

# Radio News

October, 1937

## American BROADCASTING *Starts Dressing Up*

By Samuel Kaufman

**D**OWN with the old and dingy! Up with the new and beautiful! There, in a few words, is the slogan radio stations from coast to coast are following these days. Studio reconstruction and modernization, a sort of large-scale "dressing up" program, is under way in all parts of the U. S. A., indicates that all stations—big and small—are realizing scientifically advanced and beautified program suites mean better transmission and reception. At one time, the studio was the last consideration in a station's modernization campaign; today, it's virtually the first.

In the April, 1937, issue, RADIO NEWS set forth details on new studios in several American cities. Since the date of that writing, there has been a deluge of new announcements of studio rebuilding. The makers of studio materials are experiencing an unprecedented spurt in orders. The broadcasting industry, unlike many others, believes in investing a large share of its profits in modernization, and the current epidemic of new studios reveals that broadcasters are making practical applications of new studio devices and techniques as soon as they are made available by engineers and scientists.

### Chains Active

Network stations, particularly, are endeavoring to emulate their key units in respect to design, if not in size. As a result, many NBC and CBS affiliated stations are prominent in the roster of new studio builders. Many of the new studios are providing for the future development of television activities, this move indicating that the new art is closer than many radio executives care to admit.

In addition to a main studio building and three

theatres in New York, the Columbia Broadcasting System has seen fit to add four modern, beautifully equipped studios in a Times Square building. These are defined as "permanent" studios and will probably be retained even after the completion of the new CBS headquarters now being designed by architects, the site previously chosen.

The Times Square studios, at 799 Seventh Avenue, contain such essential supplementary space as a large foyer, offices and special rooms for engineers, musicians, sound effects and storage. Each studio has its own control room and the two largest chambers have clients' audition rooms as well. The largest studio utilizes the advanced semi-live end, dead end acoustic principle. A large Kimball organ was erected in one of the new broadcasting rooms. Separate corridors have been provided for personnel and visitors.

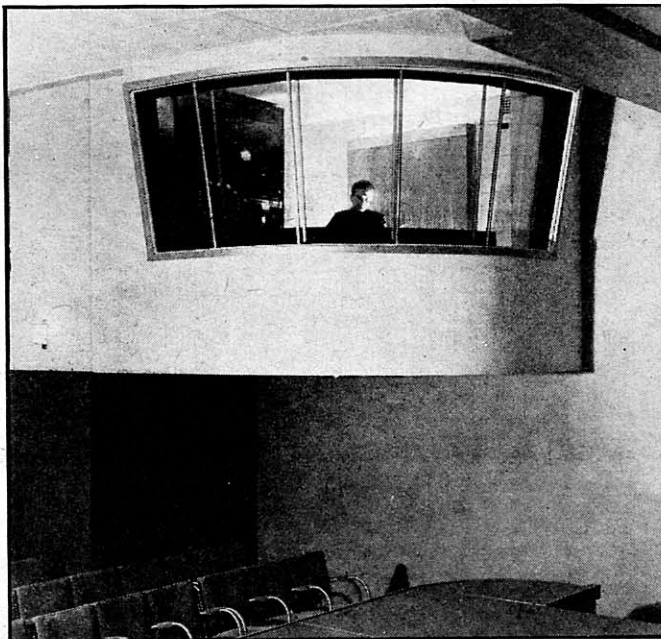
WBBM's new studios, which are the Chicago headquarters of CBS, occupy part of the main floor and the entire second floor of the North Wrigley Building. This entire broadcasting layout was designed by William Lescaze, who also served as architect for the chain's elaborate New York and Hollywood broadcasting centers.

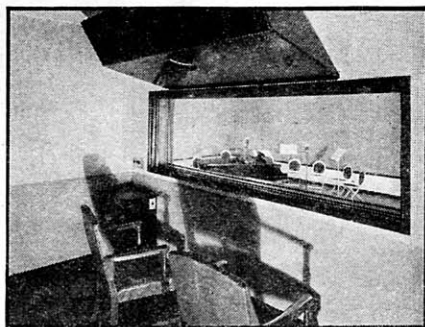
### New Effects

A feature of the Chicago unit is a radio theatre that boasts a new modernistic motif. Built with no two walls parallel—claimed to be the latest acoustical "advance"—the auditorium and stage offer a novel effect to eye and ear. The control booth and client boxes are suspended from the ceiling, curved windows permitting full-range views of performers and guests. Even the desks and speaker cabinets were built to order to assure

