hoffa didn't like the article and his lawyers wrote to us several times informing us that he was going to sue The Sign for libel. He didn't . . .

"In 'Terror Unincorporated,' (December 1955), Victor Riesel told the story of the racketeering leaders of the International Union of Operating Engineers. In the last article he wrote before being blinded by a thug, 'Thugs and Communists,' (June 1957), Mr. Riesel revealed the nefarious alliance of Reds and racketeers in some unions."

"Before Joseph P. Ryan and his International Longshoremen's Union became a stench in the nostrils of the American public, The Sign ran two articles exposing the situation: 'More Ryan Than Reason,' (October 1950) and 'Brass Checks—and Knuckles,' (November 1950)."

"We still remember the resentful reaction," Father Gorman remarks, "of some of Ryan's friends and associates who denounced us for blackening the reputation of 'a good Catholic family man.'"

AFL-CIO Launches 'Americans at Work'

The AFL-CIO has launched a new educational film series for television showings, and it is drawing a good response from TV stations all over the nation. Entitled, "Americans at Work," the film series shows how unions function in many major crafts and industries. It was produced by Norwood Studios of Washington, D. C., which employs IBEW members.

More than 40 stations have scheduled showings of the film, and almost a hundred more are previewing it. Here is the current station lineup:

CITY-STATE	STATION	DAY	TIME
Phoenix, Ariz.	KTVK	Sunday	1:45 p. m.
San Diego, Calif.	XETV	Sunday	4:15 p. m.
Denver, Colo.	KOA	Saturday	4:45 p. m.
St. Petersburg, Fla.	WSUN	Wednesday	10:30 a. m.
South Bend, Ind.	WSBT	Saturday	12:30 p. m.
Fort Dodge, Iowa	KQTV	Sunday	6:15 p. m.
Sioux City, Iowa	KVTV	Monday	12:15 p. m.
Monroe, La.	KNOE	Sunday	12:45 p. m.
Bangor, Me.	WLBZ	Saturday	1:30 p. m.
Presque Isle, Me.	WAGM	Monday	1:30 p. m.
Springfield, Mass.	WWLP	Sunday	10:45 a. m.
Greenfield, Mass.	WRLP	Sunday	10:45 a. m.
Marquette, Mich.	WDMJ	Wednesday	3:00 p. m.
Detroit, Mich.	WWJ	Sunday	11:15 p. m.
Saginaw, Mich.	WNEM	Sunday	1:00 p. m.
Traverse City, Mich.	WPBN	Saturday	4:15 p. m.
Austin, Minn.	KMMT	Sunday	5:15 p. m.
St. Louis, Mo.	KSD	Sunday	12:00 p. m.
Butte, Mont.	KXLF	Monday	6:00 p. m.
Helena, Mont.	KSLJ	Monday	6:00 p. m.
Glendive, Mont.	KXGN	Wednesday	6:00 p. m.
Las Vegas, Nev.	KLAS	Sunday	3:30 p. m.
Reno, Nev.	KOLO	Friday	5:30 p. m.
Utica, N. Y.	WKTV	Monday	5:15 p. m.
Rochester, N. Y.	WROC	Saturday	7:45 a. m.
Greenville, N. C.	WNCT	Monday	6:00 p. m.
Lock Haven, Pa.	WPBZ	Saturday	5:15 p. m.
Johnstown, Pa.	WJAC	Wednesday	1:15 p. m.
Pittsburgh, Pa.	WIIC	Sunday	10:45 a. m.
Aberdeen, S. Dak.	KXAB	Friday	9:30 p. m.
Sioux Falls, S. Dak.	KELO	Saturday	2:45 p. m.
Port Arthur, Tex.	KPAC	Saturday	4:00 p. m.
Hampton, Va.	WVEC	Monday	1:15 p. m.
Richmond, Va.	WTVR	Saturday	4:45 p. m.
Seattle, Wash.	KOMO	Saturday	5:30 p. m.
Huntington, W. Va.	WHTN	Saturday	1:00 p. m.
Wheeling, W. Va.	WTRF	Saturday	2:30 p. m.
Parkersburg, W. Va.	WTAP	Tuesday	12:15 p. m.
La Crosse, Wis.	WKBT	Wednesday	4:30 p. m.

