

THE BROADCAST ENGINEERS' JOURNAL  
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# The Broadcast Engineers' Journal

*Since*  
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*Of, By,*  
*and For*



**SAN FRANCISCO  
RADIO CITY**

**APR.  
1945**

**VOL. 12  
No. 4**

*The Broadcast Engineer*

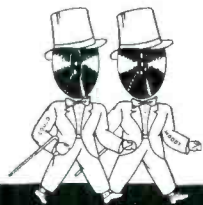
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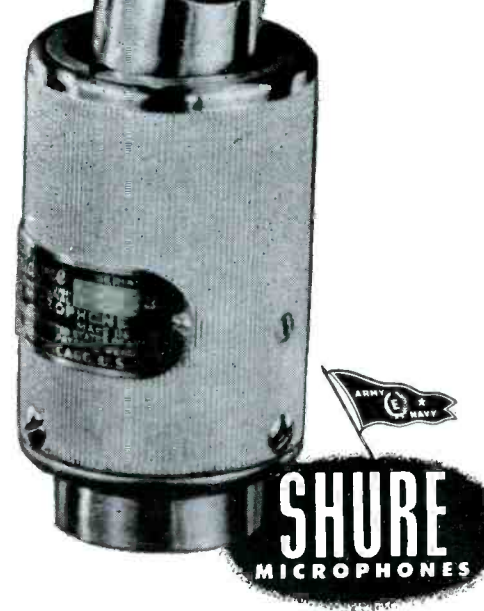
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# **SHURE BROTHERS**

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**NABET FLASH!** As we go to press, we learned that the NLRB has sustained NABET as a bona fide Union in the full sense of the word, and has dismissed the Petrillo-AFM charge that NABET was a company-dominated union.

## BLUE-ABC Engineering Organizational Changes

**T**HE Blue is in a very unique position among the networks, in that they do not possess any plant or technical facilities.

Post-war radio entertainment is expected to expand almost overnight, and to incorporate all of the war-time technical and operational advances known to all five of the major branches of the industry, viz.:

1. AM
2. Television
3. FM
4. Recording
5. International

In the past, other networks have been able to modernize their plant on a progressive basis, first, for example, in New York, then making similar changes, additions, and improvements in their Chicago office, etc., and thus spread out their construction and modernization of plant facilities

in an orderly manner over a period of years. The Blue, on the other hand, will find it necessary to construct new plant facilities simultaneously thruout the country, for AM, Television, FM, Recording, and International Broadcasting. In addition to building up its own technical plant facilities, the Blue will have to expand its technical operating personnel.

In line with the huge plant and personnel expansion contemplated, Mr. Frank Marx has been named Director of General Engineering. Mr. Marx was formerly Chief Engineer of WMCA, which had been owned by Mr. E. J. Noble prior to his purchase of the Blue Network. Mr. George O. Milne continues in charge of all technical operations and personal, with the new title of Director of Technical Operations. Messrs Milne and Marx will report directly to the President, Mr. Mark Woods.

## BLUE Inaugurates Television Training Program

**O**N FEBRUARY 24, 1945 the Blue Network presented to the public, its first regularly scheduled television program. The show was that very popular afternoon feature, "Ladies Be Seated" presided over by Johnny Olsen and his wife, "Penny". It originated at the General Electric Company's television station WRGB in Schenectady. The press was very enthusiastic about the show and all reports indicate that it was a great success.

It is planned to televise "Ladies Be Seated" for five more Sundays and then to switch over to another Blue feature.

On the following Tuesday, February 27, over the Dumont station in New York, the Blue presented a television version of "On Stage Everybody". This also will be repeated each Tuesday for some time when it will be replaced with another feature.

This gives the Blue Network two regularly scheduled television shows each week.

At the same time the Blue Engineering Department inaugurated a long range technical training plan. All New York engineers will be given the opportunity to visit either Schenectady or Dumont for a period of five weeks to observe operation, ask questions, become familiar with television operation and in general to augment their theoretical knowledge with some valuable practical experience.

Thus the Blue Network becomes the first major net to

open the doors of television to all their technical employees. Gil McDonald was the first to go up to Schenectady on this plan and Jack Bourcier was first to start at Dumont. Depending on schedules, commercial commitments, etc., all others will eventually get the chance to participate.

The premier in Schenectady was attended by 35 members of the press as well as Blue Network President Mark Woods, several General Electric executives, and G. O. Milne and W. H. Trevarthen of the engineering department.

Fred Frutchey, member of the New York NBC Recording staff, was assigned the task of operation and maintenance of the recording equipment used by the network

commentators at the various scenes of battle. He left New York several months prior to the European D-Day, and was among the invasion army, recording the eye-witness accounts of the event. He passed thru New York to say hello several months ago; he was en route to the South Pacific. We cannot reveal his present location, but the adjoining photo shows Fred's reaction to the news that "he was going in with the Marines" in one of the recent Pacific operations! We wish him luck,



and look forward to publishing his book of experiences.  
—Ed. S.

# THE BROADCAST ENGINEERS' JOURNAL

Ed. Stolzenberger  
Editor

Coordinator ..... F. R. Rojas

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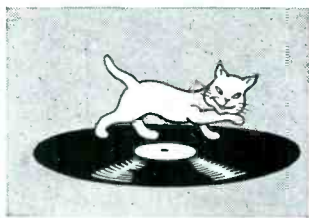
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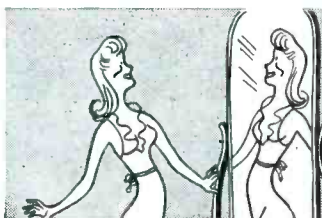
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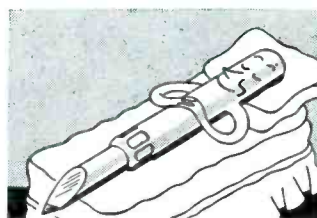
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# Increasing Life of High Power Transmitting Tubes

By H. C. Towlson

General Electric Co., Schenectady, N. Y.

**W**ITH war-time limitations on the number of Vacuum Tubes available to broadcasting and communications services, the problem of obtaining maximum life from the present supply of tubes becomes of major importance. The Station Engineer who practices certain economies now may find his stations "On the air" when those of his less far-sighted friends are shut down awaiting tube deliveries. In addition, the savings in operating costs resulting from such economies are definitely worthwhile and can well be carried over when tubes are again plentiful.

The purpose of this article is to tell of steps taken at the General Electric Co. transmitters, which have been effective in increasing the life of some tubes by 2 and 3 times. At these stations each tube of the 50 watt size or larger is assigned a number. A card index system is used to show the performance and hours of operation of each tube. Once per month, or at the time of a tube failure, the tube Hour Meter (a time meter indicating hours of filament operation) with which each transmitter is provided, is read and the tube hour record is brought up to date. In this manner benefits of operating changes can be proven. In addition, discrepancies in life expectancies of similar tubes in different transmitter positions are immediately apparent, perhaps indicating the need of investigating the operating conditions of the position giving the poorer life.

The large water or forced-air cooled tubes are the ones which offer the greatest returns in a program of life increasing. The "Installation and Operation" sheets which the tube manufacturers usually supply with these tubes, contain valuable information. If the engineer does not have these sheets, he should request his supplier to obtain them for him. Some of the points stressed in these sheets are briefly as follows:

1. Keep filament voltage as low as possible consistent with output and permissible distortion. More on this later.
2. Be sure there is plenty of water on water-cooled anodes and plenty of air on air-cooled anodes to prevent hot-spotting and gassing. In addition keep anode dissipation low by careful tuning of the transmitter.
3. Where specified, keep an ample supply of air on the glass bulbs, particularly at the seals, to reduce electrolysis and gas evolution from the glass. In addition keep the glass parts clean of dust and grease.
4. When filaments are operated on d-c, reverse the

leads about once per week to assure equal utilization of both halves of the filament.

5. To avoid warping of the filament structure, be sure the filament inrush current does not exceed 150 per cent of normal. This may be done by using high-reactance current-limiting transformers, by step-start resistors, or by a manual control. Prevention of current surges is especially necessary as the tube gets older, as the filament strands become thinner and very brittle.

Point 1 above warrants further discussion. The high power tubes use a pure tungsten filament of necessity for withstanding the occasional gas ion bombardment. However, tungsten is a relatively poor emitter and must be operated at a high temperature (2350 to 2550 degrees Kelvin) to obtain adequate emission. At these temperatures the rate of evaporation of the tungsten filament is high, and tube design requires a compromise between expected tube life and emission efficiency. With the larger tubes designed for use at the moderate frequencies (tubes such as GL-862, GL-898, etc.) the physical size of the filament structure and the amount of filament heating power are matters of secondary importance. Therefore it is permissible to design the filament to operate in the lower temperature range (at emission efficiencies of 4 or 5 ma/watt), and an inherently long-life tube results (at WGY, for example, the 862's operate for over 20,000 hours).

With the smaller tubes, and especially those designed for high-frequency high-power operation (tubes such as GL-880, GL-889, GL-893, etc.), the situation is not quite so fortunate. Due to design limitations the size of the filament structure is restricted. To obtain the desired emission it is necessary to operate the filament in the higher temperature range at higher emission efficiency (7 to 10 ma/watt). Under these conditions the tube filament can be expected to show a life of 2000 to 3000 hours, the end of life point being considered to have been reached when the filament diameter has been decreased (by evaporation) by 10% of its original value.

Fig. 1 shows the manner in which the life expectancy and the emission of a tungsten filament can be expected to vary with filament voltage. It is evident that even a slight decrease in filament voltage will result in a decided increase in life (dropping the fil. voltage 5% doubles the life). However, the emission curve also responds rapidly to change of filament (5% decrease of fil. voltage decreasing the emission by one-third). Fortunately, most tubes have a considerable excess of emission (when operated at rated

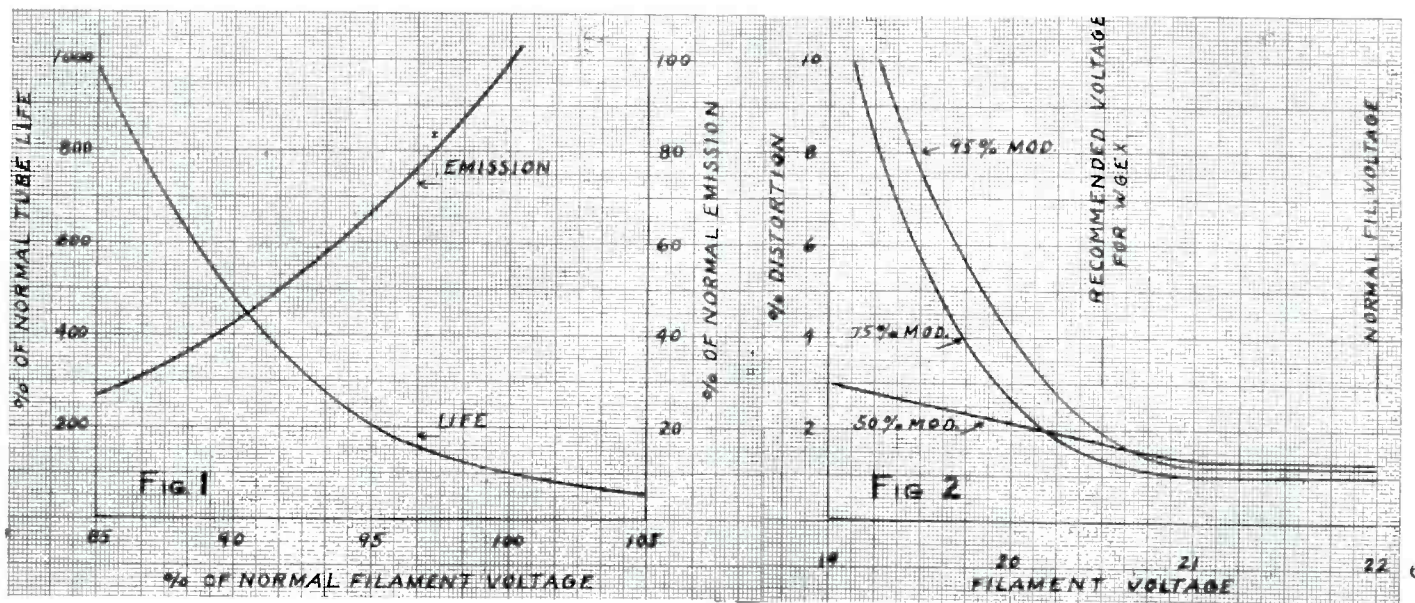


Figure 1—Showing relation of life expectancy and emission current to filament voltage for a tungsten filament tube.  
 Figure 2—Showing effect of lowering the filament voltage of the modulated amplifier of WGEX. Power output was 25 KW for 4 tubes (GL-858). Modulating frequency was 200 CPS.

fil. voltage) which is of little value to the transmitter. It is usually possible to decrease the filament voltage a small amount (but enough to result in a worthwhile increase in tube life) with no sacrifices in operation. This is especially true when the tube is comparatively new (there is also a tendency for the emission to increase after the first few hours of operation due to a cleansing effect on the filament surface). By considering the effects on distortion and power output it is possible to run at filament voltages low enough to result in considerable increase in tube life (2 to 3 times).

Knowing the operating conditions of the tube, it is readily possible to estimate in advance the amount of filament voltage reduction that can be made. The peak emission current requirements for the usual types of operation will run approximately as follows:

Type of Operation	Required Peak Emission
Class B. Audio.....	3½ times d-c plate current
Class B r-f .....	8 times d-c plate current
Class C Telegraphy.....	4½ times d-c plate current
Class C Telephony.....	9 times d-c plate current

Curves of Filament Voltage versus Emission are published for many of the tubes and are usually available from the supplier. In the absence of these curves, an approximation of normal emission can be made by assuming 7.5 ma. emission per watt of rated filament power. Knowing now the peak emission requirement and the total emission at rated filament voltage, it is possible to estimate from Fig. 1 a reduced voltage which will satisfy the Peak Requirement.

That filament voltage which fully satisfies the Emission Requirement can be operated with no sacrifice in transmitter performance. It is usually advisable to reduce the filament voltage still further. Probably the best way to

determine the proper voltage for a telephone transmitter is to take a curve of distortion vs. filament voltage at a high percentage of positive modulation (Limited emission of a Class C tube causes a limiting and rounding off of the positive modulation peaks. Limited emission of a Class B modulator tube will cause a limiting and rounding off of both positive and negative peaks). Fig. 2 shows a typical curve as taken on the 25 KW Transmitter WGEX as the fil. voltage of the modulated Power Amplifier tubes (type GL-858) was varied. The rated filament voltage of these tubes is 22 volts. Note that the filament can be operated at 20.5 volts (giving 275% of normal tube life) with negligible reduction in fidelity of transmission. With most services a voltage of 20 would be permissible (giving 400% of normal tube life). Experience shows that the slight distortion on occasional peaks of modulation is not objectionable. A slight decrease in tube efficiency will accompany a considerable decrease of filament voltage. With WGEX this amounted to a 2% drop at 20 volts on the filaments and 1% with 20.5 volts. Fig. 3 shows the effect of lowering the filament voltage of the WGEX Class B modulators (type GL-892). In this particular case it is quite feasible to operate at 10.5 volts (resulting in 200% life).

