

SKIRVIN  
TOWER  
HOTEL

W

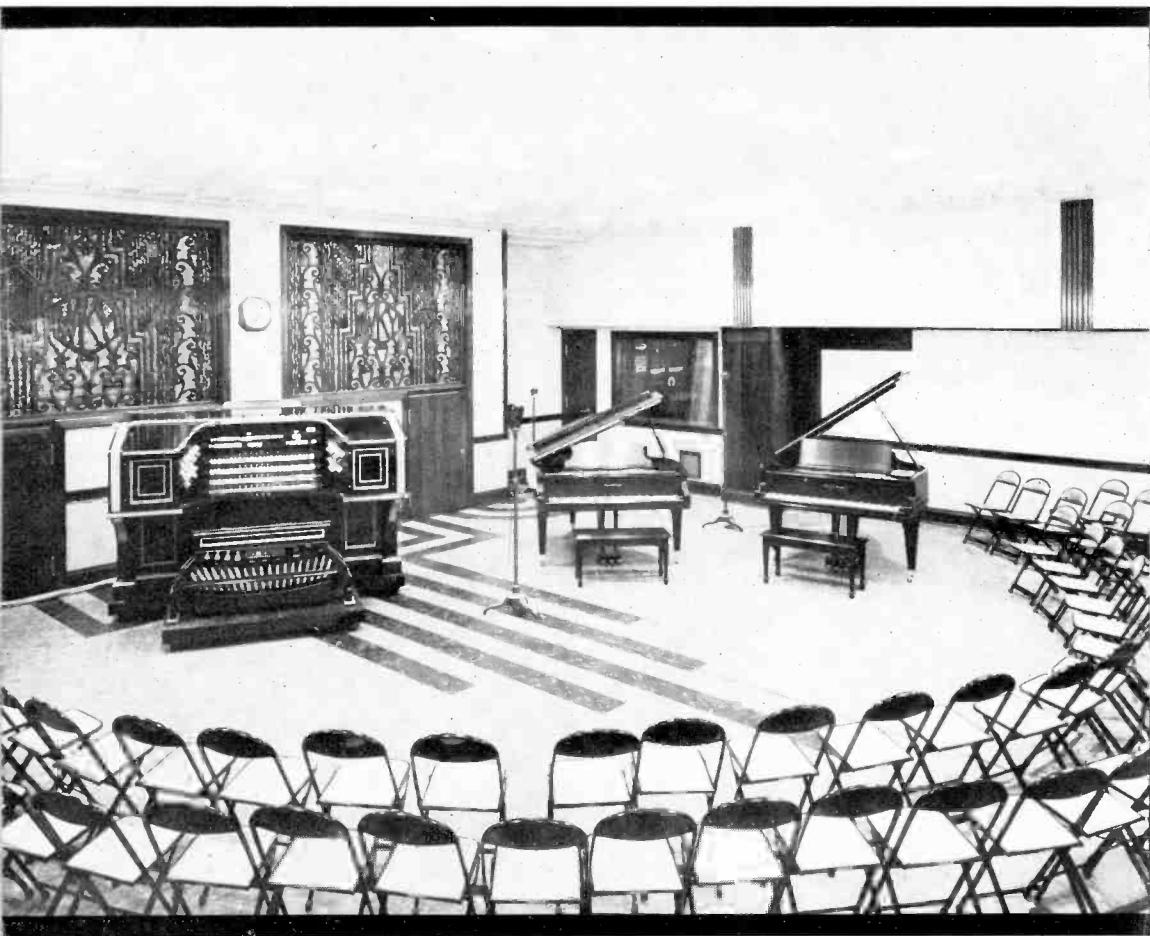
K

Y

STUDIO

AIR CASTLE *of the Southwest*

# Air Castle



# *of the* SOUTHWEST





W K Y

• Sixteen years ago the station which is now WKY was the spare-time hobby of one man. Today it is the listening habit of an entire state . . . a great social and economic force. And serving as it does an audience greater than that of any other Oklahoma station, its responsibilities of service are correspondingly greater. The planning and construction of these new studios has been the latest and longest step toward meeting these responsibilities. So it is in anticipation of its greater opportunities to play an increasingly important part as a medium for public service and entertainment that WKY looks forward to the future.



## The Oklahoman, The Times and The Farmer-Stockman

# FIVE STRIDES IN



**1936** WKY's new home in the Skirvin Tower Hotel utilizing the entire fifth floor. In addition, the acoustically treated ballroom on the third floor is available for use as an auditorium studio seating 1200. In size and facilities, these studios compare favorably with the finest in America.



**1928** The Oklahoma Publishing Company acquired complete ownership of WKY in 1928, built new studios at Plaza Court and a new transmitter at the present site on West 39th street.

**1924** Larger facilities were required and in 1924 WKY's studio was established in the basement of the Juckins Hotel.

# MAINTAINING Leadership

● Ever since the day in 1920 that WKY, with a 20-watt transmitter housed in a garage, became the first station west of the Mississippi and the third in the United States to broadcast regular daily programs, it has maintained a pace in radio enterprise that has kept it in the forefront of broadcasting progress.

At the age of three, the infant station took its first step, moving its makeshift studio in a Westwood living room to the Shrine Temple. In less than a year it had outgrown these quarters and in 1924 the studio was established in the Huckins Hotel Dungeon.

Right from the start, WKY enjoyed the cooperation of the Oklahoman

and Times in publicizing and promoting unusual stunts, publishing articles and supplying the station with news, sports and weather bulletins, all of which undoubtedly contributed to the station's early growth and popularity.

In 1928, the Oklahoma Publishing Company purchased the station outright, built a new transmitter at the present site and moved the studios to the then elaborate quarters at Plaza Court.

