

age while completely immersed. This was due to the weight of the water pressing against the assembly, and the ability of the liquid to act as a coolant in dissipating any heat which might have resulted from the tremendous overload. It was found, for instance that the wire safely carried the increased current under water; but burned through when the same power was applied and the speaker operated in air.

Having successfully designed this original waterproof speaker, *Cinadagraph* plans to offer similar units to the general public under the trade name of "THE MALLARD." These are of the permanent magnet variety, and range in size from 3½ to 12 inches. For marine and out-of-door installations they are especially suited.

#### New Phono Amplifier

*Webster-Rauland's* new phono amplifier is designed to give better reproduction from phonograph records. Automatic volume ex-



pansion permits true fidelity expression of voice and music as recorded, particularly in bringing out the crescendo of the fuller passages and the diminuendo of the softer tones. Unit is designed with vertical front panel and within specified dimensions to permit rack mounting if so desired. Incorporates such features as: automatic volume expander up to 10 db; Dual fader-phono unit. (permitting mixing and fading of two phonos); two separate tone controls, each increases or decreases treble and bass respectively; master volume control with A.C. switch. *Webster-Rauland*, 3825 W. Armitage Ave., Chicago.

#### New Erwood Products

*Erwood Sound Equipment Company* of 227 West Erie St., Chicago, Illinois, have just announced a new series of portable and fixed public address systems, having power of 30 watts.



The amplifier has provision for using four microphones. Also it is said that a new method of tone equalization has been developed in connection with this amplifier, giving greatly increased tone range control.

The amplifier is housed in a modernistic cabinet with an attractive indirect lighting scheme. Microphones are of the Uni-directional type to facilitate reduction of feedback.

Speakers are of the Permanent Magnet type, and are available in either portable cases or in permanent type walnut baffles.

The portable systems incorporate a full length microphone stand.

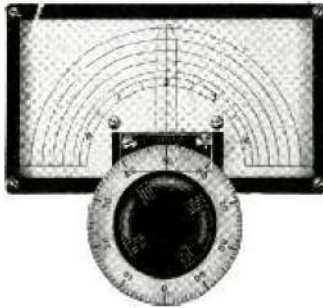
#### New Record Disc

*Rainbo Record Co.*, Los Angeles, now comes on the market through trade channels with a new instantaneous recording disc that can be cold pressed. Base is of flexible fiberized board base and surface coating of cold pressed nitrocellulose. Primarily deals will be for bulk sales. Initial tryout was made at army camps for personal messages. Music and stock announcements can be cold pressed on the discs, and blank space left for personal messages to be dubbed in. Printed matter and illustrations on the surface of disc do not interfere with the recording.

#### New Geared Vernier Dial

A precision-built gear driven dial has just been announced by *Bud Radio Inc.* of Cleveland, Ohio. This dial is designed for use on such equipment as electron-coupled oscillators, frequency meters, receivers, and other instruments, where extreme accuracy of calibration is essential.

This dial is driven with spring-loaded gears to insure freedom from back-lash. It is calibrated in 500 divisions over the 180 degree scale. The dial is easily panel mounted and is furnished with complete instructions. The gear drive unit is mounted behind the panel and the dial scale is mounted on the front of the panel. This scale may be removed for calibration without removing the dial drive. Mounting area is 5¼" by 5¾". The gear ratio between the knob shaft and pointer shaft is 10 to 1. All friction clutch on



the knob shaft prevents damage to the gears when maximum or minimum rotation is reached.

#### 70-Watt Audiograph Amplifier

A 70-watt amplifier, for use in ball parks, stadiums, church towers, and other large installations requiring high power without distortion, is announced by *John Meck Industries*, 1313 W. Randolph Ct., Chicago. Listing at a price under a hundred dollars, this Model B-70C offers "stadium" power at low cost.

Four independently controlled microphone input channels and one phonograph input channel allow handling of large stage set-ups. The unit embodies two separate power transformers and rectifiers to assure good regulation. Output impedances of 2, 4, 8, 166, 250, and 500 ohms are provided for connecting as many speakers as desired. A monitor speaker and monitor volume control may be supplied.

#### Linear Time-Base Generator

A low-frequency linear time-base generator, to be known as Type 215, has been developed by the engineers of *Allen B. Du Mont Laboratories, Inc.*, Passaic, N. J., for release this fall. This instrument will be especially valuable in facilitating studies of low-frequency phenomena such as found in vibration studies, strain analyses, physiological applications and similar usages.

(Continued on page 62)



## The VIDEO REPORTER

by Samuel Kaufman

A FULL month after the start of commercial television found little video interest on the part of New York radio listeners. Despite the sincere attempts by metropolitan telecasters to do their parts in moulding television into a formidable industry, the average New Yorker still considers television as somewhat of a peep-hole novelty "that hasn't yet arrived."