In the absence of distortion measuring equipment, the desired operating voltage can be found by noting on the modulation monitor (with which most stations are equipped) the maximum positive percentage which can be obtained on tone as the transmitter gain control is increased beyond normal. Fig. 4 shows a curve taken in this manner on the 100 KW Power Amplifier of WGEO 97 (using GL-880 tubes). At 11.5 volts the positive peaks are limited to 97%, the distortion is negligible, but the



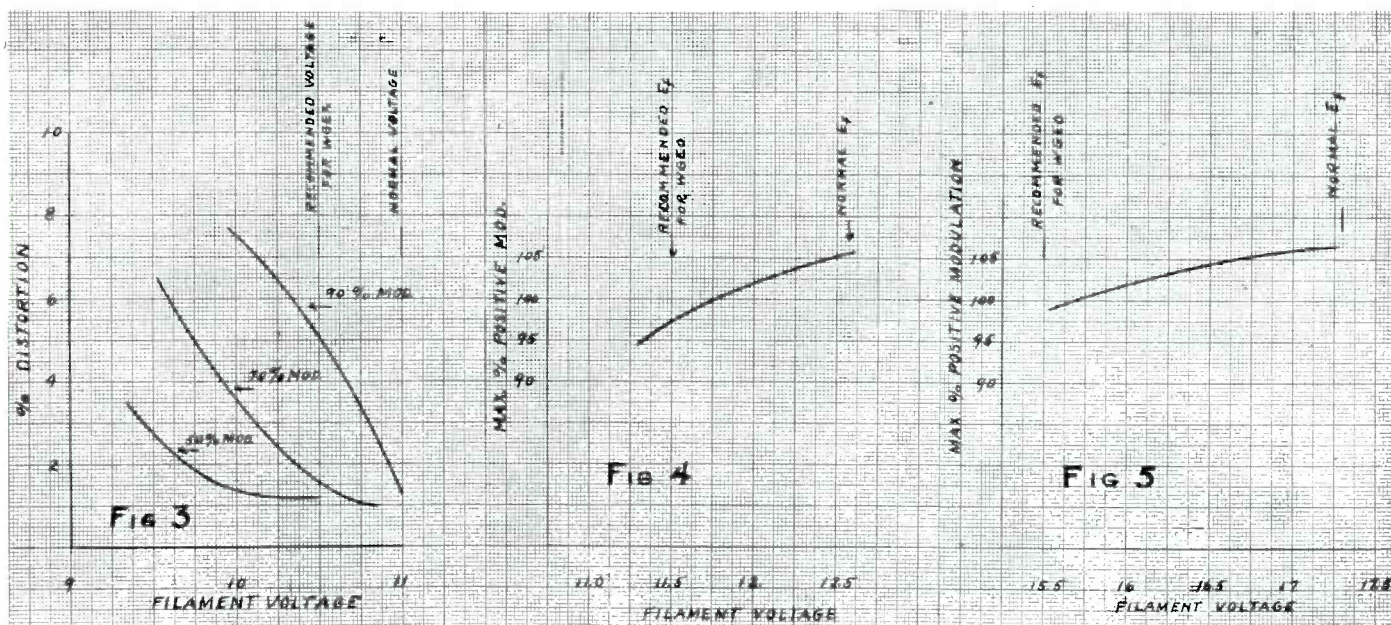


Figure 3—Showing effect of lowering filament voltage on the class B modulator tubes (GL-892) in WGEX. Input to the modulated amplifier was 40 KW.

Figure 4—Curve showing relationship between filament voltage of modulated amplifier and maximum percentage of positive modulation on WGEO. Transmitter uses 4 GL-880 tubes in push-pull parallel operating at 10 KV and 14 amperes input at 100 KW output.

Figure 5—Curve showing relationship between filament voltage of class B modulator and maximum percentage of modulation on WGEO. Modulator uses 4 GL-893 tubes at 70 KW output.

tube life has been increased to 400%. Fig. 5 shows the effect of lowering the filament voltage of the WGEO Class B modulators (type GL-893). The voltage can be run as low as 15.5 with tube life increased to 425% of normal.

The above are typical examples of what can be accomplished with the tungsten filament tubes. The results obtained have borne out the theoretical curves of Fig. 1 very well.

Thoriated filaments as used in the smaller tubes (such as GL-849, GL-810, GL-845, etc.) should be operated close (within 5%) of the rated voltage. This requirement is due to the rather sensitive balance which exists between the rate of diffusion of the thorium to the surface of the filament and its evaporation there. However, the thoriated filaments operate at a comparatively low temperature (about 1900 degrees K.) and are inherently of long life.

A process that is familiar to most but which is worth repeating here is that by which thoriated filaments which have gone low-emission (due to a momentary overload or to operation at improper voltage) can often be reactivated. This is done by flashing the filament with 120% of normal voltage for about 1 minute followed by 10 minutes at normal voltage (no grid or plate voltage applied during these periods).

It is always preferable to avoid intermittent operation of any filament. With tubes of 250 watt Plate Dissipation Rating or higher it is recommended that filaments be

turned off for standby periods of more than 2 hours. For standby periods of less than 2 hours, the filaments can be reduced to 80% of normal voltage. With tubes of less than 250 watt rating the filament voltage should be removed for standby periods of more than 15 minutes. For standby periods of less than 5 minutes there should be no reduction from normal voltage. For standby periods of over 5 minutes the filament voltage can be reduced to 80% of normal if desired.

Coated cathodes, as used in most mercury vapor rectifier tubes, must also be operated at the rated voltage (within 5%). During short standby periods the voltage should be held to its rated value. With these tubes it is imperative that the filament be allowed to come up to operating temperature before plate voltage is applied. With the filamentary type of cathode (as used in GL-857B, GL-869B, etc.) it is advisable, when running high average currents, to investigate the use of quadrature filament excitation. With this type of operation the filament voltage is going through zero at the time of peak plate current and both halves of the filament tend to be equally utilized. Lacking the facilities for quadrature operation, the next best thing is to reverse the phase of the a-c feed to the filament transformers about once per week (a simple reversing switch can be conveniently used for this).

It is hoped that some of the comments made above may be helpful in extending the life of some of the hard-to-get

(Continued on Page Ten)

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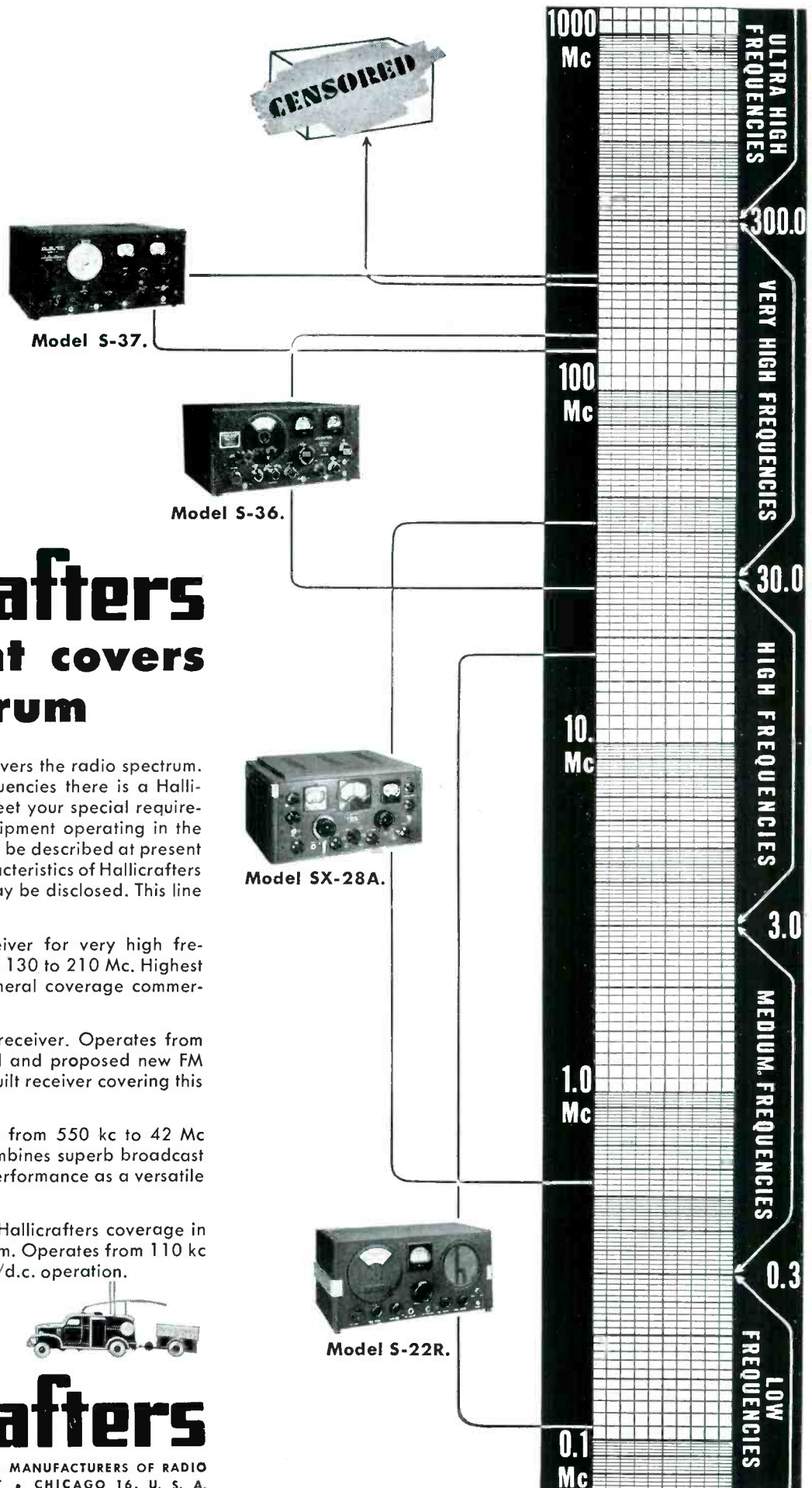
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# Whitney M. Baston

## NBC Technical Training Director

**W**HITNEY MOUNTFORT BASTON was born at North Yarmouth, Maine, on June 11, 1906. Following high school, he attended the Westbrook (Me.) Seminary for a year, and then entered the University of Maine. Baston majored in communications, and received his BS degree in 1929.

Upon graduation, he joined the NBC Engineering Department at 711 Fifth Avenue, New York. As a member of the Student Engineering Course, he was familiarized with all phases of broadcast engineering, from development to operations and maintenance. At the conclusion of his training period, he became a Studio Engineer until NBC moved its main office to Radio City in November, 1933, when he assumed the position of Transmission Engineer. A few years later, when Chief Transmission Engineer F. A. Wankel was appointed to head up NBC's Television Engineering section, Baston became the Chief Transmission Engineer; he held this post until January 16, 1945, when he was appointed by V. P. and Chief Engineer O. B. Hanson to fill the newly created position of Technical Training Director.



This newly created Engineering Staff position is unique in broadcasting, and we therefore quote in full the duties and responsibilities of the T. T. D.—

### GENERAL

The Technical Training Director will report to the Eastern Division Engineer. He will coordinate his work closely with that of the Personnel Training Director. He will provide material to guide technical training in all offices of the Engineering Department, but will be primarily concerned with the training of New York Operating personnel. The following functions will be applied in the New York Office, and information based upon their practical application will be supplied through the proper channels to all Division Engineers and Engineers-In-Charge for their guidance and use.

### Functions

1. Responsible for the indoctrination and training of all engineering apprentices in New York.
2. Responsible for the indoctrination and training of all new members of the New York Operating Staff.
3. Responsible for the indoctrination of all New York Engineering Department Employees.
4. Organizes and supervises general technical training in

New York. Data shall be kept on file of all appropriate courses of instruction available to NBC engineers and such information shall be posted. Makes investigation of training needs and recommends inauguration of classroom lectures in New York. Shall encourage engineers to enroll in suitable courses of instruction. Shall encourage enrollment in IRE, AIEE, SMPE, etc.

5. Trains supervisory staff, particularly in job relations, job instruction, and job methods, with the assistance of such organizations as TWI, and follows up on this training.
6. Checks the causes of errors and failures, and if necessary, recommends new operating procedures or changes in existing procedures.
7. Assists in the interviewing of new technical employees and maintains a file of good engineering prospects whenever possible.
8. Revises and re-edits NBC Engineering Training Manual (now under compilation) as frequently as necessary and arranges for distribution to all new department members.
9. Establishes and maintains an Employee Merit Rating Sheet for each technical employee in the New York Operating Group. This rating would be revised periodically (at least every sixth months), and the rating would be a determining factor in job promotion. At least three men, preferably supervisions, familiar with the work of each man would be required for each rating. Ratings of the personnel would be confidential, but individuals would be advised of their personal rating.
10. Compiles an Operating Manual containing all existing engineering policies and operating practices. This would be revised as necessary, and the Staff Engineer supplied with copies for inclusion in the National Operations Manual if pertinent.
11. Devises means of keeping high morale in group, encourages healthy, competitive spirit among groups. Recommends the publicizing of commendable ideas and their originators to the Division Engineer. Encourages the writing of technical papers and articles for publication. Promotes the Department and its members through "Chimes," "NBC Transmitter," and other house publications.
12. Responsible for technical guests who inspect NBC Technical Facilities. Arranges for most suitable engineers to handle guests, so that the best impression of NBC is created.
13. Provides and maintains a supply of magazines and technical books for the use of engineers not on duty.
14. Supplies technical information to the Guest Relations Department for use by Guides on NBC Tours. "Samples" tours occasionally to check and correct descriptions by Guides.
15. Arranges for general technical instruction of personnel of other departments when required, particularly, when new technical equipment is installed for their use.
16. Checks on the application of safety rules and regulations, and arranges for periodic lectures, demonstrations, and participation groups (such as groups in artificial respiration).

Baston's hobbies include, hunting, fishing, amateur photography, and woodworking. During his last three years at high school and the year at Westbrook Seminary, he was active in amateur radio, operating Amateur Station W1MS, Maine. At the University of Maine, he was a member of the Beta Kappa social fraternity, the student senate, and the rifle team.

# Negative Temperature Coefficient Resistors

THE Western Electric Company has added the thermistor to its long list of electronic and communications equipment now being manufactured for the Armed Forces. Like many other products that have come of age during this war, thermistors will have a vast number of peacetime applications in the electronic world of tomorrow.

The thermistor was designed by Bell Telephone Laboratories and is a small circuit element made of a mixture of metallic oxides which are pressed into discs, extruded into rods, or formed into tiny beads. These metallic oxides are members of a class of materials known as semi-conductors, which are characterized by high negative temperature coefficients of resistance. In other words the electrical resistance of the semi-conductor decreases rapidly as its temperature rises and conversely the resistance increases as its temperature falls. Temperature coefficients of resistance as great as 5% per degree centigrade are available. Although some knowledge of the behavior of semi-conductors dates back to the time of Faraday, they were long neglected, and only in recent years have the Laboratories, after intensive study, succeeded in stabilizing their characteristics and assuring indefinitely long life.

Thermistors and their special characteristics may be used in electrical circuits whenever temperature changes can be produced. There are three basic ways of varying the temperature; externally, directly, and indirectly. If the ambient temperature rises, the resistance falls accordingly. If a current is passed through a thermistor, heat is produced internally, the temperature rises and the resistance lowers. If a small coil of wire is placed very close around the thermistor and a current is passed through it, heat is produced by the coil which in turn warms the thermistor and lowers its resistance. The unit is then said to be indirectly heated. Thus by suitable electrical connections, changes in the thermistor resistance may be used for measurement or for control of ambient or circuit conditions as desired.