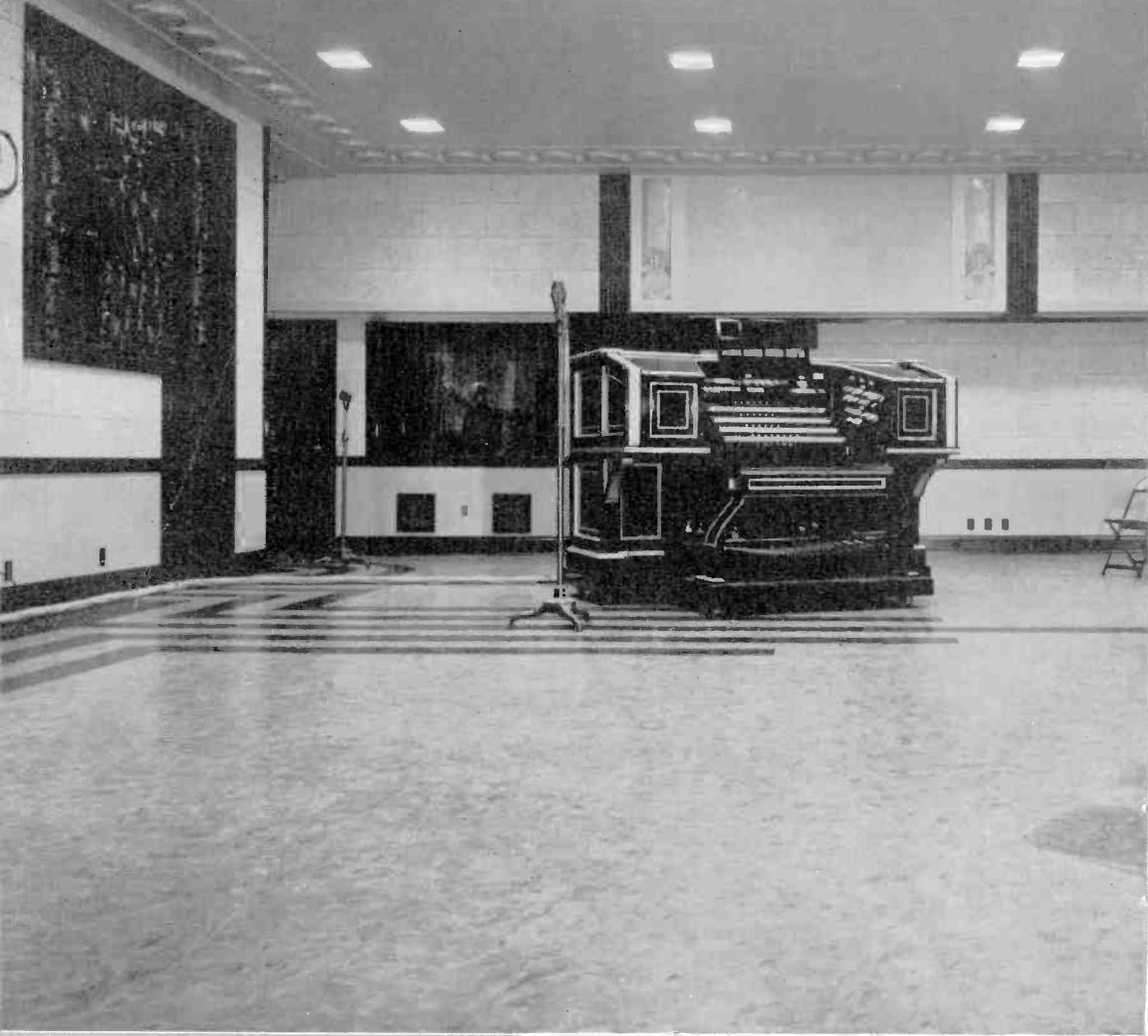
Today, eight years later, another forward stride has taken WKY into a castle of the air whose size and facilities eclipse anything in the South and Southwest and compare favorably with the finest in America.



**1923** As soon as it became possible to "pipe" programs from locations removed from the transmitter, WKY's studio was moved to the roof of the Shrine Temple and the transmitter to Packingtown.



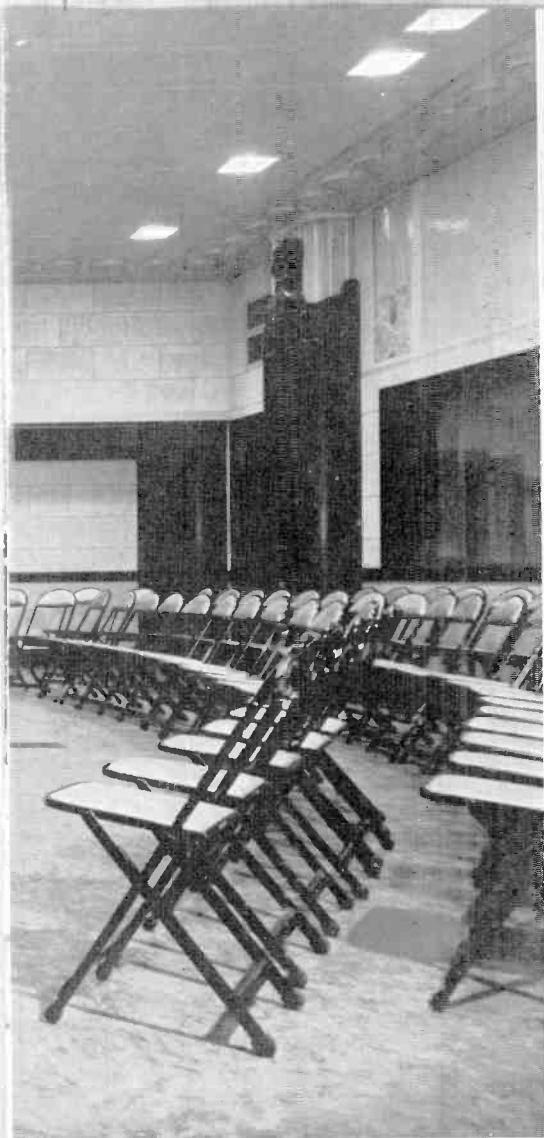
**1920** Sixteen years ago this humble garage in Westwood became the birthplace of WKY, the first station west of the Mississippi and the third in the U. S. to go on the air with regularly scheduled programs.



# FLOATING *Soundproof* STUDIOS

- One of the most important and interesting of the many outstanding features incorporated in WKY's new studios is the complex construction of floors, walls and ceilings by which they are completely insulated from the building and from each other.

Studios "A" and "B" are really rooms "floating" within rooms, raised from the building floor by felt-covered steel springs on a soundproof cushion of rockwool.



**STUDIO "A"**—This studio is as nearly "soundproof" as engineering genius can make it. It is insulated from the building frame and adjoining rooms and acoustically treated with special floor, wall and ceiling construction.

Ceilings are suspended from above while the inside walls are separated from the building walls by hair-felt insulators and a thick blanket of rockwool.

The observation windows are of three-pane construction and the doors of special laminated, sound-proof construction on squeakless hinges to prevent sound from getting in or out of these openings.