The public just isn't being stirred. And, in a program sense, there is little to be stirred about. The eye-and-ear airings continue along virtually identical lines to the long, long period of experimental television. What is more, public demonstrations are limited and about the best place to view a night-time program outside of one's own home is in a bar or tavern.

We've spoken before of the fallacy of the pioneer televisioners in believing that they can build a sizable audience by too much catering to the tavern crowds. But we must bring the matter up again inasmuch as commercial television seems to be designing more and more features for the television-equipped dining and dining establishments, the attention seeming entirely out of proportion with the care given to programs for home audiences.

Of course, attention must be given the NBC claim that there are 800 television set owners in taverns, cafes and restaurants in the New York area. This represents a sizable audience when you consider that about twenty persons—sometimes more—crowd around each of these semi-public demonstrations.

The network recently recognized this type of audience to the extent of distributing a window and mirror poster for them to bal-



Monitoring "movie" programs at Du Mont television station W2XWV.

lyhoo the first of a sponsored series of prize fights from Ebbets Field, Brooklyn. This poster was described by NBC as the "first piece of major television consumer promotion."

It may be true that the tavern promotion tied up well with the products being advertised on the televised fight program—men's hats. But we do not think that the kind of "major television consumer promotion" greatly needed at this time is the kind that reaches into homes—the greatest potential market for video receivers.

DAVID SARNOFF, RCA president, may or may not agree with our view that the initial commercial programs are no better than the past offerings of the experimental variety.

"Now," Mr. Sarnoff writes in the July issue of *RCA Review*, "although it invites (Continued on page 46)"



## CHASSIS CABINETS RACKS PANELS

### BY PAR-METAL

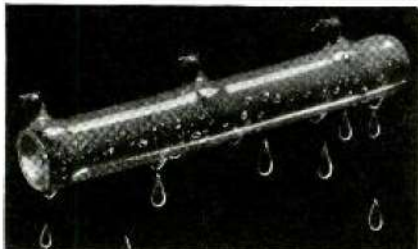
*For Quality and Beauty*

Whether you want a "standard" job or a De Luxe job—you'll find that every Par-Metal part has been accurately machined for easy assembly and smartly designed to give the finished job the look of commercially produced equipment.

*New Catalog No. 41 Sent on Request*

PAR-METAL PRODUCTS CORP.  
3262 49th St., Long Island City, N.Y.

Export Dept.: 100 Varick St.,  
New York, N. Y., U.S.A.



### WHEN A RESISTOR SWEATS!



Moisture, visible or invisible, will cause trouble if it can penetrate the protective surface of a resistor. A microscopic examination of the surface of a Vitrohm Resistor will show freedom from even minute enamel crazes or cracks. The resistance wire is sealed in Vitrohm, a glass-like enclosure, excluding moisture and assuring complete protection.

## WARD LEONARD ELECTRIC COMPANY

47 South Street Mount Vernon, N. Y.

denser. After resonance is found by the dip in the meter, the frequency of the signal generator is noted. We then have two known variables, the frequency and the capacity.

By using the formula  
$$L = \frac{25,330}{f^2 C}$$

where  $f$  = frequency in megacycles  
 $C$  = capacity in mmf.

We can solve for the inductance,  $L$  = inductance in microhenries.

This formula is a simplified derivation of the common formula for the determination of resonant frequency in a series tank circuit.

$$f = \frac{1}{2\pi\sqrt{LC}}$$

For determining the frequency range of tank circuits, the instrument is priceless. The tank coil and condenser is placed across the detector input posts and the condenser set at *maximum*. By again coupling the signal generator to the coil, the resonance dip is located and the frequency read on the signal generator. By setting the tank condenser to minimum and repeating the procedure, the frequency band of the tank is found in a hurry.

The instrument can also be used as a field strength meter, an emergency receiver, phone monitor or a frequency monitor by placing a tank circuit resonated to the station desired across the detector input. Relative field strength can then be determined by the meter. By plugging phones into the closed circuit jack, the desired station can also be heard.

In tracking superheterodynes the various trimmers can be aligned without turning on the receiver. The primaries of the oscillator, r.f. and detector coils are individually connected across the output of the signal generator. Beginning with the RF coil, the condenser gang of the receiver is set to 1400 kc. (assuming the B.C. band is being aligned) with the signal generator also set to this frequency. The r.f. trimmer is now adjusted until a dip is noted on the meter. The detector coil and trimmer is adjusted in the same manner.