Technical NOTES

Headset Amplifier

The Daven Company of Livingston, New Jersey recently announced the availability of a new transistorized interphone amplifier, Type 90, designed specifically to aid in meeting the stringent requirements of modern television studio communication systems. This unit is designed to replace, mechanically and electrically, the Western Electric Type 101A induction coils previously employed in studio interphone systems. This new Type 90 Amplifier offers the following important advantages:

1. A gain of up to *20 db* in received sound level!
2. Up to 32 stations may be used on the same bus instead of the 6 normally considered a limit with induction coils.
3. Received signal level may be fixed at any desired setting independently at each station in a system. Alternately, manually adjustable gain may be provided at stations where changing ambient acoustic noise calls for this feature.
4. Side-tone (level of the speaker's voice in his own earphone) is held at a fixed ratio below received signal level regardless of the number of stations connected to the interphone bus—and is independent of received signal gain setting.
5. Operation is independent of 24 volt "talk" bus polarity and the amplifier is thereby protected against burnout.

Delivery can be made in a matter of three or four weeks, at a price of $36.25 each, net, according to The Daven Company.

TV Inspects Stamps

Closed-circuit television was used by stamp auctioneers for the first time to assist in the sale of some $250,000 worth of rare stamps during the International Stamp Exhibition INTERPEX in New York City last month.

Herbert Rosen, chairman of the Stamp Show, said a closed-circuit TV installation allowed all prospective buyers to get a closeup view of the stamps up for bid. Several TV receivers located throughout the auction room permitted easy viewing. Normally, he explained, only those seated directly in front of the auctioneer can get a clear view of all stamps offered for sale.

Reds Study Global TV

Here's something that American scientists have been considering for months. The Russians have now presented it as their own idea:

Radio Moscow said on February 17 that Soviet scientists propose to use earth satellites to provide a global television network.

The radio said that three sputniks properly spaced around the earth would do the whole rebroadcasting job.

"The range of telecasting at present is only about 90 miles," Moscow Radio said. It noted that retransmission by use of balloons, helicopters or airplanes was impractical.

"Now, however, scientists propose to use artificial earth satellites and TV antennae. A baby moon situated at a distance of 600 miles from the earth would look out upon an area with a diameter of nearly 4,500 miles."

But by putting a satellite at an altitude of 215 miles with "a circular speed of the earth's revolution on its axis . . . it would then appear to be suspended over one point of the earth's surface," it said.

It said that "if three such satellites were out in space at an equal distance apart they could survey the whole earth."

Station Breaks

KTVU Studios on Jack London Square, San Francisco.

An Historic Site

KTVU, Channel 2 in San Francisco, which employs members of Local 202, is located in historic and beautiful Jack London Square—named for America's most-popular adventure story writer. London made his "headquarters" in Oakland's waterfront area, once the site of the Bay Area's vast oyster beds.

Here, in his room above the Overland House (where transcontinental trains made their San Francisco terminus, and before that the end of the line for the wagon coaches), London wrote such great pieces of adventure lore as "The Sea Wolf."

Today Jack London Square combines the age and memories of London's old haunts (The First and Last Chance Saloon, The Overland House) with a touch of the modern—Channel 2's modern, million-dollar studios.

The Square is today under the authority of the Port of Oakland; Channel 2 studios—like the historic buildings come under the landlordship of the governmental agency.

WGN Studios to Move

Management of WGN-AM-TV, Chicago, plans to move the station's studios out of the Tribune Tower and has negotiated for the purchase of property on the city's northwest side. The planned site covers 12.3 acres and currently is owned by Bodine Electric Co. and Atlantic Brass Works, Inc. If negotiations succeed, it's believed physical broadcast properties may be relocated there by the end of this year. WGN-TV's tower would remain atop the Prudential Building and the AM transmitter on the city's outskirts.

AFL-CIO Scholarship

All AFL-CIO members are advised that their sons or daughters who are second-semester juniors or first-semester seniors and who wish to apply for the four-year AFL-CIO Merit Scholarship for college, must arrange to take the Merit Scholarship examination at their local high schools. This examination is given late in April.

If your son or daughter is attending a high school where the principal cannot make the Merit Scholarship examination available, please write immediately to the National Merit Scholarship Corp., 1580 Sherman Avenue, Evanston, Ill., and make arrangements for your son or daughter to take the examination individually.

These examinations are the competition for the 1960 scholarships.

Sons and daughters of AFL-CIO members who are graduating from high school this year are eligible for the 1959 scholarship only if they have qualified through the Merit Scholarship examinations which were held in April 1958.

The Boss Sez:

The union's proposals are fair and just to everyone concerned . . . Now you see why we can't accept them!

ANNUAL PROGRESS MEETING
JUNE 12, 13, 14
ST. LOUIS, MO.