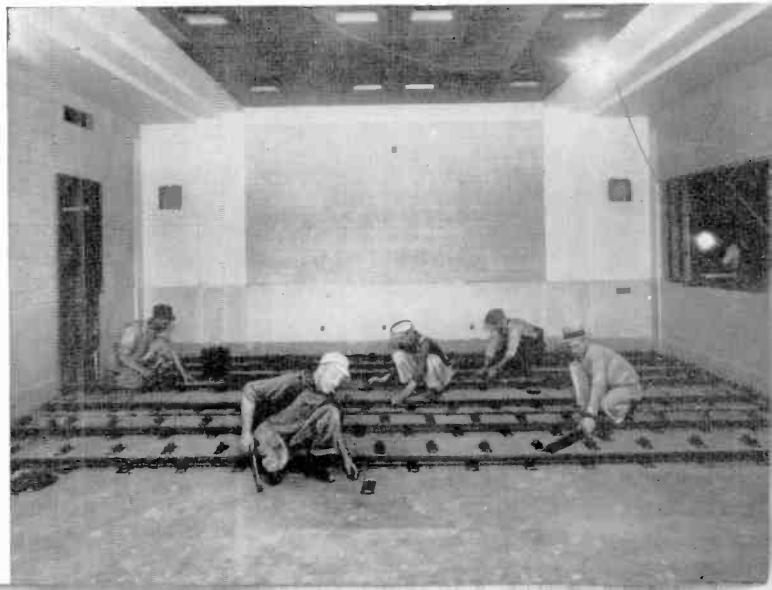
The steps to studio silence are shown and described in the accompanying illustrations and diagram.

#### ACOUSTICAL TREATMENT

● But soundproofing was just part of the job.

The experience of talking in an unfurnished room and then later in the same room fully furnished illustrates

This shows the first step in the construction of the sound-insulated floor in Studio "A". Steel channels to carry the floor load rest in supports lined with heavy felt cushions, in turn resting on steel spring clips.



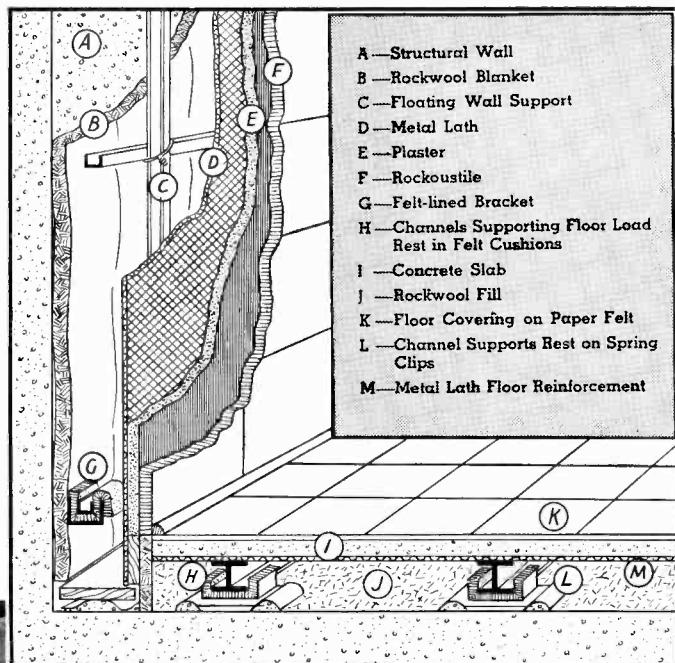
the necessity of acoustical treatment to avoid echoes, reverberations and harsh tones characteristic of empty rooms with ordinary hard plaster walls.

The science of acoustics has come far in the past few years and the very latest developments have been utilized in the treatment of WKY's studio walls and ceilings to avoid the echoing confusion of medium and low frequency sound waves without destroying or deadening the delicate and important overtones that shape

and model voices and music for the microphone.

The acoustical treatment of studio walls consists of the tile-like squares of Rockoustic, a composition of exfoliated mica which resembles cork to a great extent. The ceilings are treated with a layer of rockwool covered by a sheathing of perforated transite, a hard, highly compressed mixture of cement, asbestos and linseed oil. The perforations allow sound to penetrate and reach the rockwool where it is absorbed.

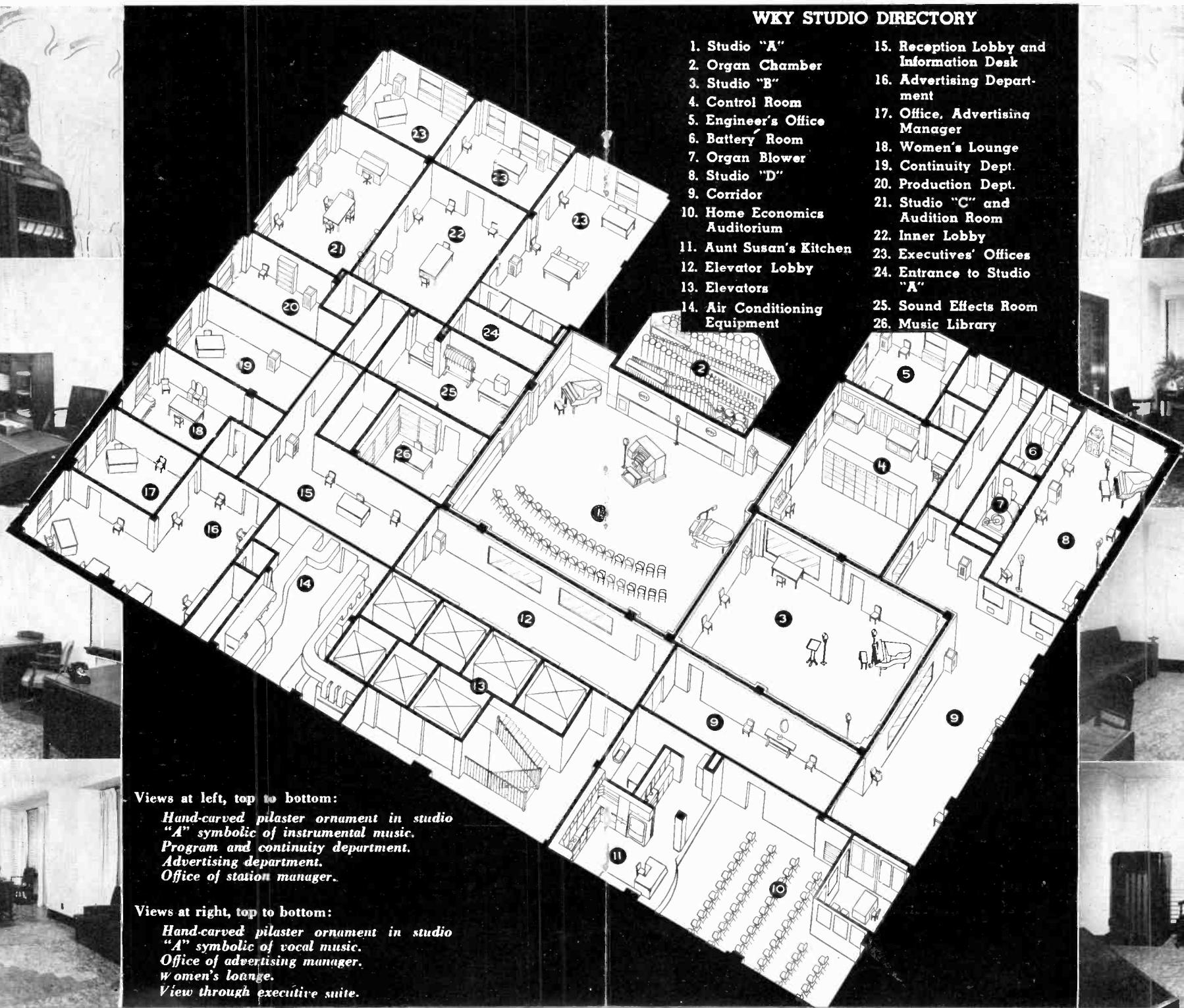
Right: Artist's diagram of studio wall and floor construction showing the method of sound-proofing and acoustical treatment.