### BROADCASTING FROM A ZEPPELIN?

*Although at first glance this looks like the control room of an airship it is really the new control room of Studio 10 WBBM, Chicago. Just one idea of how American stations are using the "modern" motif in buildings built especially for broadcast use.*





#### THE CLIENT'S ROOM AT WKRC

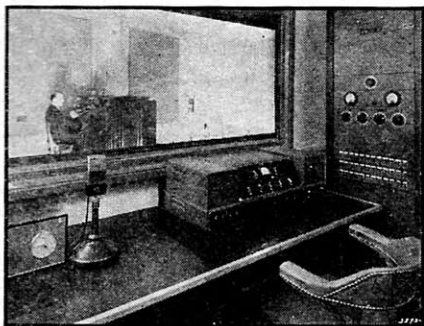
*Here is where the sponsor may sit, hear and view his broadcast as it is being broadcast. Note the simplicity of line and the acoustically treated walls.*

#### NO TWO WALLS PARALLEL

*At left, another view of Studio 10 at WBBM. It is claimed that this is the first studio in which all walls and ceiling bend at angles so that no two surfaces face each other exactly.*

#### KYW'S NEW BUILDING

*An architect's drawing of Philadelphia's new radio broadcasting house, the most modern, scientifically and artistically, of them all.*



#### WABC'S ORGAN STUDIO

*Mighty organ tones are now truthfully reproduced from this studio designed especially for the purpose. Note the control man's complicated monitoring unit.*

harmonizing with the decorator's theme. One of the latest principles of scientific lighting is applied here with two white and two gray walls reflecting the indirect lighting to best advantage. This unique broadcasting chamber will be supplemented by two additional units at a date subsequent to this writing.

New studios and offices for WKRC, Cincinnati CBS outlet, were opened in the spring. They are located at the Hotel Alms and followed the design of the chain's New York headquarters. Here, the live-end, dead-end principle is also employed in the auditorium studio,

along with "floating" sound insulation. The modernistic motif is followed throughout.

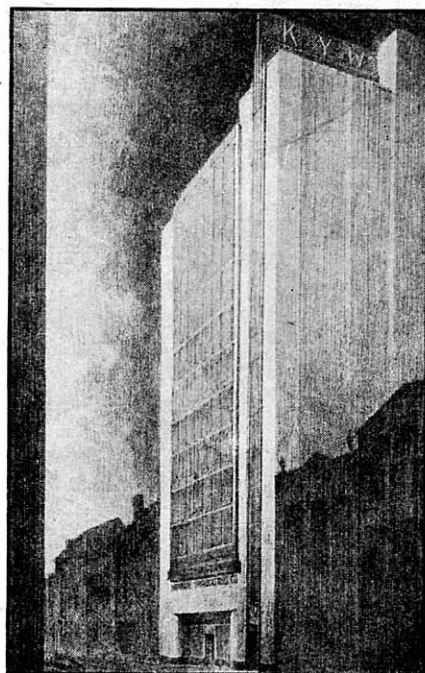
WKRC also boasts a complete new transmitter with day power increased to 5,000 watts, night power remaining at 1,000 watts. The only things not new at WKRC are the two antenna towers atop the Hotel Alms.

Ground was recently broken in Philadelphia for the construction of a six-story building at 1619 Walnut Street to house the Quaker City studios and offices of KYW, the Westinghouse transmitter managed by NBC. The studio cost is estimated at \$600,000 and occupancy is set for November 1 of this year.

Excepting the first floor, the entire structure will be used for studios and offices. One innovation, here, is the location of the auditorium studio in the basement. This studio, seating over 200, will contain a stage and a demonstration kitchen for domestic science broadcasts. The second floor will house the main operations suite. Three principal studios will be on this level with observation galleries in the mezzanine. A smaller (Turn to page 250)