One of the older types of thermistors, the 1C, which may be known to some electronic engineers, will typify the operation of the 30 to 40 types now in manufacture. This is a directly-heated type of thermistor and consists of a minute bead of oxides suspended on fine wires and enclosed in a nitrogen-filled glass bulb with two wire terminals. This assembly is further encased in an insulating tube with metal contacts on the ends, much like a fuse housing. The overall length of the completed unit is approximately 1-5/16 inches, and the outside diameter is about 1/4 inch.

A 1C thermistor, at room temperature, has a resistance of approximately 50,000 ohms. As current flows through the oxide bead, the unit is heated and its resistance decreases. To demonstrate the extent of the decrease brought about by the resistance versus power characteristics of the unit, let us raise the power input to 18 milliwatts. At this point the resistance of the unit will be approximately 18,000 ohms, showing a decrease of approximately 32,000 ohms. When 100 milliwatts is applied, the resistance will be approximately 500 ohms.

The thermistor will trace and retrace the characteristics here indicated without appreciable deviation over an indefinitely long life. Laboratory tests have indicated that the thermistor's characteristics are stable and substantially

unchanged after more than a half-million heating cycles. Other thermistors have been studied and found to yield equally good life performance.

The thermal and electrical characteristics of externally, directly, and indirectly-heated thermistors suggest a vast number of possible circuit applications. New thermistors are continually being developed for use in amplifiers, oscillators, voltage regulators and volume limiters. In these devices they serve a variety of functions such as stabilization, temperature compensation or time delay.

When placed in the proper bridge circuits, thermistors may be used as flow meters, as vacuum gauges, or, in general, to measure physical quantities dependent upon the flow of thermal energy from a hot body. When used as resistance thermometers, precision greater than that obtainable with thermocouples is possible, or the same precision can be obtained with similar equipment. Temperature regulation can be accomplished with thermistors and relatively simple associated equipment. Frequently this results in lower production costs.

As a temperature compensator, the thermistor may be used to compensate for changes in resistance due to ambient temperature variations in circuits having a positive coefficient of resistance.

As variable resistance devices, thermistors have important use in automatic transmission-regulating networks.

Standard relays, subject to false operation caused by high voltage surges, have been converted into slow-acting devices by putting directly heated thermistors in series with their windings.

In keeping with its 75-year-old tradition of service to industry and the nation in both peace and war, Western Electric is making this announcement in an effort to assist the manufacturers of communications equipment who may wish to utilize the thermal and electric characteristics of thermistors in planning their post-war products. Although inquiries will be answered as promptly as time will permit, it should be remembered that the manufacturing facilities of Western Electric are engaged to capacity in supplying the requirements of the Armed Forces and, therefore, the thermistor is enlisted for the duration.

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## Transmitting Tubes

(Continued from Page Seven)

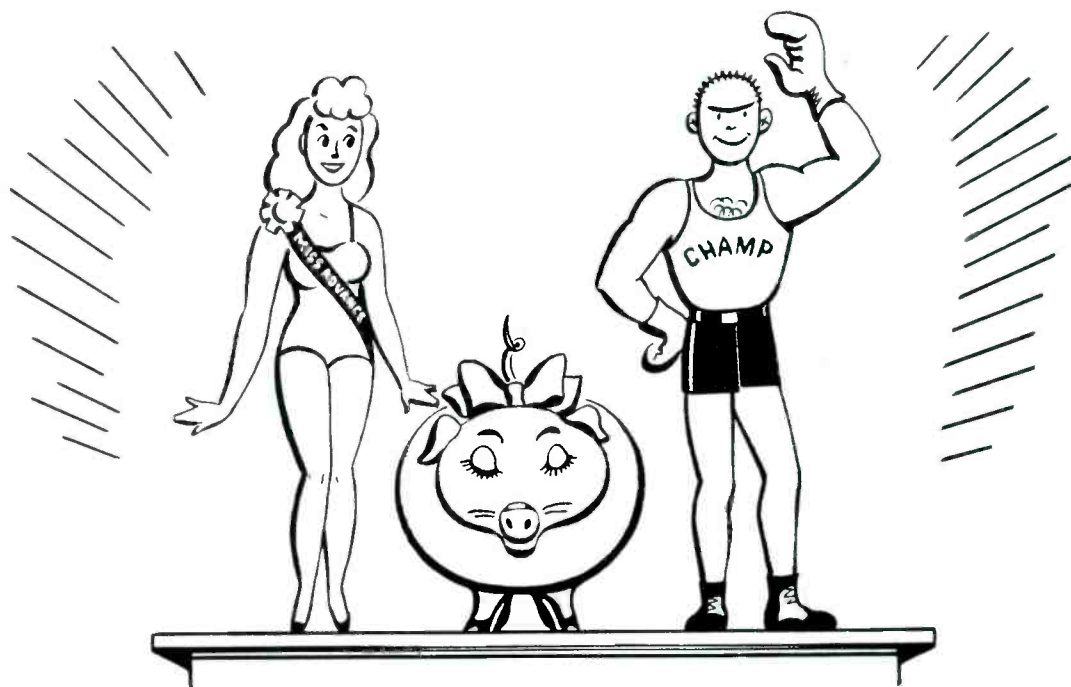
tubes. Although certain specific examples were given, it is evident that the indicated economies can be well applied to other applications using electronic tubes, especially if they are of the high-power types.

\* At Schenectady, N. Y.:

WGY	Standard Broadcast	50 KW
WGEO	International Broadcast	100 KW
WGEA	International Broadcast	50 KW
WGEX	International Broadcast	25 KW
WPGC	Police	5 KW

At Belmont, Calif.:

KGEX	International Broadcast	100 KW
KGEI	International Broadcast	50 KW



## The Winnah-h-hs...

There are all kinds of winners—some shapely, some tasty, some tough. But when the engineer in the recording studio wants to carry off a blue ribbon, he knows he must use Advance Recording Blanks. And like most other professional people, studio engineers are greedy about carrying off blue ribbons. That's why you find so many of them from coast-to-coast specifying Advance Blanks continuously.

There's no doubt about it: Advance makes better blanks. Their reproduction is as refreshing as the April Breeze, their tone clear and natural, their surface as smooth as a mirror. In fact, you probably could use them for mirrors, but that won't help you keep your job. Better stick to using them for recordings. They make the finest ones you've ever heard. Remember, they are flat and flawless and won't warp or crack with age. Order Advance Blanks now.

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—Photo by Joe Conn

## N. Y. - NBC NEWS

By George F. Anderson, Jr.

**H**ERE is that time of the month again and it will be a short column this month. Of course it could be filled up with items as to on what day we had a heavy California dew or some frozen stuff but instead it had better be filled with news and views of New York.

Seen in a movie news-reel recently were some shots of Radio City and some interior views of NBC. A shot of Master Control was included along with Recording and the Power Room.

In Control were spotted **Teddy Hahn** and **Andy Waddell**, in the Power Room was **Salvatore Salinitro**, and in the Recording Room was **John Morrissey**.

On February 21, **Charles Phelan** and **Mel Lewis** of Maintenance, **Henry Kenny** of Master Control, and your reporter were given a trip to the RCA Manufacturing plant in Camden, N. J.

We regret very much that a picture of **Hank Kenny** shaking hands with **Mr. Schwank**, a Vice-President of RCA is not available as it has not been received yet. The NBC contingent was shown thru several of the RCA plants and saw many things of interest, among them a model of an Image projection Television receiver, some RCA-Navy transmitters and some experiments in RF Induction heating.

Ah, me, the sunny Southland! Well, **Walter Mullaney** of Field is enjoying a month in Miami, and working very hard every Monday while the Firestone program is on the air. And **George Butler** is traveling to the Sunny South also, for a week in Palm Beach with **Lowell Thomas**. Now about all we need is for **Miss Mary Beebe** to entrain for Florida and the Field department will have the necessary Technical and secretarial personnel to maintain a Florida branch of the New York Field Department.

One nite recently on the 6:00 PM WEAJ news program a bit of humor was announced concerning one of NBC's well known engineers, **Harry Hiller** by name. The item concerned the cigarette shortage and told how Harry

(Continued on Page Thirteen)

## N. Y. - BLUE NOTES

By Gil McDonald

**W**HAT with Spring just around the corner, the main topic of conversation around the lounge these days is vacations. By now all have chosen their vacation periods and all that remains is to pick the spot. Looks like most of us will stay home again this year on account of.

**Pete Narkon** just got back from a month's leave of absence which he spent up in the north woods. He says he feels fine once again and has put on seven pounds. He really looks like a new guy, too.

**Al Bradley** spent a few weeks in the hospital getting that ornery gall bladder attended to and at this writing everything seems to be under control and he should be back with us soon.

**Bob Cooke** of Blue Maintenance working like a beaver these days trying to get the new power rack for the Ritz finished before the Paul Whiteman gang gets back from the coast. Says he's wiring up some new emergency power stuff for us.

Chief **G. Milne** and Staff Engineer **Bill Trevarthen** took a week's trip up-state visiting G. E. facilities and planning for the Blue's television inaugural on February 24.

Ask **Jack Norton** some time to explain the mysteries of a filament rheostat. Tsk tsk, Junior.

**Bert OLeary** is king of the lounge with all that free candy he gets on one of his shows. That's no fee—its only a free meal.

**Bill Simpson** spends a good deal of time down on the Jersey shore at his old home among his wood-working tools making furniture for his house and toys for Betsy. His work is beautiful and he can well be proud of it.

**Bob Massel** is still covering the activities of the 9th Army in Germany and Holland. Its maddening to sit in the 2A control room right next to the special events director talking to Bob over there and you can't even say, "Hello" because of censorship.

(Continued on Page Thirteen)

## Another Candidate for the Title of "Sweetheart of the Broadcast Engineer"

Another Candidate for the Title of "Sweetheart of the Broadcast Engineer"

Candidate Betty Jo "Cookie" Copeland, age 19, is now in her Junior year at the University of Texas; her home is Ft. Worth.

Photo by John Tassos, taken with Rolleiflex camera, Ziess F 3.5 lens, film speed 100, taken at F 16, in sunlight. The scene is the campus of the Ward-Belmont College, Nashville, Tenn. The date, February, 1943.

After winning many schoolastic beauty contests, Cookie happened across the path of our Johnny Tassos (now NBC Television Engineering) while he was an Aviation Cadet, U. S. Army, stationed at Nashville.

We understand thru our private sources that since Johnny came to Television, Cookie has decided to do her "Cookieing" under the Television Lights!



## NEW YORK — NBC

(Continued from Page Twelve)

was solving the problem, Harry was reading an article put out by one of the Government bureaus, entitled "How to Smoke Fish".

We understand that the gag originated one evening in the lounge when **Dudley Connolly** spotted Harry with said article and it apparently was told to **Don Hollenbeck** who gives the 6:00 PM news. Incidentally, Harry smokes a pipe.

**Clarence Westover** and **Henry Gabrielson** are now on display in Master Control where they will spend the next few months as vacation relief.

Along with the current cigarette shortage, pity the poor engineer (**Dorson Ullman**) who has a ten-a-week show for a cigarette sponsor and no cigarettes. Sorry, Dorson, but I just smoked my last one and was going to bum one from you.

**DID YOU DONATE A PINT OF BLOOD THIS MONTH?**

The entire New York NBC and ABC Engineering personnel were deeply shocked on Friday, March 2, to learn of the sudden death of Mrs. Max Jacobson, wife of the New York Field Department Supervisor.

In behalf of NABET we extend to Mr. Jacobson our deepest sympathies on his loss.

## NEW YORK BLUE

(Continued from Page Twelve)

Perhaps some of you old timers remember Willie Storrs (WJZ Transmitter) and formerly of the old static room at 326 Broadway in New York City. If so, here is a recently discovered picture of "Cannonball" when he was Chief Wireless Operator of the ocean greyhound "SS. Casper". The Casper plied between New York and Copenhagen and was manned by that famous skipper, Captain Hillbing, who first opened the Gowanus Canal to navigation in the historic side-wheeler "Banshee". As the picture indicates, "Cannonball" is preparing to go ashore after a strenuous voyage during the period of the Volstead Act.

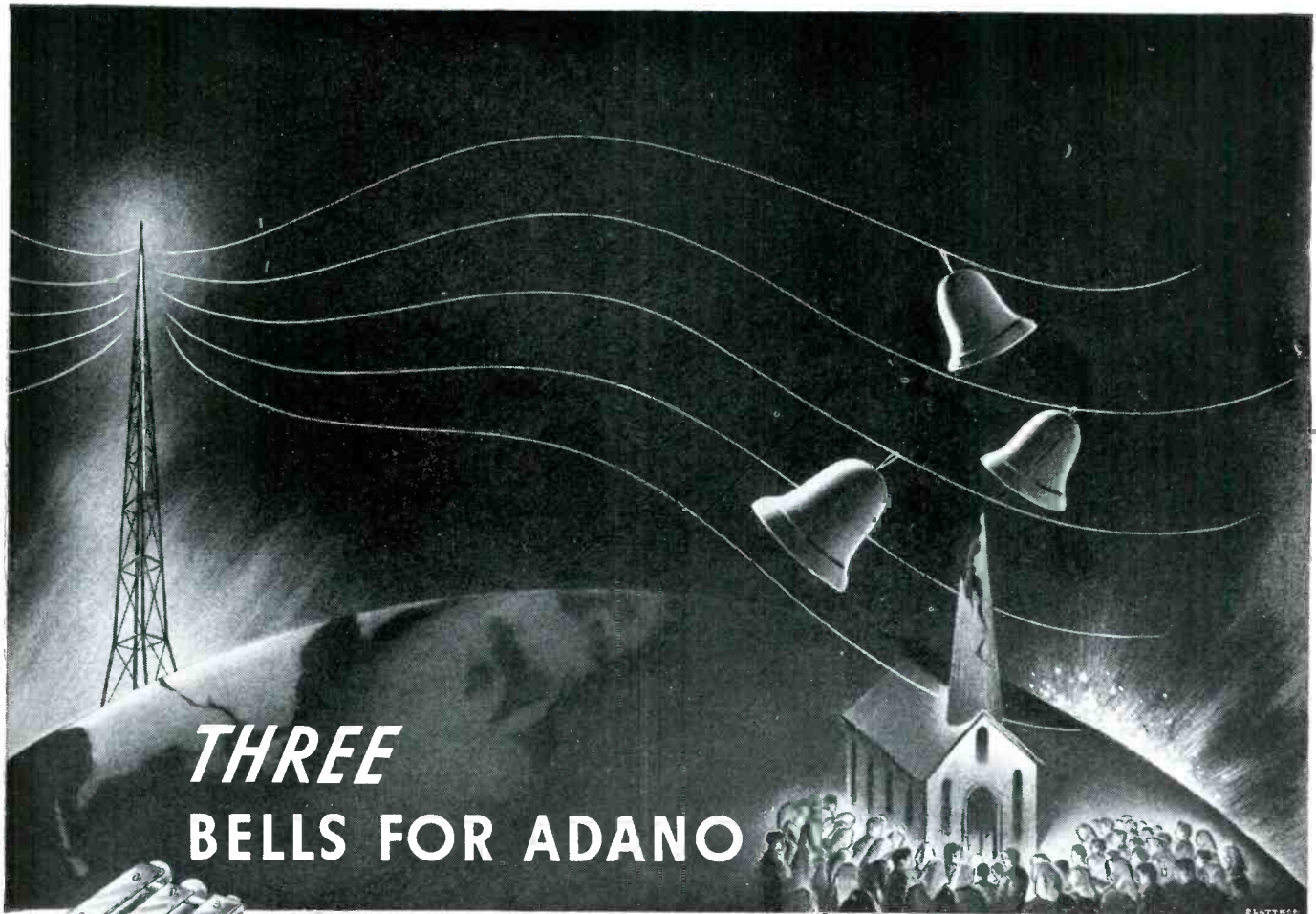
"Cannonball" would be very happy to hear from any of his old-time shipmates and friends.