The space between the channels is filled with rockwool and covered with black building paper. Wire mesh reinforcement is laid over the building paper and covered with concrete. Over all is laid the floor covering.

## WKY STUDIO DIRECTORY

1. Studio "A"
2. Organ Chamber
3. Studio "B"
4. Control Room
5. Engineer's Office
6. Battery Room
7. Organ Blower
8. Studio "D"
9. Corridor
10. Home Economics Auditorium
11. Aunt Susan's Kitchen
12. Elevator Lobby
13. Elevators
14. Air Conditioning Equipment
15. Reception Lobby and Information Desk
16. Advertising Department
17. Office, Advertising Manager
18. Women's Lounge
19. Continuity Dept.
20. Production Dept.
21. Studio "C" and Audition Room
22. Inner Lobby
23. Executives' Offices
24. Entrance to Studio "A"
25. Sound Effects Room
26. Music Library



# THE Studios

• It is a perfectly natural question to be asked even by those fairly familiar with radio production problems, "Why are so many studios necessary?"

For every hour of actual broadcasting, an average of five hours of preliminary studio work is required.

Therefore, while one studio is in use, two others may be used for rehearsals or the audition of new programs or talent and still another be in preparation for the following program. Then, too, since programs vary in type and size, their studio requirements vary.

With the acoustically-treated ballroom on the third floor available as an auditorium-studio seating 1200, WKY's new home has six studios. Studio "A", the largest of the fifth floor group, contains the Kilgen pipe organ and is large enough for radio productions of any size or type. Studios "B" and "D" are especially designed for solo, small ensemble or dramatic broadcasts. Studio "C" is designed as a speaker's studio and clients' audition room, and Aunt Susan's kitchen-studio completes WKY's studio facilities.

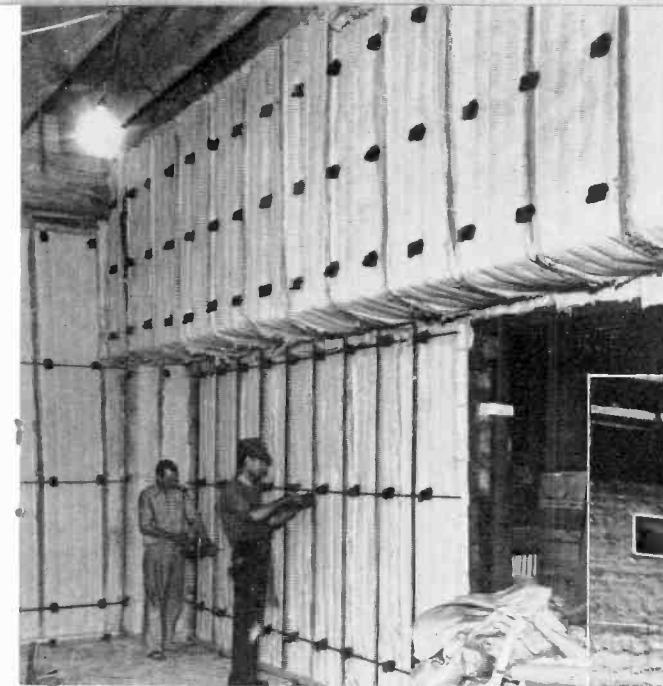
## "Shadowless" LIGHTING

• Another striking feature of WKY's new studios is the type of illumination provided. Lighting in a broadcast studio must be free from glare and sharp shadows, yet of sufficient intensity and uniformity that music, notes and scripts may be read with ease and speed.

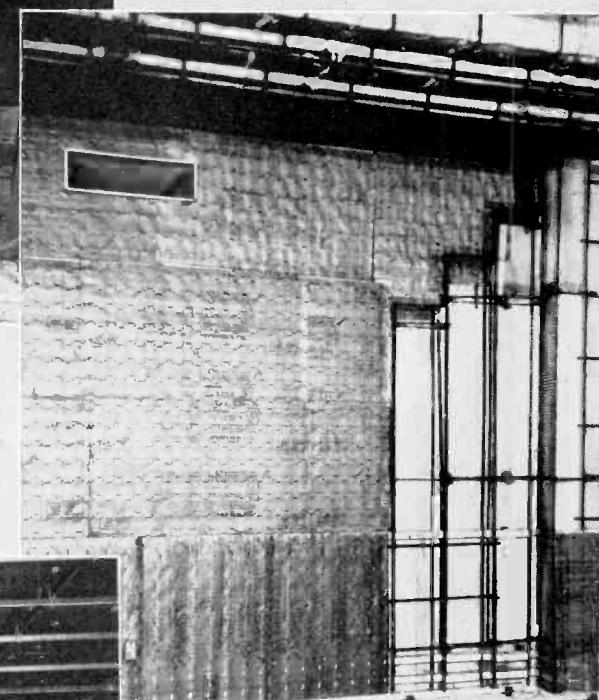
These requirements have been met in WKY's studios through the use of

controlled lens lighting—the most efficient system of direct lighting yet devised.

Each light is flush with the ceiling to avoid interference with the acoustical properties of the studio, and the desired dispersion and distribution of light is achieved by the moulded corrugations on the inside surface of the lens.



Here you see rockwool blankets fastened to the wall as the first step in the acoustical treatment of studio walls. The workmen are erecting the furring channels that will serve as supports for the "floating" wall.