Now since the oscillator should be tuned to 1400 kc *plus* the IF of the receiver, the signal generator is reset on this new frequency. The gang condenser of the receiver remains the same during this operation. The oscillator trimmer is now adjusted for maximum dip of the meter. Setting the signal generator to 600 kc. plus the IF, and the gang condenser to 600 kc., the oscillator padder is adjusted for maximum dip. While the gang is set at this position the r.f. and detector coils can be rechecked for resonance at this frequency. The higher frequency operation should now be repeated again for accurate alignment.

The IF transformers may also be adjusted to resonance with the receiver dead. One of the windings is

used to couple to the signal generator while the other is tuned for maximum dip. The signal generator must be set at the IF value given by the manufacturer of the transformer.

The grid dip detector can also be used for determining the frequency range of permeability tuned coils used in conjunction with a specified fixed capacitor. The coil and capacitor is again placed across the detector input and coupled to the signal generator in the manner previously described. The two frequency limits are then read on the signal generator as the inductance is varied by the permalloy core.

The matching of coils is easily accomplished by using the calibrated capacitor in parallel with the detector input. The coils to be matched are then placed across the detector input and resonated to the signal generator. Whether the coils are high or low in inductance in comparison with the coil used as standard can be determined by the amount of capacity added or subtracted to bring back the point of resonance.

These are only a few of the uses for this little instrument. The small expense involved in constructing it will certainly be compensated for by its usefulness in the shop. -50-

### Video Reporter

*(Continued from page 39)*

the support of sponsors who advertise, technically television has not relinquished its experimental status. Like the unlimited radio realm in which it has been nurtured, television, if it is to survive and thrive commercially, will forever be experimental. As long as it is a subject of experiment it will progress. The word 'experimental' signifies that, as a science and art, it is alive and seeking opportunities to advance in order to take every advantage of the unlimited possibilities for expansion."

It seems, though, that Mr. Sarnoff was more concerned with the technical side of television.

While the program producing side, of course, has technical limitations, the field is ready for new and original presentations. There's no reason why a new art should be a dull one. And there's no reason why the newness of an entertainment medium should "entitle" it to be cumbersome and erratic.

**T**ELEVISION networking on a nationwide scale is a long way off. Just how far is a thing that nobody knows. Getting programs to the entire nation is a thing that will have to be accomplished before television can grow to the status of a really great industry. Just equipping big cities with transmitters is not enough. The small towns must be reached. Just imagine what sound broadcasting would be like, if the small towns and rural districts weren't serviced with programs! Radio receiver sales would be just a very small fraction of those actually achieved and the roster of program sponsors would be the faintest shadow of its present form.

Hence, it was with interest that we observed the statement by Niles Trammell, NBC president, before the Senate's Interstate Commerce Committee.

"Television in the national sense," he declared, "must begin with a network. It will require investment and enterprise to which that of sound broadcasting is like a drop in the bucket.

"NBC has been doing everything in its power, subject to priorities of men and materials, to establish local television in Wash-

ington as well as in New York. But it is mere moonshine to say, as has been stated to your committee, that by limiting television licenses to three stations for any one licensee, the go-ahead signal has been given and—presto chango!—a national service of television is made possible."

**A** MONTH after television's commercial debut found CBS requesting a thirty-day extension of the original month's program test period for its New York eye-and-ear station, WCBW.

A chief blame for the delay was placed on insufficient equipment for commercial operation.



DuMont deluxe television receiver.

The CBS announcement tersely concluded with: "The portable equipment necessary to release the CBS television studio for commercial operation was ordered by CBS two years ago. It has not yet been delivered."

And there were no such delaying things as OPM priorities back in those order-placing days!

**B**IG technical improvements will be completed at W2XB, the General Electric video station in Schenectady, New York, when the station resumes operation at an early date. Power will be increased from 3 to 20 kilowatts for sound and from 10 to 40 kilowatts for images. When completed, the transmitter and studio set-up will be one of the best in the country and will serve upper New York State with local programs in addition to rebroadcasts of WNBT's offerings in New York City.

**T**HE Video Reporter had a recent chat with Sterling Fisher, CBS director of education, who has great faith in television's future as a classroom aid. Mr. Fisher did not see present types of schoolroom visual aids threatened by television. He thinks they will have their place all the more when lessons "by television" are received in the schools. He pointed out that the image on the receiver screen is a fleeting one and vanishes completely once the television lessons are over. Hence, he said, television will not replace the blackboards, maps, globes and charts that have been pedagogical stand-bys for many generations.

**W**HEN Radio City was built in New York several years ago, a cluster of studios in clover-leaf formation was "set aside" for television. Guides taking paying customers on studio tours always pointed to the clover-leaf unit with pride and told of its eventual television usage.