No more news now, so I'll be seeing you.

The first 1945 general meeting of the Los Angeles Council, West Coast Electronic Manufacturers Association, was held in February at the Chapman Park Hotel. Howard Thomas (Packard, Bell Co.), incoming president of the council, wielded the gavel for his first meeting.

H. L. Hoffman (Hoffman Radio Corp.), retiring president, was added to the Board of Directors. The chairman of the meeting was James L. Fouch, president of the Universal Microphone Co., Inglewood. He is secretary-treasurer of the Los Angeles council and also treasurer of the state association.



## THREE BELLS FOR ADANO



Hundreds of Adanos, known by other names and scattered throughout the world, find daily consolation in bells the Axis hasn't been able to silence—the NBC chimes.

Every night and day of the year, America's best-known radio signal rings through friendly and enemy countries alike, carrying hope among the down-trodden . . . sounding a warning to this nation's enemies . . . echoing a welcome and familiar note to Americans fighting abroad.

An Italian prisoner now in the U. S. writes: "*When I think how the voice of NBC brings daily comfort to so many Italians suffering in the homeland under the German heel, I should like to shake your hand.*"

Long before Hitler marched into Po-

land, NBC began broadcasting in six languages over two powerful international short-wave transmitters beamed to various parts of the world. Countless hundreds abroad learned to rely on NBC for news and entertainment.

Pearl Harbor marked the beginning of increased, and ever-increasing cooperation between the Government and NBC. Its International Division became a hard-hitting front-line weapon in the field of psychological warfare.

\* \* \*

NBC's international broadcasts began as an experiment . . . just one of the many types of experiments NBC carries on constantly to maintain its leadership in radio. It is the results of these experiments . . . experiments in many fields . . . which help keep NBC out in front, help make NBC "*The Network Most People Listen to Most.*"

**National Broadcasting Company**  
America's No. 1 Network



A Service of Radio  
Corporation of America



# New Modulating Amp. at WOW

By F. A. Rudd

THE WOW transmitter has been sporting a new modulating amplifier since the later part of January.

Supervisor Tex Glanton, through noise measurements, proved to his satisfaction that the old D974+1 modulating amplifier was contributing considerable noise to the carrier. After several attempts to clear up the noise by replacement of tubes and resistors, he felt that a new amplifier of modern design might work better and at the same time draw less power from the mains.

The purchase of new equipment these war-time days is quite a chore and after consulting with the local Graybar outlet here, it was found that the purchase of a regular modulating amplifier was out of the question. Tex reasoned that if regular equipment was not available why not some good substitute; after all the WOW transmitter uses grid modulation and surely some amplifier could be used as a modulating amplifier.

With this reasoning in mind, he thumbed through the W. E. catalogue and came across an amplifier that looked like it might do the job, though it was not intended to be used as a "modulating" amplifier. According to the "specs," the amplifier apparently had enough output to do the job and the noise and distortion were well with-

in the range of good engineering practice. Western described the amplifier as a "monitor" amplifier to be used for driving loud speakers. Its output could be varied to match into any impedance from 1.75 ohms to 600 ohms with an output power of twelve watts. This would more than do the job as only about six watts is necessary to drive the transmitter to full modulation.

Inquiry was again made at our local Graybar outlet relative to this particular amplifier and it was found that the Kansas City office had one of the 124A amplifiers in stock. Tex ordered the amplifier through Chief Kotera and along in the later part of January, it arrived.

The whole transmitter crew was anxious to put it into operation to see if "the thing will work". Maybe a mistake was made in calculating its ability to do the job. "Maybe it won't do the job" was the general feeling.

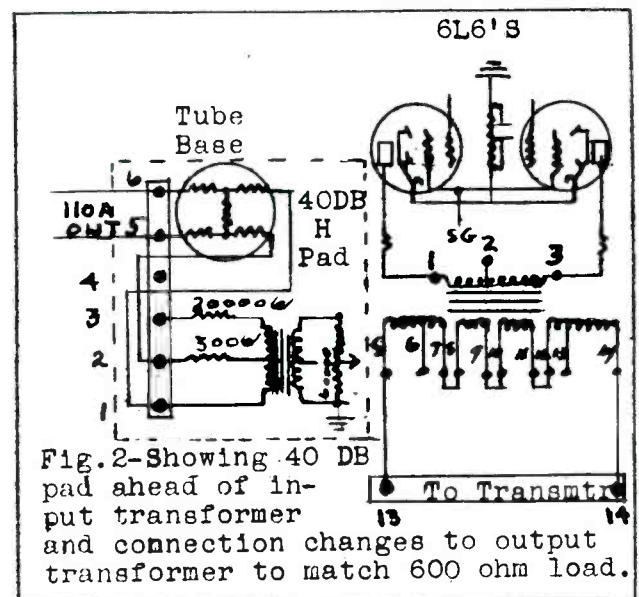
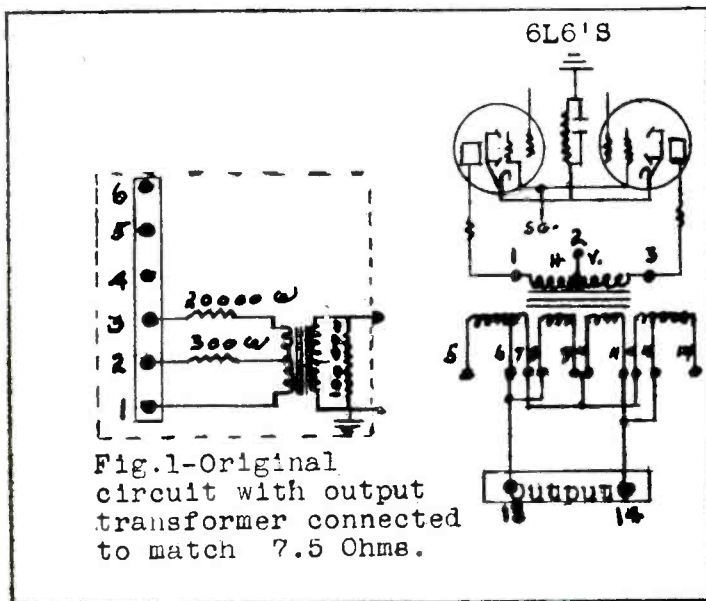
To make a long story short, it did do the job and beautifully too. The first night it was hooked up it was very unstable and feedback between transmitter and amplifier resulted to the extent that the overloads kicked out. It was realized at once that the unstable condition was due to too much gain. The 110A Amplifier feeding it was a high gain job and the 124A had a gain of about 60DB. It was only nat-

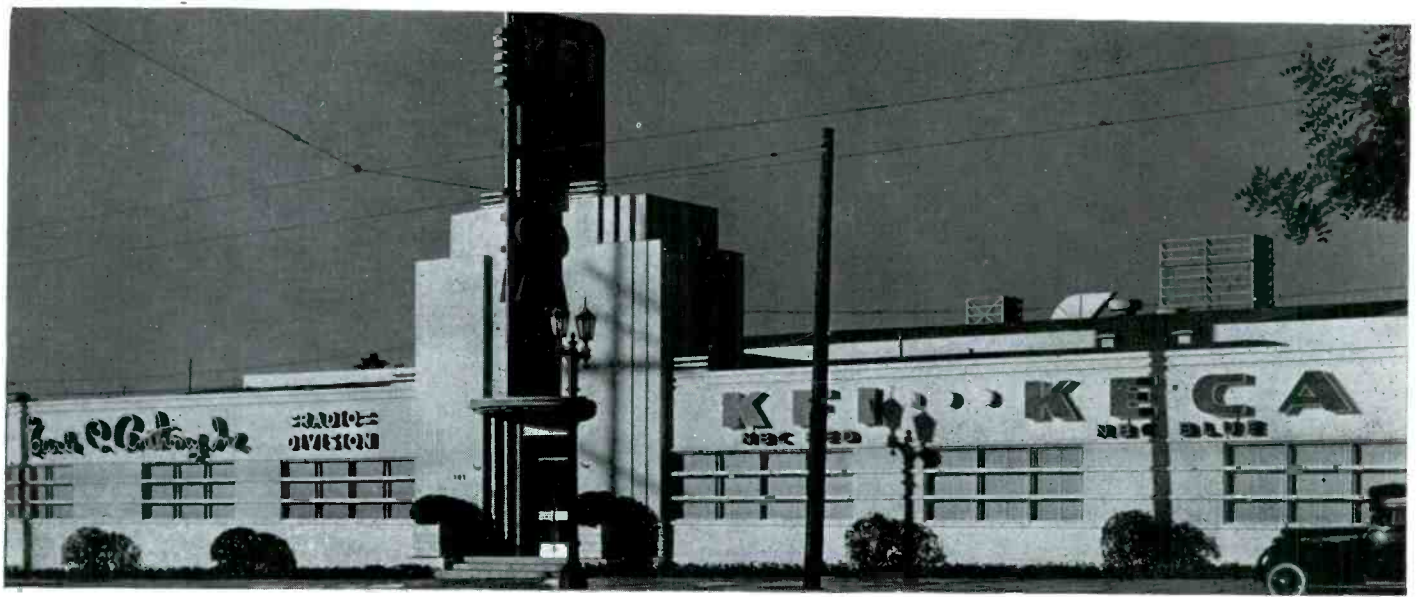
ural then, that oscillation would occur. An "H" pad between the output of the 110A amplifier and the input of the 124A solved the problem.

Commercially made pads were not available so it was decided to make the pads from materials at hand. Mark McGowan (TE) was assigned the job and came up with three swell pads mounted inside of tube bases so that they could be plugged in. He used No. 40 manganin wire wound on 1/2 watt 1 megohm resistors. The total cost of each pad was approximately 70 cents. The elements of each pad were calibrated with a Northrup-Leeds wheatstone bridge having a "zero" center scale galvanometer. Bees wax was poured in the tube bases to keep out moisture. Pads of 20, 30, and 40DB 500/500 Ohm were made.

After a little trial the 40DB pad was found to be the best for the situation here. The original equipment had the secondary of the input transformer feeding directly into the grid of the input tube with a 100,000 ohm resistor from grid to ground. In adapting the amplifier to the purpose here the connections to the primary of the input transformer were removed and the pad inserted between them and the primary winding. The 100,000 ohm resistor across the secondary was removed and

(Continued on Page Sixteen)





# LOS ANGELES NEWS

By  
E. F. Wilmshurst

**T**HE Employees Association of KFI, after no little prodding by the girls of the staff, finally shook loose from the cares of work and scheduled a Post-St. Valentines Party. It was the first shindig since our Fund Raising Auction of last November.

The party was a distinct success . . . maybe it was our best . . . I dunno for sure as my reporting instincts beecame a bit befogged from midnight on! The party was held in the spacious **Moore** diggings and there were over one hundred and fifty guests. The Association took care of the expenses other than the BYOL rule, which was well taken care of by the guests. It was supposed to be a costume-of ones-own-making party, but in the main the girls didn't go for it, preferring to be charming in dresses and slacks. Not so us rowdys . . . There was a badly beaten up, eye-blackened character who had himself billed as a News Analyst (it turned out to be **Perry** of Sales), and **Charles Lampkin** (supvsr.) took first prize for his female "impersonation". He was rigged as a blonde with all the trimmings including nail polish, rolled hose, blonde wig and fairly convincing superstructure . . . a sorta warmed over Stella Dallas picture. Others costumed were **Dick Bull** as a French Apache, **Lyman Packard** in rubber black mask, **Wilmshurst** as a swarthy pirate in earrings and eyebrows.

It was a very happy party which swirled in about five groups . . . sing-song in the kitchen, a poker game in Ray's workroom, women's forum on babies around the fireplace, a television group in the living room which competed with **Rosalie Grainer** on the other

side of the room, who was putting Rum and Coco Cola thru its paces for the fiftieth time. I have a vague memory of a buffet supper after midnight. A lot of pictures were taken during the evening, undoubtedly before midnight, as everyone looked quite composed and the ladies all looked so purty (includin' my wife). All in all, it was a very swell party and we are indeed grateful to our hostess, **Barbara Moore** for letting us kick her house around with a party of that size.

**Bill Erickson** is back in town, having left London a few weeks ago and flown back via Africa and Sud America. He is living at 3811 Clayton St. (Ph-OL 2365), Los Angeles. As I spoke to him this morning (3-1-45) his plans weren't too difinite. He may muster out of OWI but doesn't know for sure.

**Charles Bruere** never did reach that remote job on Mount Wilson. It seems that he awoke with a pain in his tummy and it is probably as well that he didn't elect to tackle the trip to the mountains, for when his doctor took a look at him, he was rushed to the hospital and deprived of his appendix. At this writing he is up and around but isn't doing any half-gainers.

Our recording department has found it useful to have all of our recording tables stroboscoped for immediate detection of speed variation. The milling job, and incidentally a very excellent one, was done by the W. C. Robinette Company of Pasadena. Our studio tables were done on a milling machine with a dividing head. I think it was 432 black and white for 60 cycle. Our 1000 square miles city sits in a county that is scattered throughout with both

Edison 50 cycle current and Municipal 60 cycle power. It was advisable therefore to mill our remote recording tables with both 50 and 60 cycle stroboscopic markings, as we are always running into the unexpected on hurried remotes.

## WOW MOD. AMP.

(Continued from Page Fifteen)

two 60,000 ohm resistors were substituted with the lead of the first tube going to the midpoint of these two resistors. This lowered the input to the first tube still further and gave good input balance without sacrificing the high frequencies.

The pad allowed better control over the program level and the master gain control on the deck console run back much further than usual. This allowed a much lower level to be run into the 110A amplifier which still had enough output to drive the 124A to full modulation capabilities. The present input to the modulating amplifier, after going through the 40DB pad, is -42DB while it was necessary to run approx. plus 4DB into the old D97441 to get the same results.

Measurements taken several times since the installation shows an average overall distortion from amplifier input to transmitter output, of only 4% from 50 to 7500 cycles. The noise reduction was about 5DB.

Figure one shows original input connections to 124A while Figure two shows changes made to adapt amplifier to conditions here at WOW.



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# from HOLLYWOOD

By Norman Dewes

**T**HIS MONTH . . . the column is going to get caught up on its HOMEWORK . . . this will be Clearing the Hook for the Book month . . . in which we will include those items which space hasn't permitted printing since the first of the year and maybe even LONGER ago than THAT . . . you see,

(MUSIC)

There are ALWAYS things left to talk about,  
When you've reached page eight or nine . . .  
And know that you'd better not write anymore  
Or you'll NEVER make that deadline . . .