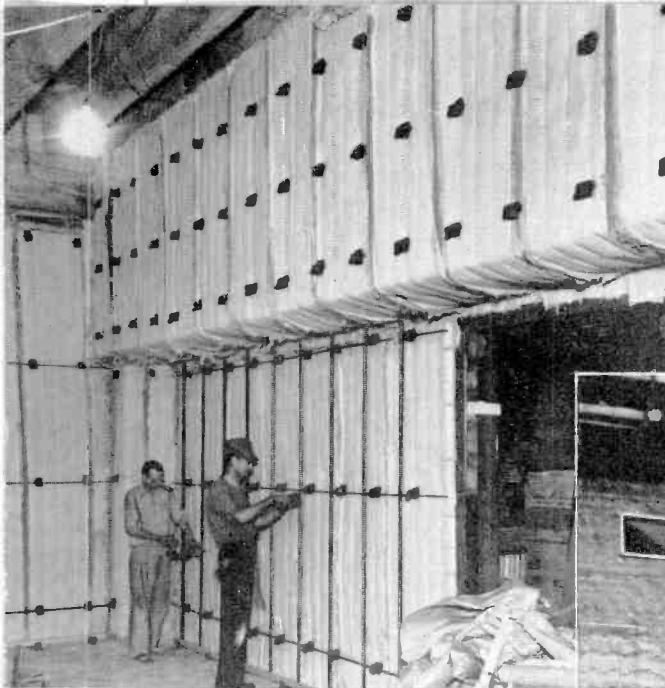
At right you see the wire lath in place ready for plaster coats. Next is applied a layer of Rockoustic, a sound absorbent material resembling cork. This is the porous surface that forms the decorative scheme on studio walls.



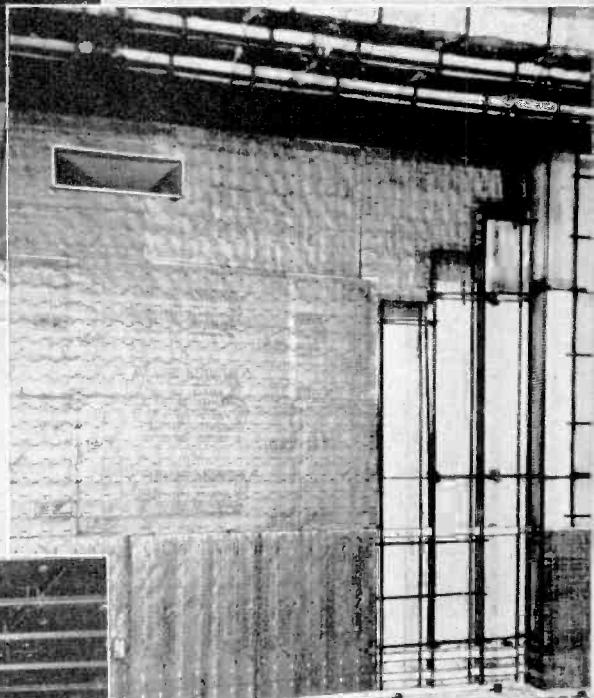
Left: View of ceiling construction. Wire mesh fastened to these steel rafters is coated with plaster and a layer of rockwool covered by a perforated, sound absorbing sheathing.



View from control room into studio "B" showing construction of the sound-proof partitions. Three panes of glass are used. The two panes facing the studio are slanted to disperse sound waves and avoid echoes.



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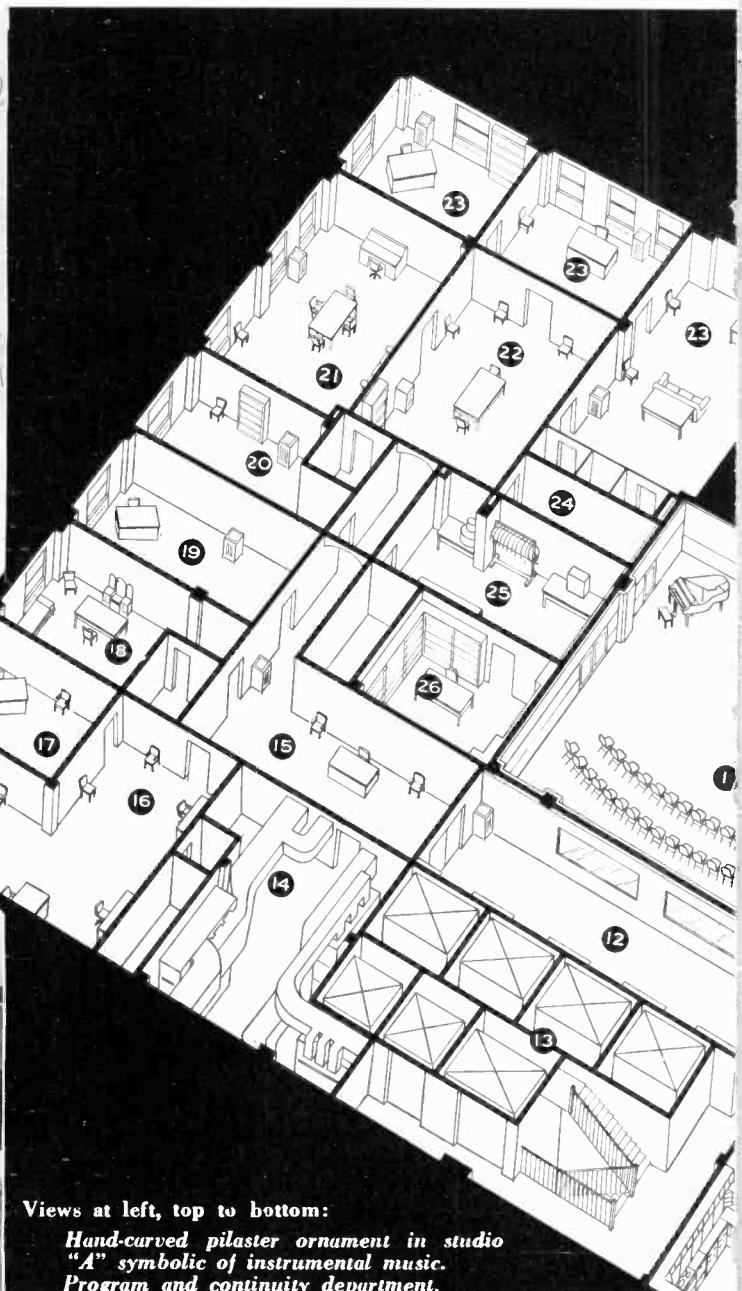
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**Views at left, top to bottom:**