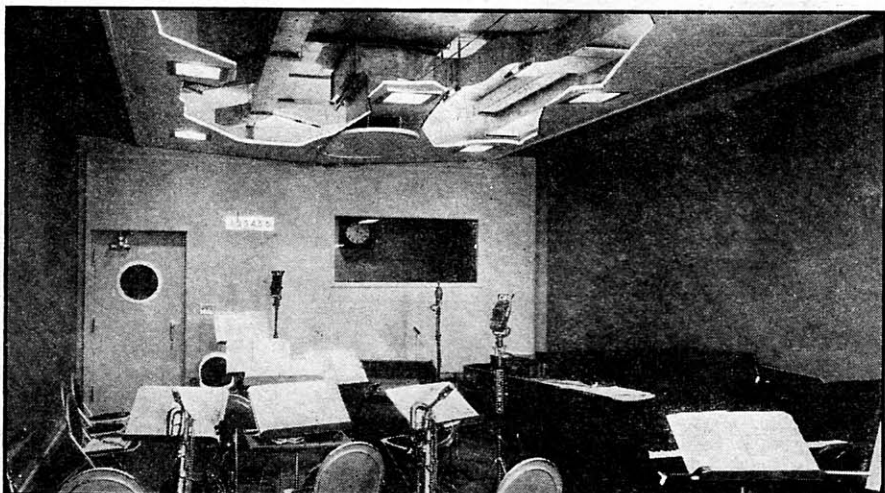
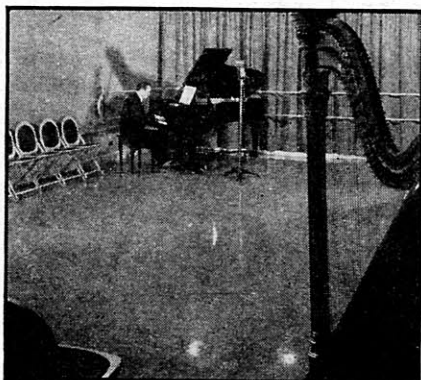
#### SUSPENDED WALLS AND CEILING

*This cut-away view of modern studio construction reveals a maze of concealed ducts.*



#### FOR CHAMBER MUSIC

*WBBM's Studio 9 designed along the "one dead end" principle in acoustic architecture.*





## "LET ME TRAIN YOU *at home* FOR A GOOD RADIO JOB" Get in Line for Big Money!

Radio is growing fast. Modern receivers require thoroughly trained experts for service and maintenance. You can become such an expert... *right at home*... through R.T.A. methods and begin earning money almost from the start of your course. In a very short time you will

**Be the ONE Man in  
1,000**

who understands everything there is to know in order to give quick "sure-fire" service to all kinds of receivers. You can be the one man who can take the service business away from the old-time radio "tinker."

**No Experience Needed**

Even though you know nothing about Radio now, you can quickly qualify the R.T.A. way to step right into a well paying position—or start your own profitable business. Use your spare time and

**LEARN AT HOME**

Most R.T.A. members start making money right from the beginning. The special servicing equipment which is supplied without extra cost makes this possible. Don't wait—get started now. Write today for our Interesting Radio Book FREE.

**INCLUDED  
WITH OUR  
TRAINING**



This efficient time-saving, trouble-finding Circuit Analyzer and Resistance Tester helps you to make money without delay.

**Don't Put It Off—Send Coupon Now**

RADIO TRAINING ASSOCIATION OF AMERICA  
4525 Ravenswood Ave., Dept. RN-107, Chicago, Ill.

RADIO TRAINING ASSN. OF AMERICA  
Dept. RN-107, 4525 Ravenswood Ave., Chicago, Ill.  
Gentlemen: Send me details of your Enrollment Plan and information on how to learn to make real money in radio quick.

Name.....

Address.....

City..... State.....

## Takes the Sock!



- ★ Porcelain-case mica capacitor. For those h.f. applications.
- ★ Minimum metal in h.f. field. Units rated in max. current-carrying capacity at 15 mc., 7.5 mc., 3750 kc. and 1875 kc.
- ★ In capacities of .00005 to .1 mfd. 2000 to 12500 volts D.C. test.

**New CATALOG:** 15th Anniversary Edition. 32 pages. Many new items. Ask your supplier or write us for copy.

**AEROVOX**  
CORPORATION  
70 Washington St. : : : Brooklyn, N. Y.

## American Broadcasting

(Continued from page 200)

speaker's chamber will also be on the second floor. Two small studios and the master control room will be on the third floor. The remainder of the third and fourth floors will be given over to an audition room and office space.

The KYW studios will incorporate what is known as the "Holmes system of sound isolation." This involves the suspension of studio shells by means of steel springs.

Licensed for 10,000 watts, the station has applied for a step-up to 50,000 watts.

Schenectady, New York, will also have a new NBC building to house Station WGY of the General Electric Company. This is one of the oldest 50-kw. stations in the U.S.A. and is well known to short-wave fans for its many programs routed over sister high-frequency stations.

The new building will be built on the G.E. grounds at the head of Erie Boulevard, one of the city's main thoroughfares. The studios will occupy a space of 20,000 square feet. The cost of the building and equipment is set at \$300,000.