OR, maybe the Editor is bored by then,  
And will toss the whole thing out . . .  
This hasn't happened as YET, to US,  
But it WILL some day, no doubt . . .

So stick it . . . back on the Hook, my boy,  
And save it 'till next month . . .  
It MAY improve with AGE by then,  
GEE . . . ain't WE the oneth!

(MUSIC UP)

(APPLAUSE)

THAT . . . is what is known as Blank Verse . . . it shoulda been left BLAND, and it couldn't be any VERSE . . . anyhow, that's the Spector we Associate Editors always feel breathink down our necks . . . ESPECIALLY after reading the stuff over the next morning . . . we HATE ourselves then . . . but it's TOO LATE to retrieve it from the mailplane, so we just gulp down a tall toddy of . . . tomahto jooce and toddle off to woik. YOICKS! . . . or as Eilers sez, AW—!

AND NOW . . . to our story. LAST month we left the sleepy little village of Hollywood . . . where everybody is usually in BED . . . it must be the semi-tropical climate . . . and engineers sleep more than ANYBODY, statistics are showing (pull yer SKIRT down, dearie) except maybe ANNOUNCERS, who simply SLEEP, period. ANYHOW, we left Hlyd for Balboa, and while whling away the lazy hours, in the sun on the sand by the sea . . . a beautiful maiden came strolling by, and winked her eye at we . . . we mean, it seemed a good place to write the column from, so we DID . . . and Mable (tha WIFE, we would have you believe . . .) stood behind everything we said. INCIDENTLY, if any of you guys back East or up and down the Coast are sailing enthusiasts and own a National One-Design sloop, we hereby challenge you to a RACE . . . bring yer own boat . . . OR . . . if you get out here this summer, look us up at the Newport Harbor Yacht Club and we will take you sailing . . . between July 9th and 29th, incl. which is when our vacation is, or most any weekend . . . can put you up for the night, too. Let's see, now . . . what's been left dangling . . . and also WHO . . .

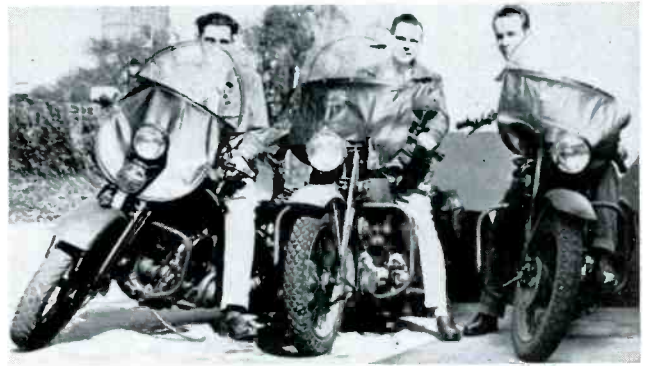
AROUND THE BUILDING . . . "Figgins Diggins" has been done over and given a nice new coat of paint to cover the scars of the barbecue . . . (the boys had a

bit of a HOUSEWARMING in the shop recently, to welcome back Pre-war Maintenance Supervisor Frank Figgins, and DARN NEAR burnt the joint down, as reported last issue) the new coloring, beautiful NBC pistachio green, looks nice enough to lick off the walls . . . ONE of our fellows TRIED it one night when . . . anyway, he now goes around speaking in KEM tones . . . In Studio "A" the other day one of our announcers was making an enthusiastic entrance thru the stage curtains for his pre-broadcast audience warm-up and IT SEEMS the engineer had placed one of the cast mikes JUST OUTSIDE where the curtains part . . . so they MEET, but SUDDENLY . . . and it bashes him in the bazoo, but beautifully . . . strictly an ON-MIKE pickup. Les Culley, Recording Dep't Head for NBC walking along the corridor with an oblong package in which he sez are some NEW TYPE records . . . rectangular ones . . . sez hes tired of watching the old round ones go 'round, and these STAND STILL while the arm and needle goes back and FORTH . . . it sounds all right to US. Out in the Main Lobby under the big clock there are several speakers thru which special stuff can be piped for benefit of the public, and the BRAINS, led by Johnny Morris before he went back into Studio, have rigged up an INTERNAL MACHINE which rings the NBC chimes over them every quarter hour . . . a NICE effect . . . Radio City's Sinatras Dick Haymes and Andy Russell being waylaid at Artists' Entrance by hobbysockers . . . who squeal and scurry around wildeyedly hoping for a glimpse of their FLAMES . . . Haymes Dames and Russell Sprouts, some of them call themselves . . . and then there's Bing . . . "GEE, there's Bing!" and the rush is REALLY on. This Really Happened Dep't . . . some time ago, but is STILL good for a laff in lounge . . . IT SEEMS one of the Maintenance fellows went around after hours one nite testing the SOS system in the studios (emergency alarum keys on the boards in the booths, which you turn in times of trouble and then pick up the phone, which automatically touches off loud gongs and bells and flashes lights all over the building and you are connected with everybody ALLATONCE) . . . and the NEXT DAY everytime a studio would come in use and the engineer picked up his phone to check in to MCD, it would set thing off like a six alarm fire again . . . it happened EIGHT times before the boys figured out what was happening and decided they weren't being GANGED UP on, snamf, snamf, snamf . . .

MOTORCYCLE . . . stories have been promised for several issues, and we have been waiting to catch at least THREE of them together at once for a pic and the day we did there was only our folding Brownie available so the pic isn't too professional, but maybe you can distinguish Recording Engineers Hal Lea, Jim Thornbury and Howie Cooley, leaning from left to right . . . Hal is sorta in the lee of his windshield, and Jim's eyes aren't REALLY that dark, but the MOTORS look good, huh . . . we bought the book "How to Make Good Pictures" too, but have only had time to read the first two chapters . . . the HEAD floating in space above the third motor goes

with the legs down below, and is just **Howie** making **SURE** he gets in the picture also . . . the **GO-BANGS** are all released Army jobs and have been specially equipped with a two-speed drive, 78 and 33-1/3 . . . they're also fixed to cut inside out **OR** outside in, depending on which kind of a corner you're going around . . . the little square windows below the windshields were originally for machine guns to poke thru, but the boys use them to look thru when they don't care much about **WHERE** they are going, which is **MOSTLY** let us tell you about the time **Howie** had just gotten **HIS** and ran for a whole **WEEK** with the spark retarded, wondering why things got so hot . . . and then had trouble getting any power out of the thing, so somebody went along with him on a test flight (and we **DO** mean **FLIGHT**) and discovered that **Howie's** pants leg was blowing back over the carburetor intake, choking off the air . . . and then **SOMEBODY** tells him that it would be **GOOD PRACTICE** to ride up Mulholland Drive in the Hollywood Hills, which is plenty steep and full of curves, so **OFF** he goes . . . **NATCHERLY** . . . he is breezing along, taking the curves in grand style and enjoying the scenery, which is something you should **NEVER** do on a motorcycle, among **OTHER** things, when along comes a **DOUBLE** curve which surprises **Howie** and he misses the changeover and Part Two **ENTIRELY**, finding himself sprawling in the gravel and seeing the motor go kiting up the wash **WITHOUT** him . . . starts to pull himself **TOGETHER** when a deep bass voice inquires "Ya all right, Bud?" and is helped to his feet by a very **ROBUST** lady **WAC**. They catch the motor, which has come to rest in the ditch and **SHE** lifts it out and sets it on its wheels. Then, when it won't start, she gets out the tools and cleans out the dirt, etc. **Howie** finally makes it back to the Studio, missing on one cylinder **AND** in the **PANTS** and **STILL** wondering just **WHAT** **HAPPENED**. Next day, goes out and buys a book, "How to Ride a Motorcycle". Other followers of the far-from-gentle art of **STAYING ON** are **Johnny Morris** and **Craig Pickett**, Operations Super, who originally owned **Howie's** but sold it because in spite of **EVERYTHING** he was too short for it . . . feet wouldn't reach the ground and it was **OK** as long as he **KEPT GOING** but everytime he pulled up to a stop the thing would fall over, which got to be **ANNOYING**, sez **Pick**. **Johnnie Morris** still has his and rides it when his gas gets low . . . and **SOMETIMES** when he is out of condition and **SHOULDN'T** . . . always drives with the gas turned on full, his theory being that things **CHANGE** so fast that you don't have **TIME** to hit anything. Will try to get them altogether and hire a professional photograbber to take a better pic for next issue, at which time will print the latest **CASULTY** lists too . . .

**BLUEVENTS** . . . One of the Blue's of the ABC's top shows, "Breakfast in Hollywood" and formerly called "Breakfast at Sardis" is moving out of its past four years' spot in Sardis Restaurant, to a **VERY** convenient location right across the street from Radio City and none other than the "Tropics" . . . **Tom Breneman** and the show have purchased the place and have enlarged and re-decorated it and re-named it "Breneman's Hollywood" . . . they plan to operate it as a nitery in the evenings as before, but serve **GOOD** breakfasts along with the usual Breneman chatter in the ayems . . . Tom will act as host a la Slapsie Maxie's etc. and the best feature of all is the monitoring



Left to right: Hal Lea, Jim Thornbury and Howie Cooley.

booth they built **RIGHT** next to the **BAR** . . . nobody knows about it, but **Ragsdale** and **Eilers** have incorporated in it a **SECRET PANEL** which you knock on and it opens and a hand hands thru a scotch and soda . . . a nice feature. The show gang are even campaigning for a cross-walk 'cross Vine Street, which has been **BADLY** needed for some time . . . then when they start serving a good merchants' lunch, our happiness will be complete. While we're on the subject, **John Masterson**, producer of "Breakfast in Hollywood" tells very amusingly about a guy he once knew who was of an experimental nature and had a theory that a parachute should operate in a **HORIZONTAL** plane as well as in a vertical one (geometric, not **AIR**) so to prove it he straps one on, gets on a motorcycle. (**Howie**, **PLEASE** don't try this . . .) gets the thing going about 90 miles per hour and pulls the rip cord . . . the **RESULTS** were simply amazing. The Blue Boys have been having a bit of a **TIME** getting up lately, since the 4:45 ayem opening of the Blue circuits for Pacific Press Wireless news broadcasts from Guam and the Philippines, and the NBC fellows in **MCD** and **Maintenance** aren't **HAPPY** about it either . . . it's awfully easy to find yourself **SOUND ASLEEP** right in the middle of something along about 9:45, after dragging in so early . . . **Denny** has been having **Powell** trouble again . . . the Draft Board having arranged for a **Powell** movement for **Hal Powell** . . . the lad was due to be collected the 23rd, but a stay has been arranged so that he can make the Red Cross tour with the "Breakfast in Hlyd" gang . . . they will hit Denver, Omaha, Kansas City and St. Louis and then return to Hlyd to open in the new joint the 26th of March . . . we've **JUST** learned too that young **Hal** has or rather was **MARRIED** in the middle of last February and has kept it a **SECRET** . . . the bride is lovely **Kathryn Baker** of Dallas, Texas, and the two are sharing an apartment not far from Radio City . . . belated congrats, **OM**. Speaking of **HOUSING**, the Blue's **NEW** one **Ed Contour** just out from **NY** is **STILL LOOKING** as we go to press . . . **HIS** wife and **VERY NEW** young 'n are still back in **NY** while **Ed** searches for a nest . . . the **Contour** kid was just one week old when **Ed** left for the Coast, which must have been a little hard to leave . . . believe we mentioned last issue that **Ed** is known as "The Profile," 'cause he's got a **BEAUT** . . . when scanning him take the Great Circle route however, 'cause his goes **WAY BACK** . . . we used to know of something that was **VERY GOOD** for growing a thatch but can't remember **WHAT** it was, now . . . **Carl Lorenzzzzzz** (we caught him while snozzzzzzing)

(Continued on Page Thirty-one)

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# Doings in

*By . . .*

**W**ELL, here we are back in print again after missing a month. The old flu germ was floating around the control room and releasing a full quota of its deadly bombs. Among those on the casualty list was your Denver reporter at the time when the deadline came up for last month's issue of the journal.

Flash! A special Stork Bulletin from transmitter engineer, **George Anderson!** Kermit Oliver Anderson, weight 7½ pounds, has come to be a permanent house guest of Mr. and Mrs. George Anderson and sons David and Allan. He arrived on the Stork Streamliner, February 15, 1945. (Note: his initials—KOA. It has been suggested to **Gene Carpenter**, our only engineer whose name begins with "C," that now it is up to him to produce a girl and name it Natalie Beverly Carpenter—NBC.)

We give orchids to **Garland Dutton** and **Joe Turre** of the transmitter gang for replacing a relay coil in 56 seconds. That chalks up a pretty good record for locating and replacing defective parts. In the meantime Dutt is overhauling the speaker system at the transmitter; it seems that after a session as studio engineer for summer relief he doesn't like the quality of the transmitter speaker.

**Russell Thompson (TE)** is deep in the mysteries of redecorating his breakfast nook, including the table and chairs. It seems one has to accomplish this and still allow the family to sit down while eating breakfast; also there was the problem of keeping the food off the floor while the table was being painted. So now he is counting the days by painting one chair at a time with an extra table thrown in for the count.

With a look toward that good day when the war will be over, and all the hams will be allowed again to go on the air waves, **Carl Nesbitt** is busy these days rebuilding his ham rig and **Kenny Raymond** is building a limiter amplifier for his rig.

One of the high points of the month, the Jack Benny show has come and gone. **Joe Finch**, on the pick-up for their arrival in Denver, set up on track 1, for a train due in at 12:45. He paced the depot a few hours and at about 4 o'clock discovered that the Benny

# Denver

## Geo. Pogue

group was arriving at quarter of five on track six. After a hurried conference with the phone company his gear was moved over and the loops extended to the place where the company was to debark from the train. All this, he says, for a five minute broadcast! **Aubrey Blake** was then busy all week on PA jobs with the Benny company as they appeared at the various army camps and hospitals in and around Denver entertaining service men. We all enjoyed meeting **George Foster** (FE) from Hollywood who was the knob twister on Benny's air show from Fitzsimmons General Hospital's post theatre. He and Aubrey spent the Saturday before setting up KOA's portable control booth which had been in storage for seven years. Parts of it were missing, but thanks to the stage crew at Fitzsimmons, the missing parts were built and installed in time for the Sunday broadcast.

The Denver chapter of NABET had an informal get-together with the engineering staff of KLZ, Columbia outlet at Denver, at the home of Milt Hall. A good time was had by all until the wee hours. NABET was explained to them and questions were answered. Poker followed the discussion and was climaxed by the excellent lunch served by Mrs. Hall.

One of the high points in every engineers life is when the vacation schedule comes out. As Denver is in a critical War Labor Area, the engineering staff will go on a 48-hour week as soon as the vacations begins. This will allow two men to be on vacation at the same time without hiring a summer relief man, so most all of the gang at the studio are getting vacations in the summer for the first time. **Douglas "Pinkie" Kahle**, however, has his figured out so that he can wind up the schedule in October concurrent with the deer season. We are all wondering what new and ingenious device Pinkie will conjure up this fall to lure the wily buck.

As we say "Adios," we don't want to forget to mention that **Glen Glasscock**, USN, has been made a full Commander. Congrats Glen from the Denver Gang! That's all there is; there ain't no more!