However, when television did come along it was relegated to a single third floor studio and the NBC video staff was divided on two other floors. Now, the personnel at long last is grouped together in the adjoining Sixth Avenue Building. Passageways connecting the third and fourth floors of that structure with the NBC section of the RCA Building were built to permit the video staff

to go from office to studio without using elevators.

But what's become of the clover-leaf studios?

It seems as if television could make mighty good use of a clover leaf right now!

**D**ISCUSSING the commercial call letters of the NBC video station, a company spokesman pointed out that WNBT could aptly be merchandised under the slogan of "Why Not Buy Time?" And we couldn't help mentioning the possible response of: "We're Not Bothered Terribly."

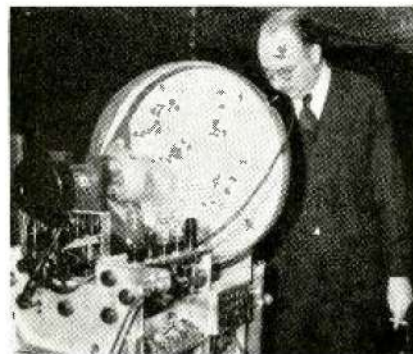
And we could have added such initial pointers as "Why Not Boost Television?" and "We Need Better Television."

However, we don't doubt that television time will be salable in big units once the programs improve and there are real merchandising efforts for video receivers at reasonable prices.

**T**HE first handful of sponsors has already taken a crack at television and some of the efforts to present visual advertising blurbs have been interesting. The chief handicap seems to be the formula of radio commercials built up to tremendous proportions by sound broadcasting. Many commercials seemed overdone in sound radio alone; now, with the eye as well as the ear getting the ballyhoo, everyone concerned should proceed carefully lest the attempt be overdone.

But, for a sample, let us quote from a recent NBC announcement regarding the signing of the Botany Worsted Mills as a sponsor: "The programs, which will begin soon, will consist of a unique presentation each evening of the weather report for the following day, together with a visual exposition of one or more of the Botany products, which include wrinkleproof ties, robes, men's and women's wear fabrics, yarns, and Lanolin beauty aids."

The home television receiver, some look-and-listeners may comment, is not a show window for merchandise. As in radio broadcasting, the listener is willing to receive a limited commercial along with the entertainment the advertiser pays for. But the temptation for advertisers to go overboard on the idea of parading their wares before the studio camera will result in many darkened home television screens.



DuMont 20" Teletron video tube.

**I**NCIDENTALLY, television station operators and advertising agencies are alert to the fact that a brand new technique for presenting commercial spiels must be perfected in order to reach mass television audiences.

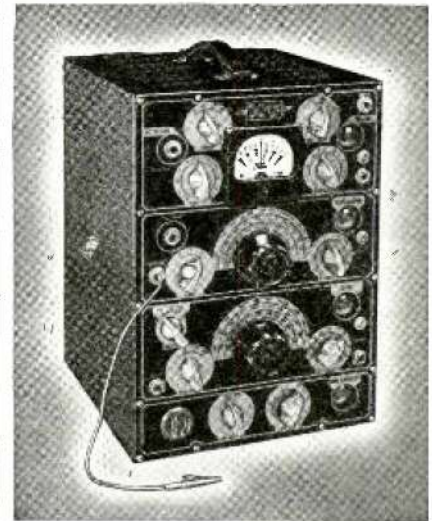
And here's a tip for creative writers: The market for television scripts—particularly commercial ones—is growing, and the station and agency lads are in a mood to consider the worth of all ideas presented.

**T**HE manufacturing future of television is none too bright at the time of this writing. While the industry is being allotted materials for "essential" radio services, the status of television as "essential" in a period of national emergency is problematic. However, word from laboratories and manufacturers imply that television production plans are progressing. But, as yet, there is no intensive effort at merchandising.

# CONVENIENCE

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# ANALYST



## -has it!

The NEW Meissner ANALYST, with Direct Reading Electronic Voltmeter, is designed for the Modern Service Bench. Built for SPEEDY trouble-shooting, its carefully planned convenience will save EXTRA time . . . when time counts! You can get those RUSH jobs out in really short order—and know they're right!

Convenience is built into the ARRANGEMENT of controls on the new panel! Each Channel has its own separate section, plainly marked, and every control is right where you would expect to find it! No groping around the panel (or back of the cabinet) for a switch or jack connection . . . it's right there on the panel . . . where it belongs!

For that matter, ALL controls and jacks are ON THE PANEL! If you want to mount this instrument in your wall rack . . . that's your business . . . you won't have to turn the ANALYST around after it's plugged in!

Complete with tubes . . . ready to operate Model 9-1040 ANALYST, Net . . . \$96.25

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