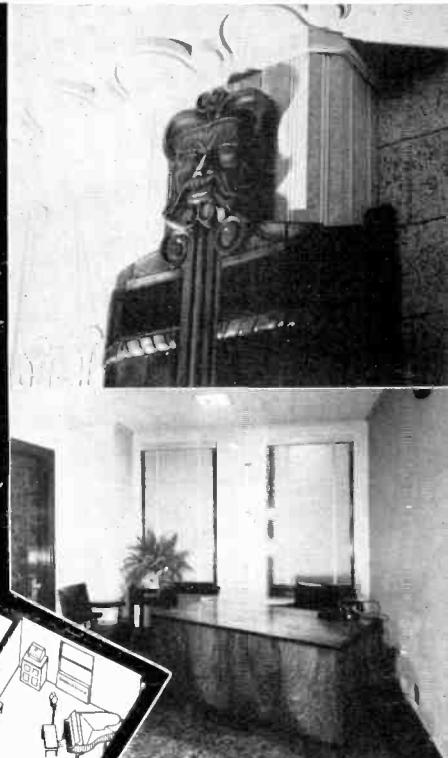
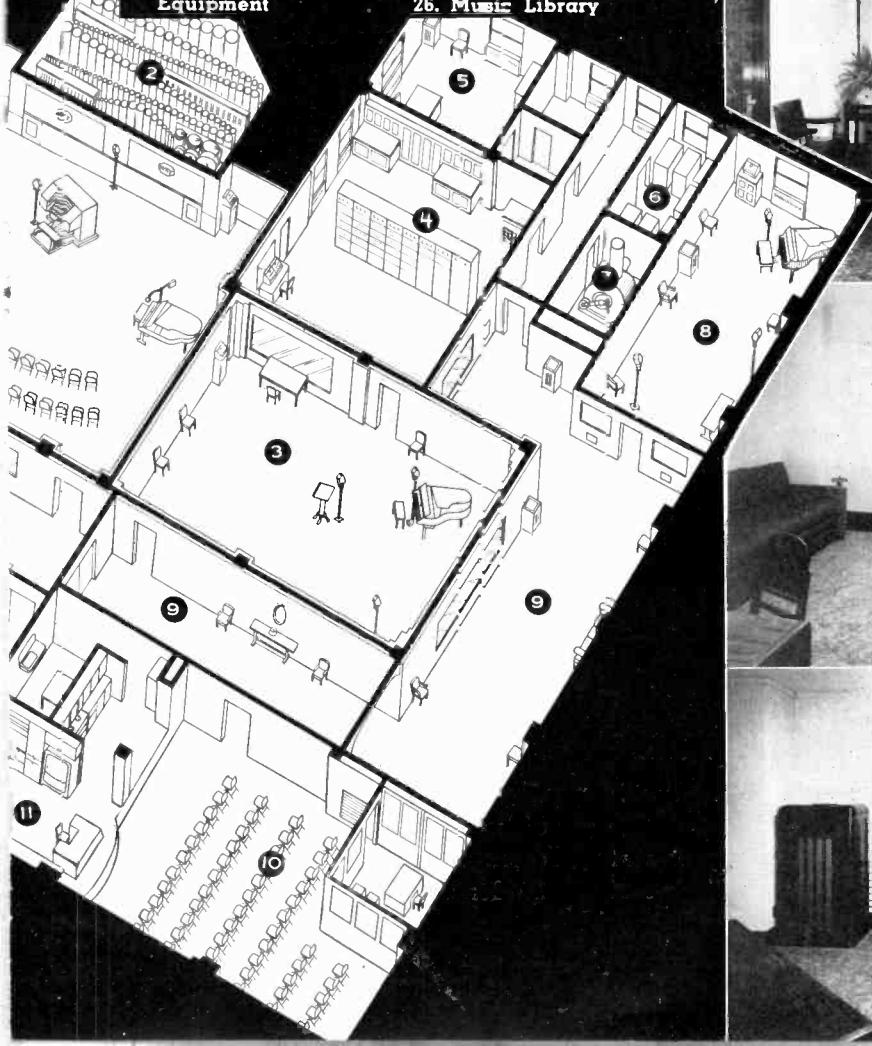
*Hand-carved pilaster ornament in studio  
"A" symbolic of instrumental music.  
Program and continuity department.  
Advertising department.  
Office of station manager.*

**Views at right, top to bottom:**

*Hand-carved pilaster ornament in studio  
"A" symbolic of vocal music.  
Office of advertising manager.  
Women's lounge.  
View through executive suite.*

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**STUDIO "B"** — Especially designed for solo and dramatic broadcasts.



**STUDIO "C"** — Speakers' studio and clients' audition room.



**STUDIO "D"** — For solo and dramatic broadcasts.



• Aunt Susan was given a free hand to plan and equip the most complete and modern kitchen her limitless ingenuity could devise.

Oklahoma's "housewife-in-chief" has composed a veritable symphony of efficient and labor-saving devices —a masterpiece of convenience and beauty.

In this model electric kitchen and gas kitchenette she will carry on her experimental work and conduct actual demonstrations during her daily broadcasts.

With seats for 100 persons in the studio, provision has been made to permit listeners to attend her broadcast-demonstrations as well as special demonstrations from time to time.