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**CRYSTALS FOR THE CRITICAL**

# OMAHA NEWS . . . By Bob Rudd

## MEET THE BOYS

**G**LENN FLYNN was born in Mineola, Iowa, March 22, 1912. In 1914 the Flynn family moved to Council Bluffs, Iowa, a flourishing city of 40,000 people directly across the river from Omaha.

At the age of ten or twelve Glenn started "fooling around" with wires and things electrical. It was the thing that boys were doing in those days just as boys of today are doing in those days just as boys of today are interested in model planes.

Glenn made the usual run of crystal sets wound on the proverbial oatmeal box. Some worked and some didn't. His tools were the crudest and a screw driver and a pair of "pincers," as they were called, was about all he had. He struggled with his simple tools as any kid does who is not blessed with pocket money to buy better ones.

The wire for these explorations was obtained by gathering bits here and there and then there was always the door bell buzzer that could be taken apart and the wire removed from the coil. As he looks back on those early days Glenn wonders how he ever did manage to find the things he needed. He struggled along for several years in this fashion when one day in his searching about for material, he found, of all things, an ARRL handbook. Whence it came and how it came to be in a spot where a curious boy would find it, has never been learned.



Studio Supr. Glenn Flynn

The finding of this store house of knowledge helped immensely. It presented many unheard of circuits which dealt with vacuum tubes and their associated equipment. Still having a lot to learn and like most kids that picked their radio out bit by bit, he built and rebuilt a set several times until tired of it. Then he would build another. They were simple sets in those days ('27 or '28). Three tube sets using 199's with "detector and two step" was a deluxe super duper that really brought in the signals. He learned the code through listening and picked it out the hard way without outside help.

Glenn wasn't able to spend all of his time with his radio pursuits because there was school to attend five days a week then many times Saturday was a day when there was more important things to be done around the house. Glenn attended grade and high school in Council Bluffs and graduated from Thomas Jefferson High in 1930. He took a four year course in Journalism and printing. After he got out of high school, he worked a short time at the printing trade but the radio bug had bitten him so hard that it was impossible to think of anything else. He didn't desire to take up a trade that didn't include radio.

After leaving his printing job, he worked at all sorts of jobs. This provided enough money to buy some of those sorely needed books to get that coveted ham ticket. Two years went by before the time came. In 1932 Glenn took the exam. With the usual doubts in mind, he waited until one day an official looking envelope came to him through the mail. In it were his station and operators license with the call of W9MHV. He had passed. Oh, thrill of thrills. What ham among us does not remember this event in his own life?

It wasn't long after receiving his license that he had a transmitter on the air. It was a simple affair but it worked fine. His favorite band for a number of years was "dear old eighty meters" but just a couple of years prior to the war, he dropped down to 40 and 20 meters.

In the spring of 1933 Glenn had progressed up the technical ladder to the point where he felt that a Telephone 1st was within his reach. He took the tests in Omaha and after the usual waiting period, was issued his first commercial license. It's interesting to note that ten years later he obtained a telegraph second license as he says—"just for the fun of it".

The year 1934 is a year Glenn well remembers for that year was one in which our country was gripped with a terrible depression. He wanted and needed a job. He got a job but by such chance that it's worthy of note here. Somewhere he had heard or read that an operator at station WBBZ, Ponca City, Okla., had quit his job. Without realizing that operators were a dime a dozen in those days, and with lots of experience too, he wrote and asked if they were in need of an operator to replace the one that had quit. Surprise. They did and he got the job.

He worked at WBBZ somewhat over a year and then in October of 1935, came to WOW. WOW at this time was expanding its facilities and changing studios and transmitter. Glenn had an application in even prior to his Oklahoma job, so being a native son and with experience, he was hired as a studio control operator.

Glenn was only at WOW a couple of years when young Mr. Cupid sent an arrow in his direction. A Miss Mildred Nelson of Beresford, S. D., came to work at the station in the program department. Miss Nelson being a talented lass organized a girls' trio and called it "Three Maids and a Mike". Glenn ran most of these programs and found that he was admiring this peppy little Miss more and more as the days went by. They started dating and it wasn't long before they were going steady.

Glenn and "Millie" were married June 27, 1938 at the 1st Central Congregational Church. Most of the staff attended the wedding. It was a beautiful and solemn affair. As the bride and groom were leaving the Church after the ceremony, they were met by the staff where a present in the form of an income tax notice (slightly overdue) was presented them. They departed on their honeymoon amidst rice and tax notices.

About a year after their marriage Glenn and "Millie" bought a nice brick house on the top of a hill, as Glenn says—"A fine Antenna Location". In 1940 the Flynn's were blessed with a son whom they christened Paul G. Flynn, but whom was better known as "weatherstrip"

(Continued on Page Thirty)



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# Chicago

## Chapter

## Chatter

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By *Arthur  
Hjorth*



Photo by R. R. Jensen

**T**OP items in Dale Harrison's "All About the Town" column on the Chicago Sun headed: "COD BE, COD BE."

The cigarette shortage has driven some fellows to the precipice of desperation. Yesterday we saw an NBC engineer intently studying a Department of Agriculture booklet entitled: "HOW TO SMOKE FISH".

Ralph Brooks recently celebrated another birthday. Gang on graveyard shift surprised him with gifts and a cake with one lone, large wilted candle.

Recent Army Hour pick-up from Biloxi, Mississippi, required three men from field. Carl Cabasin, H. D. Royston and Frank Schnepfer spent a delightful week-end at the gulf shore winter resort fishing, swimming and eating shrimp. Pick-up involved one man in a plane, another in a boat and the third ashore. To this day no one knows who did what, when and where.

Ruth and Bill Cole's son, Bill, Jr., is wintering at St. Petersburg, Florida, for the U. S. Navy as a Fireman 1st Class to be an engineer on an LCM. Despite the pressure of his many friends in Skokie, Bill is NOT running for Chief of Police.

March Council meeting was held at Maryland Hotel with ALL alternates present. R. S. Davis acted as Chairman for Bev. Fredendall, Art Hjorth served as secretary in the absence of Frank Golder, Leo Mulatz served as alternate for Harry Johnson of the Nite Studio Group, Frank Schnepfer alternated for Carl Cabasin in Field, Maurey Donnelly

acted for "Burr" Whyland of WLS, Bob Fitzpatrick came from the WMAQ transmitter for Councilman A. D. Aldred and "Marty" Martin represented Maintenance for Art Elkins. Councilman and Oldtimer "Mac" McDonnell of WENR-WLS transmitter was celebrating twenty seven years of wedded bliss with his nice wife Ethel. Also broke a record for elapsed time. Twenty-three minutes from time Chairman Davis called meeting to order until we adjourned! National Representative "Bill" Keller of WLS breathlessly met us as we were leaving the hotel lobby. His Councilman presented a motion . . .

Lee "Florida Flyweight" Tolleson is learning to fly. Has lead weights in trousers when up and wearing parachute since there is doubt as to whether his own weight alone would ever return him to the ground in an emergency. His friends would grieve to read a headline, "NBC Engineer Soars Heavenward".

"Marty" Martin's two hives of bees are becoming active, a sure sign of spring. Martey sez the queen in one hive has lost her prolific glamour and he is contemplating the purchase of another queen.

J. P. "Jim" Daugherty has joined the BLUE studio group in Chicago. Necessary to state this roving Irishman's exact location since he was with WLS many years and a councilman for most of that time. Then gravitated to the BLUE in New York and finally was promoted to Chicago! Lost thirty pounds while at Radio City. Gaining it back

with his mother's home cooking and fluid nourishment. Jim is a very eligible bachelor. So is Harry Maule and our roving candid cameraman, Bill Beeson. Mary Trottnor is also single.

Minor Wilson has been high-scoring in the Monday Nite pre-Television Bowling tournament. Long armed "Chuck" Corliss also bowls.

Both WENR-WLS and WMAQ transmitters still on the air, but they consistently report "now new". A modest group of fellows. When cars and gas and things come back we'll have to make some trips to these lonely out-pots of radia and find out what's cooking for ourselves.

Walter Lanterman has designed, built and claims perfect high fidelity reception for an FM converter using only a 6SA7 as oscillator, mixer, limiter, and discriminator. Schematic with operating details available if you drop him a penny postcard.

E. A. "Mac" MacCornack stopped in Chicago for a few seconds recently. Touring the country for the BLUE doing the Coca Cola Spotlite Band shows. Should have some good stories from him whenever he can be corralled for an hour or more.

Hunter Reynolds to Hartford, Conn., with the Quiz Kids. Then on to Wash. "Uncle Will Rossiter will look after Hunters Skokie Valley Music Publishing Company, Unincorporated, while he's away.

H. G. Newbouer had the Reville Roundup show one day recently while

(Continued on Page Twenty-seven)

# The DIXIE

By Rex

VISITING in Durham and Raleigh on February 26 was Martin Block of Chesterfield Supper and Music that Satisfies, as well as Make Believe Ballroom fame. His main purpose in being in this section of the country was to view the Liggett and Myers Tobacco Company in Durham. Mr. Bruff of the Newell-Emmett agency was with Block when they visited the WPTF studios, and during the course of conversation we offered the gentlemen cigarettes. Since none of the cigarette manufacturers are in the habit of supplying radio station with samples of their products, all that we had to offer was a package of Lucky Strikes left by an operator, who was obviously in a big hurry to get off duty. But would they accept a substitute? No! They had their own supply of the sponsor's product—all of which should make Mr. Chesterfield very happy.

WPTF platter turner Louis Bowers has left the fold to join the Navy. After saying his adieus to friends and relatives Louis was sworn in on March 1, then no sooner than he had lowered his right hand he heard, "Now boys, you can have a ten day leave". Bowers is being replaced by chubby and effervescent Billy Singleton, better known as "Sinky".

The latest addition to the announcing staff is Tom Gause, coming to Raleigh from WMFD in Wilmington, N. C.

Gilmore Bowers, our foreign correspondent at WDNC sends us this communique: Frank Trippe (TE) left for greener pastures a short time ago and is now located at Duke University doing war research work. We dropped in on him the other day and found him hard at work making giant cables for something. He says just a few more cables and he'll begin talking to himself. His leaving made us rather short-handed and we all worked like dawgs until Herman Norman, brother of engineer Ed. Norman, got a license and took Frank's place. Both Ed and Herman are gay bachelors, and we hear they had quite a joyful time when they went to Norfolk to get Herman's license!

Harriet Pressly, WPTF women's com-

Broadcast Engineers' 24  
Journal for April, 1945

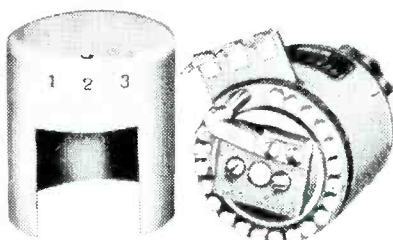
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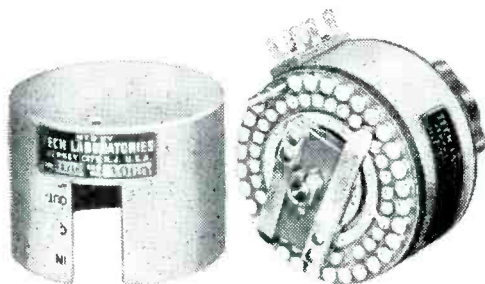
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# Chapter News

## Coston

mentator, was honored by a guest appearance of Mrs. Eleanor Roosevelt on her March 12 broadcast of "We, the Women". Mrs. Roosevelt was in Raleigh to speak on "Democracy in a World Community," and was sponsored by the Institute of Religion.

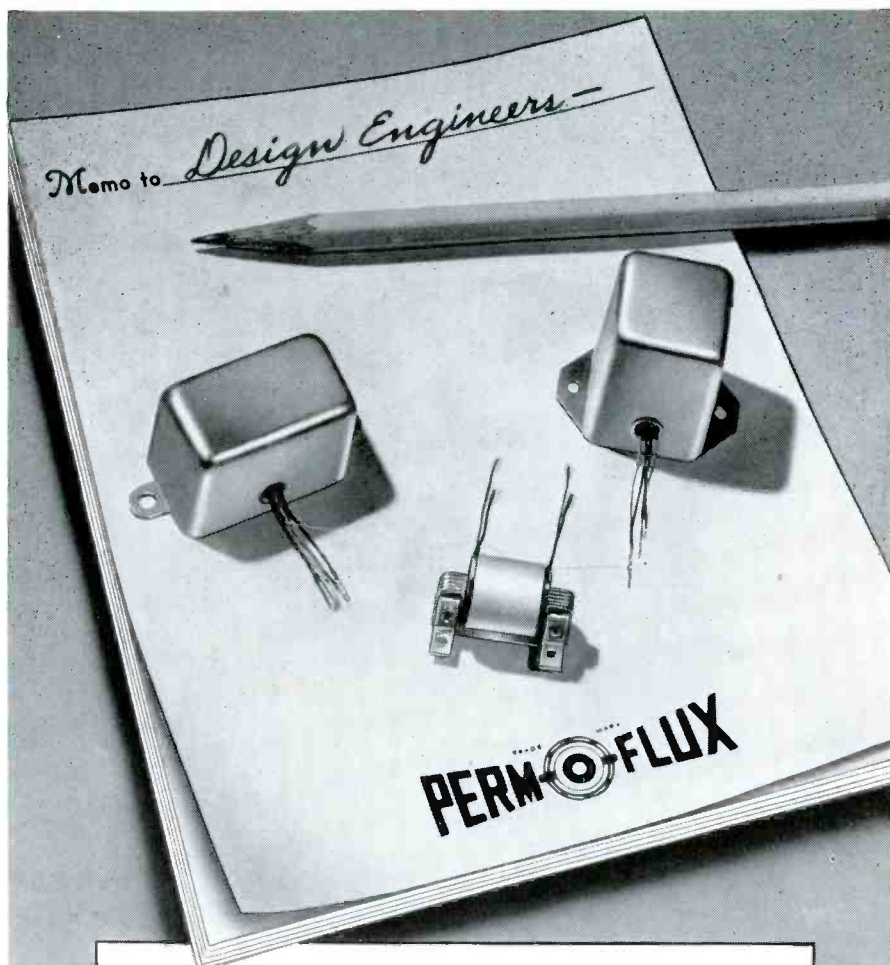
Everyone knows that the mail is crowded these days, but Uncle Sam is doing his best and I guess we shouldn't complain too much. Chief Henry Hulick relates that the company had ordered an 895R and 893R; however, the first tube had been ordered only a week, and the second had been ordered since April 17, 1943—they both arrived in the same mail, February 28.

Robert St. John lectured in Durham recently, after which he drove to Raleigh where he was to originate his daily NBC program from the WPTF studios the next morning. It was getting pretty late in the evening when Mr. St. John arrived in Raleigh, and being unfamiliar with the surroundings he stopped a pedestrian and asked directions to the Hotel Sir Walter. After driving on for several blocks with no sign of the hotel he pulled up to the curb and stopped another passerby. The queried gentleman with hoary head was also hard of hearing. St. John, in order that he might be heard, shouted to the old gentleman, and in so doing attracted the attention of a late evening prowler who had obviously been bending the elbow.

Peering into St. John's car, and noting his luxurious growth of beard, the late-comer leaned through the window to shake hands with St. John and at the same time shouted, "I KNEW you'd come back, I KNEW it! Welcome, Brother, WELCOME!!! and please pray for me."

St. John answered that he'd be glad to pray for him, but at the moment he was very anxious to locate his hotel.