Cleveland, too, joins the new studio parade with new headquarters for WTAM in the first four floors of the Guarantee Title & Trust Building, Dixie Highway at Ninth and Superior Streets. The studios will be ready by the end of 1937, according to NBC plans. Seven studios will be erected, the largest of which will seat 400 visitors. The engineering equipment and master controls will be in the basement. The first floor will contain five studios and reception rooms. The two largest studios will be on the second floor, while offices will be assigned the second and third levels. The lease also calls for the use of the roof. Exactly how the roof will be used was not stated, but it was disclosed that the studios, as well as the roof, will have "provisions for television facilities."

The cost of the WTAM improvements is estimated at between \$250,000 and \$300,000. The station is seeking Government sanction for erecting a new vertical antenna which NBC claims capable of providing, in effect, a two-fold increase of the station's 50-kw. power.

Still additional plans for new studios in other NBC and CBS cities are being made.

## The Wien Bridge

(Continued from page 218)

restrictions in the frequencies to be compared, it being as simple to measure 568 as 500 cycles per second.

With more careful shielding of the leads from the ratio-box, use of resistance standards capable of accurate and finer subdivision, and correction for phase angle of condensers  $C_a$  and  $C_b$ , this method is capable of much greater precision than it has been attempted to obtain here.

## Seeing America

Schenectady, N. Y.—Several months ago, General Electric short-wave stations started a series of American travelogue broadcasts to acquaint listeners here and abroad with the historic and scenic wonders of America. These broadcasts will be continued until November. The broadcasts take place over W2XAD and W2XAF every Monday, in French at 1 p. m., in English at 5:15 p. m., and in Spanish at 6:15 p. m., all E.S.T.

## The Radio Beginner

(Continued from page 204)

raise the voltage. When the same circuit is connected to a d.c. line, the plug must be inserted so as to make the plate of the rectifier positive. Then the rectifier will be conducting continuously. If the plug is inserted incorrectly, making the rectifier plate negative, the rectifier does not conduct and the receiver is inoperative. The tube filaments will be lighted however. Under these conditions electrolytic condensers can safely be used because they cannot be exposed to a reversed voltage, the rectifier protects them. The available plate voltage is somewhat lower on d.c. than it was on a.c. since it cannot become higher than 115 volts minus the voltage drop in tube and filter.

A.c.-d.c. receivers have some special problems of their own. One of the greatest ones is the problem of grounding. Figure 3 shows that the negative terminal of the B— supply is tied to one side of the line. If the chassis is connected to B— as in a.c. receivers, this chassis may be "hot" because one side of the line is grounded and that is not necessarily the same side. Thus the chassis itself may be 110 volts negative with respect to ground. Obviously it cannot be grounded as is an a.c. receiver and it would be possible to obtain severe shocks from it. Also, accidental short circuits may occur if it should come in contact with any grounded objects. The aerial wire too must be protected by inserting a mica condenser in its lead. When the plug is correctly inserted in an a.c. line, these dangers may not be present, but if the plug is reversed they will all show up. The receiver works either way.

These dangers can be minimized in two possible ways. The entire chassis can be enclosed in an insulated cabinet, taking care that even the controls are insulated. Another way is to isolate the chassis from the circuit itself, mounting the tuning condenser on insulators. The chassis is usually connected to B— through a condenser and it can then be grounded.

Another problem is the heat from the dropping resistor which was explained above. Then, the fact that the receiver is connected directly to the line makes it more susceptible to noise in the line. An extra r.f. filter to reduce noise is desirable.

Finally, there is only a limited B— voltage available. Usually no more than 125 or 135 volts on a.c. and about 90 to 100 volts on d.c. This limits the possibilities of circuits and also makes it hard to obtain much output power. Until recently, there was only one output tube for the purpose, the 43 which was a power pentode delivering 0.9 watt. Now there have been several new tubes, the 25B5, 25B6 and 25L6 which make available an output of 2 watts for a single tube. The rectifiers for the circuit must have a cathode insulated from the filament. One of the most popular is the 25Z5 which contains two separate rectifier sections insulated from each other and from the filament. Operating the two sections in parallel as in Figure 3 makes the maximum current rating of the tube approximately 100 ma.

## Radio in Sweden

Stockholm, Sweden—The new Swedish short-wave station at Motala has been operating since March 8. It transmits on a wavelength of 25.63 meters and on 49.46 meters with a power of 0.5 kw. The station relays the Swedish State program. Frank Hammar, Swedish engineer, who was engaged by Haile Selassie at one time, designed the equipment.