# THE *Organ*

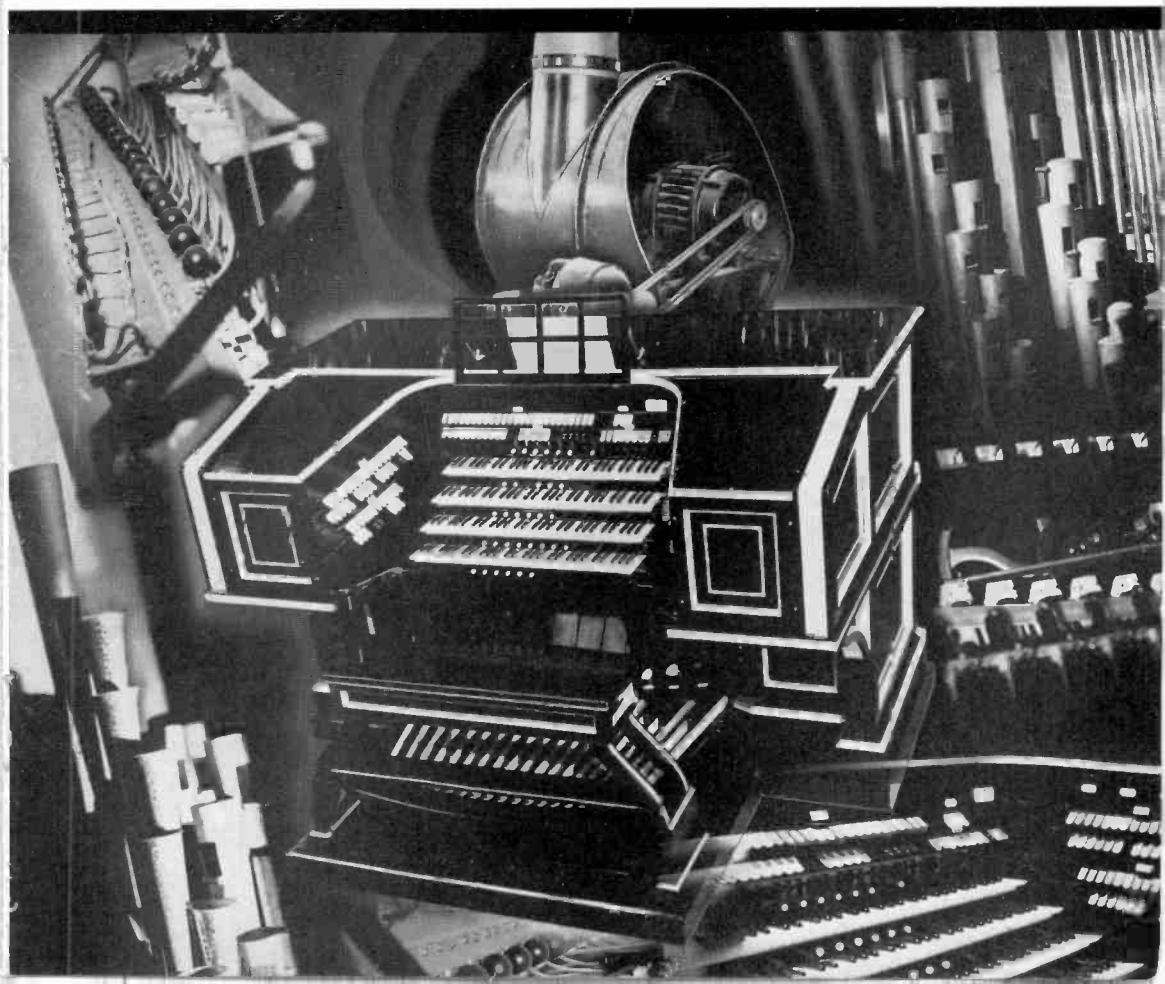
• The Kilgen organ in Studio "A" is probably the largest and most remarkable ever built for broadcasting, incorporating many features in its design which have never before been used.

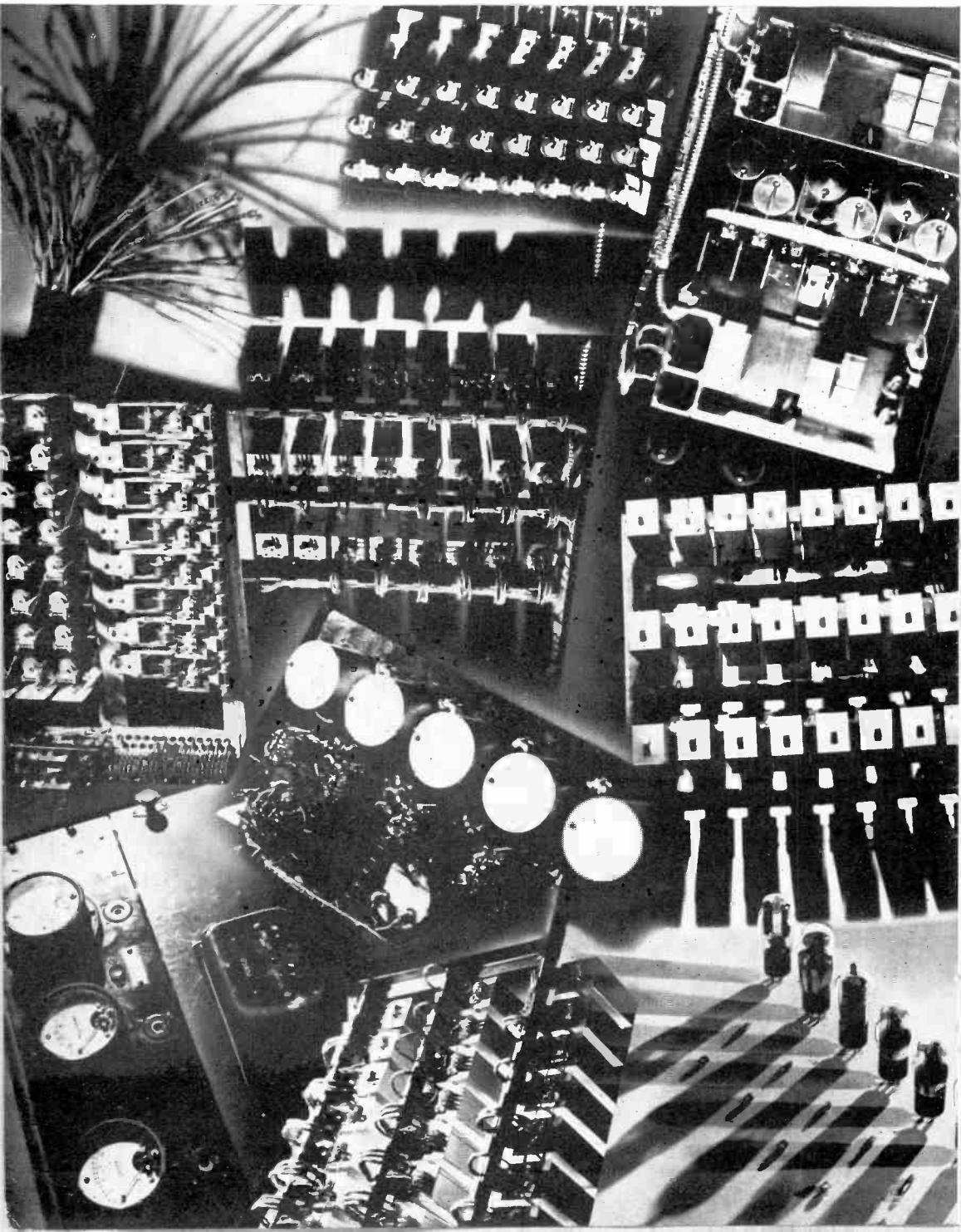
More than 3,000 pipes ranging in size from a small pencil to sixteen feet in length occupy the two tone chambers adjacent to the studio concealed behind a walnut grillwork.

The four-manual console is on a

movable platform and connected to the organ proper by an electrical cable.

More remarkable than its size are its beautiful voicing and wealth of tonal resources. Its full representation from all five families of tone—flutes, diapasons, strings, reeds and percussions—achieves every effect of a full orchestra and makes possible the playing of the best classical pipe organ scores.





● Most fascinating and interesting to the average visitor is the bewildering complexity and magic of the equipment through which the manifold operations incidental to modern broadcasting are performed.

Brand new RCA high-fidelity speech input equipment embodying the most recent advances in radio science has been installed throughout.