Not to be stopped, the man continued, "I've read your book from cover to cover . . ." St. John thanked him, presuming that he referred to his latest publication, "It's Always Tomorrow". "Yes, sir," emphasized the man, "I can quote you chapter and verse where your return to the world was predicted!"



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PIONEER MANUFACTURERS OF PERMANENT MAGNET DYNAMIC TRANSDUCERS

# This Report Comes to You by Way of San Francisco

THE government has put the clamps on the ponies so the gambling members of our staff have instituted a payroll check pool using the serial number of the check as a poker hand. **Oscar Berg**, Maintenance Supervisor, was the first lucky winner and **Daryle Hutchins**, NBC Announcer, the second. **Frank Oliver**, SE, after taking possession of his new house, only now realizes just how much work twelve rooms represent when a person starts to remodel them. The question that was left unanswered last month was why were **Art McDermott** and his bride visiting the studios about 8 A.M. the morning after their wedding when Art was off????? The San Francisco staff welcomes **Frank Barron**, SE, back from New York which only goes to prove that a true San Franciscan can't stay away very long. We regret to report that **Williard** (Willie the Wat) **Watson** has resigned as Studio-Field Engineer. Willie will devote full time to his radio repair shop in Burlingame but will retain his N.A.B.E.T. affiliation.

We can boast of the artistic ability of many of the members of our staff in varied fields of endeavour. **G. Warren Andresen** has talents as a model builder as well as in the photographic line, confirmation of this statement may be seen in the NBC radio recording handbook. **Lee Kolm**, **Russ Butler** and many others are also camera enthusiasts. Of particular note is **C. T. Stevens**. Before his affiliation with NBC as Studio-Field Engineer, Steve was employed as a designer in the jewelry manufacturing business. He has continued to dabble in this line as a hobby although he has become quite talented in the actual making of rings, ear rings, bracelets, etc. Many of his "creations" may be seen on the ears and fingers of people around Radio City. He started by using colorful pieces of plastic and then tried his skill with silver. **Sid Blank**, SE, commissioned Steve to make a ring for his wife. For the design, Sid and Steve sat down together and developed the final plan which was a boarder of silver with a center of blue plastic. In the lower left hand corner of the plastic background were inserted two semi-circular pieces of silver with a dot of silver in the upper right hand quadrant. The finished product was very distinctive and must certainly have made

★

By

Jack Van Wart

★

Mrs. Blank extremely proud. There is more to tell about **Frank Oliver**. RCAV has been in S. F. to record the S. F. Symphony Orchestra and various artists who were currently appearing here, one of which was **Marian Anderson**. For her recordings they used a background of singing voices one of which was none other than Frank . . . One of the newer men assigned to radio recording dept. is **Larry Sheppard**. He claims to have read every book in the library of Sanger, Calif. That alone is a chore which he says required nine years of reading in his spare time. He says that he read the complete encyclopedia Britannica when he was in the fifth and sixth grades. The amazing thing about the whole story is that he still has 20/20 vision!

Mr. Townsend of the Dixon short-

wave transmitters sends in the following yarn:—Turn it off boys, there's an arc on the antenna, shouted Willie the star gazer (**W. C. Osborne**) as he dashed into the transmitter room of the NBC-OWI International Broadcast Station at Dixon, Calif., on a crisp February evening. "Carriers off to determine the origin of the arc on antenna," read the log. Going outside again, what did Willie find? Did the arc go away? Oh, no! Not this little arc. It was persistent. There, on the antenna, it stayed and stayed. Indeed it remained for several hours changing its position but slightly. Planets, it seems, have a habit of doing this, particularly venus, which was shining brightly in the cool, clear sky. And so, that is why our friends in Indonesia lost thirty (?) seconds of their program recently!



## LINE HUM — F M — K G O

By Ken Martin

SINCE the "Journal" last went to press, the KGO transmitter staff has experienced quite a siege of illness and overtime. **Jim Blanchet** underwent operation and hospitalization for hernia which kept him from the watchlist for some weeks. Jim will return next week if everything goes according to plan.

**George Irwin** experienced a severe heart attack which put him under wraps for a couple of weeks. We are glad to report that genial George is all ready back on the job, beaming, ship-shape, fit as a fiddle and taking it easy.

Two senior men constitute somewhat more than 25% of our effective staff here at GO and posed some fancy man-poweritis problems for Station Engineer **Henry Dunton**. "Moneybags" **Kramer**, **Case** and **Martin**, with tongues hanging out a yard from fatigue, welcome their watch-mates back with open arms. Unfortunately, the remainder of the staff, **Nickels** and **Downs**, could not substi-

tute in this emergency to lighten the load.

The smoke and dust has all settled following the annual hue and cry of "selecting" vacations. The list is up and all participants have retreated to their respective corners to lick their wounds.

The transportation situation acute for a time when Janitor **Pop Perry's** car developed lung trouble and a complete relapse. Pops venerable case is crowding twenty winters and is a landmark on the KGO parking strip. Pop gave her a shot of plasma, pencillin or something marvelous that revived it and put it back on all four wheels. Both Engineer **Case** and **Downs** are afoot, unwilling to meet what some agencies are pleased to designate as a ceiling in car markets and we don't blame them after looking the field over for just an ordinary jalopy.

Spring housecleaning is just around the corner, with estimators all over the

(Continued on Page Twenty-seven)

# Hudson Chapter NABET News

By Richard H. Davis

**W**ELL, by the time you read this the income tax worries will all be past memories until the next time . . . The month of February was a big month for WOR. WOR is 23 years old on the 22nd. During the month, the 10-year-club of WOR held its first annual dinner at the Waldorf Astoria in the Jade room, with super entertainment and all the trimmings . . . **Eric Herud**, SE, was particularly keen on that slight of hand expert. Twenty members of the Engineering Department (NABET) are in this club. Getting back to the entertainment, we noticed that the snake dancer caused quite a lot of creaking necks! **Robinson**, STE, still sez that it ain't so . . . hi. **Ralph Schlegel** represented the 18th floor platter cutters. In all, a good time was had by all with eyes looking towards the next one.

The Hudson Chapter of NABET wishes **John Gambling** the best of luck and wishes on his 20th anniversary with WOR. **Mayor LaGuardia** of NYC went on the air from the Mutual Playhouse No. 1 where John had his party. About 1500 people were present . . . Coffee

and sinkers were served . . . **Johnie Cooke**, SE, who is the silent partner, made sure he had his share. **Mr. T. C. Streibert**, Pres. of WOR, presented John with a silver cigarette box . . . but no butts . . .

**Stuff and Things.** Since the curfew is in, the late nemos have folded up and some of our RE's are actually getting some sleep at night . . . **Bill Hoffman**, ex-Sound Effects, now with the American Field service, and **Joseph Creamer**, WOR promotion director, have written a book "How to Create Radio Sound Effects". Our radio set has some effects of its own that we've been trying not to create . . .

Speaking of sound effects, **Jim Goode** had one recently that would be good if he could do it . . . The script wanted a flock of B29's to pass overhead with one of them to be running on 3 motors!!! . . . **Shirley Davis**, Maint. Super, is captain of WOR's Bowling team . . . on the team is **Bill DaCosta**, RE . . . **Paul Baldwin** recording . . . and **Ted Kasna**, ME . . . we ought to hear some fancy scores any day now . . . All production men at WOR now are ex-engi-

neers . . . **Si Gamblin**, TE, vacationing at home, wishing for spring . . . That recent council meeting was held in the upturned palm room of Paul's restaurant on 41st street . . . **Mr. Cooke** served . . . **Jerry Barton** back from Florida, looking swell . . . **Al Nilson** thinking about moving the "Amoy" or is it just spring . . . **Geo. Riley** dashing around here and there with that stogie stowed on the right side . . . Now that several of the gang have cigarette making machines there are some choice blends being smoked . . . **RECORDING** . . . **George Corey** been doing a lot of portables lately; got around to the Plaza the night that Eleanor received the fur coat, but Geo. didn't get a chance to try it on. He'd look cute I bet . . . **Ennis** and **Conover** tied up in multi-vibrators, trying to make round ones into square ones and vice versa . . . hi . . . **Bob Lee** is trying to match up a Presto "K" with a universal projector to boon doggle up a home talkie . . . **Pappy Hawkins** going down for his fourth induction try . . . Pappy sez that he's donated his share of blood to the induction center . . . 73 CUL.

## LINE HUM

(Continued from Page Twenty-six)

lot. Perhaps by the time this reaches print, both building and grounds will be undergoing needed face-lifting.

Squinchel rumors that the stork is hovering over the **Evans'** stables again and "Shorty" is praying for a colt this time to go along with the filly, **Millinaire**, already in training. Shorty's colors will be right out in front when the tracks reopen.

'**Gene "Tailspin" Nickels** miraculously walked away from a crash landing in one of the station desk chairs. **Gene Blithely** explains it has something to do with a new and waxed floor and rocking past the center of gravity or something. The chair was a total loss. There may not be anything in it but Gene is the only one here with a flying license.

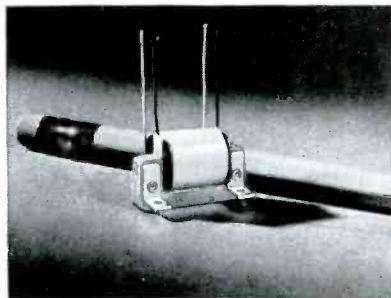
**Wallace "Orion" Downs** will soon have completed a telescope he is working on. A dyed-in-the-wool TN, the lad really knows his dioptrics or whatever.

**Visitors:**—**Aubrey** (not George, as previously reported) **Fisher**, ex-TE, now

connected with Local FCC, dropped in for a chat, hard on the heels of another visitor of no small repute, **Charles Cross** of the State Patrol Radio Section.

## NEW PERMOFLUX MIDGET TRANSFORMER

A new transformer, 31/32" x 37/64" x 7/16", small enough to be incorporated directly into the cases of earphones and hand-held microphones, has been developed by Permoflux Corporation to meet the needs of efficient light weight communication and electronic equip-



ment. A new design, combined with newly developed materials and manu-

facturing methods, results in an 80% to 90 operating efficiency with a uniform frequency response of  $\pm 2$  db from 100 to 8,000 cycles. These transformers can be made with windings to provide impedances as high as 200,000 ohms and, when used as a choke coil, with inductive reactance as high as one megohm. They may be potted, shielded or hermetically sealed if desired. Permoflux Corporation, 4900 West Grand Avenue, Chicago 39, Illinois, designers and manufacturers of these new transformers, welcome inquiries regarding their many applications.

## CHICAGO

(Continued from Page Twenty-three)

**Hjorth** was off for last Christmas. He is also a bachelor.

**R. B. Witnah** continues to go to Detroit every week-end and come back again. With him goes **Charlie Butler**, now BLUE producer, but for many years an NBC engineer.

Welcome to the RCA Recording group. **E. J. Eckhardt**, **Fred G. Elsasser**, **L. H. Chase** and **Miss Matilda Offenbeck**.

# Rochester News . . . *By Art Kelly*

**N**EWs in the Rochester vicinity is tougher to find this month than your favorite brand of cigarettes. Next month I think I'll offer a prize of some sort or other to the Rochesterite who furnishes ye old scribe with the most promising news tip.

Spring has arrived in Western New York State and that means that the nemo men of WHEC, WSAY and WHAM are again facing the prospect of remote pick-ups with anticipation. What with lots of snow, plenty of real cold weather, waiting for taxis, and weak backs from digging out driveways the Rochester remote radio ops are delighted with the prospect of warm weather and the possibility of spring fever.

There have been a couple of changes in the Rochester scene due to job shifts. **John Dinter**, former operator at WHAM's FM station, WHFM, has left the "Flower City" to join the boys at WBEN at Buffalo. **Tony DeLucia** has taken over Johnnie's job at WHFM.

Tony is a former WSAY operator.

**Bum Holly**, WHAM Control Room op, has been laid up with a bum foot. It doesn't seem right to have Bum immobilized 'cause he's normally full of swish and vinegar. His interests have been many and extremely varied. He was a licensed driver on the bob run at Lake Placid, he has a Private Pilot's license, is a master sailor, was president of Rochester's internationally famous Camera Club and is the type of guy you'd expect to have the wild wind of the open road whistling through his hair (that is if he had any hair!).

**Fran Sherwood**, WHEC's Chief Transmitter Op. is following the battle picture of the Pacific area with keen interest. He served with the U. S. Navy in the Southwest Pacific and knows the Japs from personal contact. In fact it was a souvenir from a Jap shell that finally was the means of getting Fran back into civilian life and the radio game.

Station WSAY, at this writing, still

hasn't arrived at any agreement with N.A.B.E.T. For several months this case has been moving slowly through negotiations. **Charlie Snyder**, President of the Rochester Chapter, will be extremely happy to see the situation settled.

The gang in the WHAM family is looking forward to beginning of work on the station's new Radio City. This new home for Station WHAM-WHFM is one of the city's most talked of post-war projects. In the next issue of "the Journal" I'll see if I can't get our **Chief Engineer Ken Gardner** to take pen in hand and describe for us some of the technical angles that this newest of Radio Cities will include. (What say, Ken?)

Just before deadline date I called the WHAM transmitter and asked the boys on duty if they had anything special for "the Journal". **Yo Sieler** and **Scoop O'Brien** were working and they decided, after thinking the matter over,

(Continued on Page Twenty-nine)

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## ROCHESTER

(Continued from Page Twenty-eight)

that the big news of the moment was a new paint job on the interior of the Transmitter building. The boys summed up their state of mind by saying: "Now that the snow's gone and spring is here, what else is there." Well, I grant you that in the spring a young man's fancy lightly turns . . . so with that pleasant thought in mind we leave you 'til next month. 73-Kelly.

Universal Microphone Co., Inglewood, Cal., is issuing a series of calendars each month with a change of copy and the pictorial art work in the form of feminine pulchritude in cutout form!

### Falstaff Good Night Toast to Engineers—

(With the permission of the Falstaff Brewing Corporation, we reprint the following poem which was broadcast on The Falstaff Show over the Blue Network.)

Upon the radio,  
Although he plays a major part  
In ev'ry single show;  
He is no singer with a throb  
Within a golden throat;  
He plays upon no instrument,  
He never strikes a note;  
He never speaks an actor's line  
With feeling or with violence;  
Yet were it not for what he does,  
You'd get just lots of silence!

His is the skill, the polished art  
Of blending tone and speech;  
With wizardry, he measures out  
His precise parts of each;  
He lifts the mumbling speaker's voice,  
To make it clear and strong;  
He makes the blaring trumpet soft,  
Adds brilliance to the song;  
In radio, no other skill's  
More valued than his job,  
His mastery of volts and ohms  
And rheostat and knob!  
So join in, friends—here's to the man  
Who guards each sound you hear!  
The alchemist of radio—  
Here's to THE ENGINEER!

A

A



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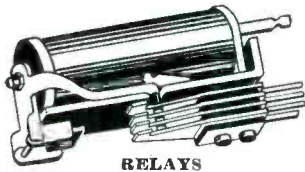
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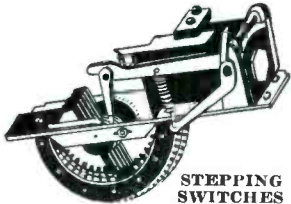
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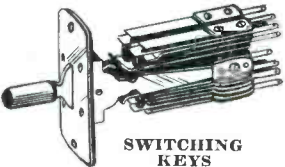
RELAYS

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EYE EXAMINATIONS

Prescriptions Filled . . . Prompt Repair Work

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## OMAHA

(Continued from  
Page Twenty-two)

because he kept his father out of the draft.

Glenn's record at WOW is one to be envied. He has traveled all over the Midwest and even as far as Hollywood, doing field work and recording. One trip during Golden Spike days in Omaha sent him to the west coast to make recordings of the historical events that went with the laying of the Union Pacific Railroad. Records were shipped ahead and a continuous and different program was on the air every day. One from Promintory Point, Utah, told the story of the driving of the Golden Spike which connected the east to west via rail. As Glenn says, he has done everything from broadcasting champion hogs at state fairs to recording glamour girls in Hollywood. He has done maintenance work, regular control work, recording and in fact anything there was to do.

As a reward for his ability and untiring efforts during his years at WOW, he was promoted to Studio Supervisor. The announcement of his advancement came at the WOW Christmas party held at the Blackstone Hotel, Dec. 16, 1944.

"G" as he is called, has one main hobby. He is an avid ham and is proud to be among its ranks. He feels that the ham has done much for radio in general and that the experience the ham receives tinkering and building his own equipment is very valuable. The hams' knowledge can be applied to practically any job in the radio field. Most of the big engineers of the country are or have been hams. His ham station prior to the war was a neat affair built rack and panel style with many original ideas incorporated therein. He has his ham shack located in his basement and its very comfortable too. Glenn is left handed and has a left handed bug. Its a cinch it will never get out of adjustment from friends using it, because if you are right handed and have ever tried to use a left handed bug, you will see why.

"G's" QST's dating back to 1929, are one of his prize possessions. He has them all bound in leather—16 binders in all. When the war is over and the hams are allowed to go their etherical way, you will no doubt hear W9MHV calling CQ for a friendly chat.

He has one other hobby, is one that has been forced upon him by an eager little boy—his son Paul. "G" builds model planes for Paul and they don't last long because in diving them to wipe out the enemy, they crack up. In order to cover this loss, production must be increased so many planes have been built and probably will continue to be built until little boys start playing with something less fragile.

"G" is doing a good job keeping the control room going and is looking forward to that day when new equipment and additional facilities can be incorporated to prepare the WOW setup to meet the demands of the coming years.

From the WOW News Tower:

### GAG O' THE WEEK!

(EDITOR'S NOTE.—Some time ago Joe Herold, WOW's Technical Supervisor, returned from a television school in New York and appeared on Ray Clark's "Noon-day Forum" to discuss television. Later Joe received a "fan letter" that gave him quite a surprise—until he noted the signature!)



## WOTTA VOICE!

OMAHA, NEB.—I am a "Noonday Forum fan and always enjoy the guests you interview, but never have I been so impressed as I was last Thursday with the radio engineer you presented. This engineer was a thrill to listen to! Such dulcet tones! Such a fine command of the King's English! And with what great authority and intelligence he spoke! Do you think I could arrange to meet this Mr. Herold?

Yours for more and more fine Forums.

MRS. JOE HEROLD.

## HOLLYWOOD

(Continued from  
Page Nineteen)

now has TWO outboard motors . . . sez he is going to put 'em BOTH on the boat, as soon as he GETS one . . . one on back and one on the FRONT, to get PUSH-PULL propulsion. For OUR dough, after hearing some of the Lorenz stories, all Carl has to do is to face the REAR and start talkin' and he will get propulsion by JET yet . . . Ragsdale and Eilers veddy bizieee between shows checking on the KECA installation at the Blue Playhouse, which should be FINISHED by Fall . . . things are still quite PRIMITIVE up there and right in the muddle of a broadcast a couple of guys are liable to come tramping into the studio with a plank, lay it on the stage and start SAWING WOOD . . . which is LIABLE to be TRUE . . . New Nemo in from the Mocambo, a vairee ritzee place out on the Sunset Strip, and things are rather crowded so the engineer sits at a table at the edge of the stand and when they TAKE the AIR, reaches up and pinches the conductor on the CALF for the "Go Ahead," and the band starts to play, which cues the announcer who starts to announce, etc. They DO give you MIGHTY FINE service out there, tho . . . and treat you like a GUEST instead of like a bus boy's helper, like at SOME remotes we couldn't mention . . . The other day Denny interviewed an applicant for employment who had been discharged from the Navy and who was making the rounds 'round town for a radio job . . . now hear this . . . IT SEEMS the fellow had dropped in at the local I.B.E.W. office across the street and had been told "Nothin' doing" when it is KNOWN that there are QUITE a FEW radio jobs open around town, and THEN had been directed to "Go across the street and see NBC and the Blue . . . they're NON-UNION over there . . ." Interestin', huh . . . Tag item from the Blue is about the announcer who was reading news in "M" and was running a minute SLOW and started a new item when he noticed that he had only about 5 seconds LEFT, and it came out like THIS . . . "Ladies and Gentlemen, here is a very strange story . . . GULP! This is the Blue Network of the American Broadcasting Company! ! !

STREETSEENS . . . while driving along Vine Street the other day we noticed a sign proclaiming "Drive-in Recording Studio" . . . being a bit curious, we park nearby and sure enuf pretty soon along comes a customer who DRIVES IN . . . immediately out comes a CUTIE who shoves a hand mike in his puss thru the car window, the guy speaks his piece and the cutie disappears, to emerge again a minute or two later with the disc and the guy

(Continued on Page Thirty-two)

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Model	Size	Voice Coil Impedance	Normal Power	Peak Power	Magnet Weight	Price F.O.B. N.Y.
8P	8"	6-8	7	11	5 oz.	\$ 3.38
10P	10"	6-8	9	14	12 oz.	\$ 5.44
€12P	12"	6-8	13	20	12 oz.	\$ 9.41
G12P	12"	8	17	26	46 oz.	\$14.26

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11 lb. 12" diameter base. Chrome pipe section. Positive locking clutch

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### No. MS2 ADJUSTABLE Table Stand

All chrome, weighted base

Price, \$3.72, F.O.B. New York

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Same as MS2, but not adjustable

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### TERMINAL UTILITY Wall Baffles

Heavy plywood construction. Tan imitation leatherette finish

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# HOLLYWOOD

(Continued from  
Page Thirty-one)

drives off . . . ALL in the space of about four minutes . . . what WON'T they think up NEXT . . . then down Sunset and along comes a beautiful big fat convertible, with gleaming GOLD plated hub caps and accessories . . . that's the U. S. for yuh . . . no chrome, but yuh CAN get GOLD . . . We live out in the Valley near Lockheed and a Sunday or so ago were relaxing inside when we heard the most GAUDDAWFUL noise up in the sky and ran out along with the rest of the neighborhood to see what was happening . . . it sounded like a very loud but very quick clap of thunder . . . like somebody was playing a 33-1/3 thunder record at 78, but LOUD . . . we find everybody with their faces pointing up at the heavens and their mouths hanging open, and the kids yell "There goes the Jet plane . . . GEE-E-E-E-E" and just then SLAM! and it goes by again. You can't hear it coming and can't SEE it at all, until it gets very far away . . . all you can hear is the sound coming from where it WAS . . . you look up at the place where you hear it but there's nothing there and way over at the edge of the sky you see a little silver streak, that has outrun its own sound . . . it's a very weird feeling . . . an invisible airplane . . . also up there was a P-38, which is no slow-poke . . . but this thing tore by it three times while the P-38 was flying by once . . . then, just for contrast, along comes a lumbering Constellation, looking for all the world like a mother hen looking for her chicks . . . a million dollar air show for the citizens below . . . this is truly the age of Speed . . .

**SNOOPSHOTS** . . . **Charlie Norman** and **George Foster** back from Eastern jaunts with the Hope and Benny shows, respectively . . . both report eventful trips, **Charlie** hitting 7 below zero weather in NY and **George** flying thru part of the Mississippi tornado . . . **George** also did some GROUND flying in an Army staff car . . . he and **Schnepfner** of Chi (poddon the spelling) were in the back seat and roaring along a country road when over the hill and they meet a big hay wagon and set of mules . . . no time to dodge, so they fly right THRU the load of hay, not doing the farmer, wagon OR mules any good . . . **Johnnie Morris** riding his motor in the rain and looking like Barney Oldfield, complete with goggles and seegar . . . **Paul Carson** back on Blue organ staff after many years respite to do commercials . . . is subbing temporarily while they find a regular replacement for **Ralph Waldo Emerson** . . . **Fergie** and others listening to the Army Hour in

lounge on Sunday afternoons . . . never misses it and living thru every experience of the fellows overseas . . . five of our better known engineers going across the street for a cupacoffee and having instead five banana specials, which is a LOT of banana specials, when lined up in a row . . . just discovered that **Al Korb**, MCD, was a radioman in the Coast Guard way back in 1926 . . . has been in broadcasting since 1929 . . . must remember to interview him for a biog shot soon . . . wonder what ever happened to Bro. **Jensen's** project for a Hlyd Whooz Who column? . . . NBC threw a party the 16th at the Knickerbocker in honor of **St. Valentine**, who didn't show up but sent a nice wire expressing his regrets . . . dig was a SUCCESS, as usual, everybody RUNNING SMOOTHLY due to being well-oiled. **Lew Winkler** dropped by to tell the boys who had to work about it afterwards, but listened to him for twenty minutes without understanding a SINGLE WORD . . . mikes are getting scarcer all the time . . . so many shows on some days that **Pickett** has to go around RATIONING them . . . **Art Brearley** was all set to do a cut-in on one of the shows and just before time comes to do it, looks up and there's NO MIKE in sight . . . you've got to keep your eye on them every minute or they DISAPPEAR . . . nice card from **Lt. J. H. Brown**, USNR, and postmarked "Banana River, Florida" . . . **Jimmy** is down there on some flight tests and sez Florida nice and warm but give him California . . . not so many bugs . . . wonder what he MEANS . . . pic on other side of the "Banana River Bounce" . . . what's wrong with the Los Angeles River Bounce?? . . . Columbia Pics in again, this time taking movies of the **Ginny Simms** show . . . **Harry Alber**, for years in charge of Air Conditioning and Building Maintenance for Hollywood's Radio City succumbed to a heart attack recently . . . **Harry** was here from the start of things and designed much of the original installation . . . he left the Company not long ago to become connected with the Empire Construction Company of Los Angeles . . . guess that about clears the hook and brings things up to date . . . from HOLLYWOOD . . . will tag and call it 30.

## STAFF OF 50 BLUE NETWORK NEWSMEN AND TECHNICIANS ASSIGNED TO SAN FRANCISCO CONFERENCE

A staff of approximately 50 BLUE Network reporters, commentators and technicians from New York, Washington and the Pacific Coast will cover the United Nations Conference opening in San Francisco Wednesday, April 25, Robert E. Kintner, vice-president of the American Broadcasting Co. (BLUE Network) announced today. G. W. Johnstone, director of news and news features, who will attend the conference, will be in charge of the BLUE's plans to cover every development of the international conclave.

Bryson Rasch, manager of special features for the BLUE's Washington affiliate, WMAL, will assist Johnstone. Detailed arrangements for the BLUE's broadcasts will be set up as soon as the agenda of the conference is officially announced.

George Milne, director of technical operations, will handle the engineering detail and head the staff of engineers and technicians from all the BLUE's divisional points. San Francisco being a divisional point, the entire staff of station KGO will assist in the operation.

If you require information on

## INSURANCE

of any kind, call

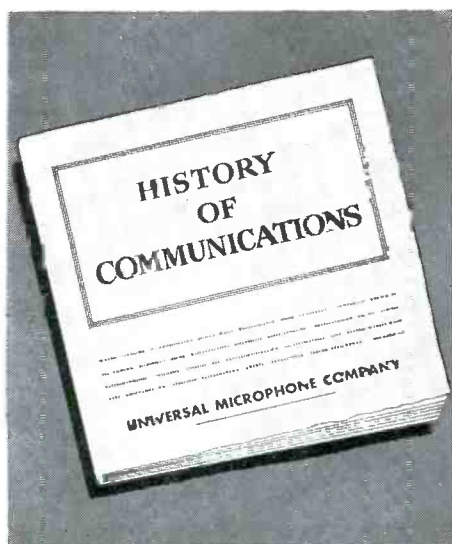
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# DAVEN

## VOLUME LEVEL INDICATORS

DAVEN Volume Level Indicators are designed to indicate audio levels in broadcasting, sound recording and allied fields. Extremely sensitive, they are sturdily constructed and correctly damped for precise monitoring. The long, specialized experience of DAVEN in the design and development of test equipment makes these Indicators the preference of major sound engineers both here and abroad.

### TYPE 915

Rack model, terminating and bridging type. Meter multiplier ranges: terminating,  $-6$  VU to  $+32$  VU; bridging,  $+4$  VU to  $+42$  VU; or terminating,  $-3$  VU to  $+16$  VU; bridging,  $+4$  VU to  $+25$  VU. 2 VU steps. Reference level: 1 mw into 500 ohms.



### TYPE 185

Power Level Indicator, portable or rack models, bridging type. Meter multiplier range:  $-10$  db to  $+46$  db. Reference level 6 mw into 500 ohms.

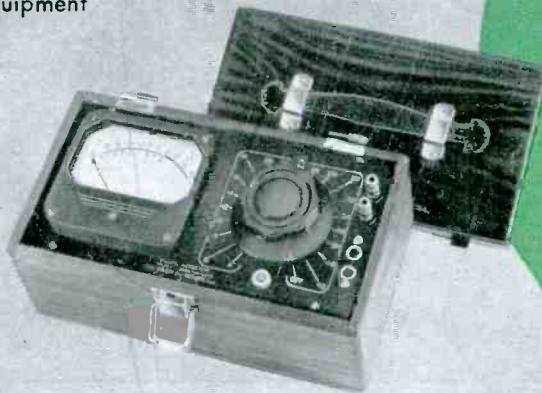
### TYPE 920

Rack model, low-level bridging type. Meter multiplier range:  $-20$  VU to  $+20$  VU. Power supply, 100-130 V, 60 cycle AC with voltage regulator for normal variations. Reference level: 1 mw into 600 ohms.



### TYPE 911

Portable model, bridging type. Meter multiplier range:  $+4$  VU to  $+42$  VU or  $+4$  VU to  $+26$  VU, 2 VU steps. Reference level: 1mw into 600 ohms.



### TYPE 910

Rack model, same as Type 911.

## GENERAL SPECIFICATIONS

**INPUT IMPEDANCE:** Bridging, 7500 ohms; terminating, 600 ohms, excepting Type 185—1581 ohms, bridging.

**FREQUENCY RANGE:** Less than 0.2 db up to 10,000 c.p.s. Type 920, less than 0.2 db, 30 up to 15,000 c.p.s.

**METER SCALE:**  $-20$  to  $+3$  VU and 0 to 100%. Type A scale has VU reading on upper scale; Type B scale has percentage reading on upper scale.

**INDICATING METER:** Copper-Oxide type, adjusted for deliberate pointer action.

**METER ADJUSTMENT CONTROL:** Miniature step type;  $\pm 0.5$  db range, in 0.1 db steps.

**MOUNTING:** Rack models 19" long for standard relay rack; portable models in walnut cabinet, approx. 11" x 6" x 6 1/4".

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