The nerve center of the studios is the central control room. The speech input control panel dominating this room was three months in the making by WKY's own engineers. Twenty-five thousand separate soldered connections were required and the maze of wire, tubes, condensers, amplifiers and other gadgets in its makeup pre-

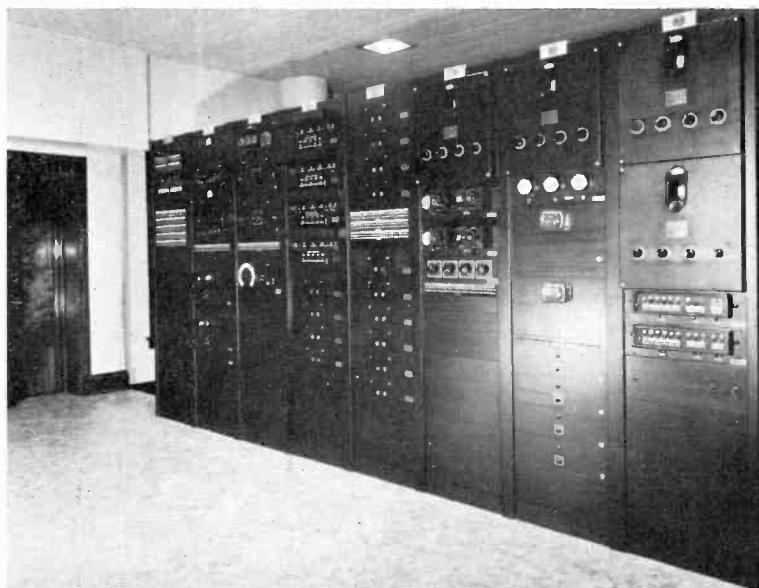
sent a picture of laborious effort, ingenuity and radio engineering baffling to the layman and marvelled at by the technician.

Miles of wire connect all the studios with interlocking signal lights, telephone, speaker and microphone circuits.

In each studio is an announcer's control console at which he switches the studio on or off the air, makes his announcements and listens to the program immediately preceding him on the air so that switching from one studio to another, or from network to studio, may be made with the split-second precision and with the smooth, continuous flow to which radic listeners are accustomed.

At the control console in the cen-

*View of the speech input control panel, right, in the central control room. This is the "nerve center" of broadcasting activities at WKY's new studios. At the left is a composite of photographs of a few sections of this mechanism showing its complex and intricate construction.*





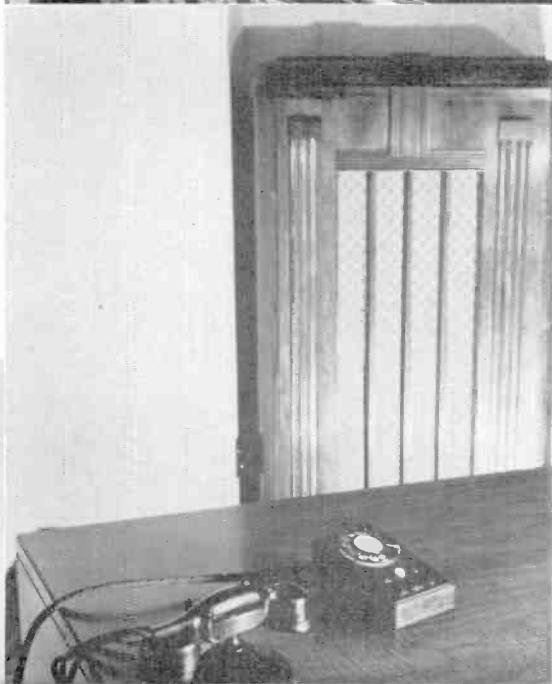
*Studio control console, at left, at which the operator regulates and controls the output from the one or more microphones in use in the studio.*



*Announcer's control panel, below, located in each studio showing control buttons and signal lights.*

tral control room, the microphone output from each studio is controlled and modulated.

High-fidelity loudspeakers are provided in all studios, offices and corridors. The latter are controlled from the central control room, while those in the offices are operated with a unique device that resembles a telephone dial. By dialing certain numbers, one can listen to any studio or to any one of four local or out-of-town stations to which the receivers in the central control room may be tuned. Any degree of loudness can be obtained by pressure on buttons which operate a small motor geared to a rheostat in the speaker mechanism.



*Program selector and high fidelity speaker, right, which permits the executive to dial in any of WKY's studios or any one of the local or out-of-town programs being received by the four high-fidelity receivers in the central control room.*

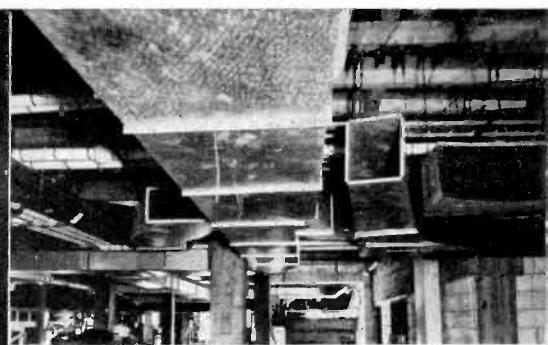
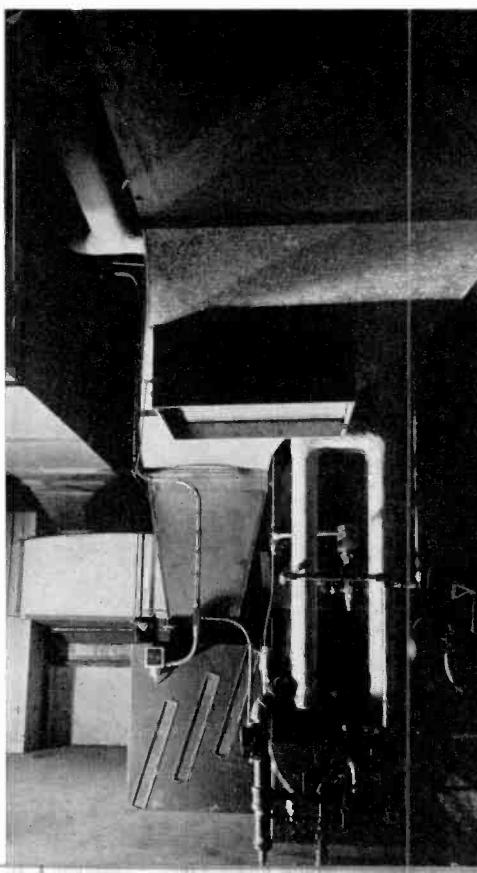
# MADE-TO-ORDER Weather

- Since WKY's studios were planned to embody every known modern facility, and the soundproof construction of the studios made an air conditioning system essential, one of the largest and most complete "weather making" plants in the Southwest was installed.

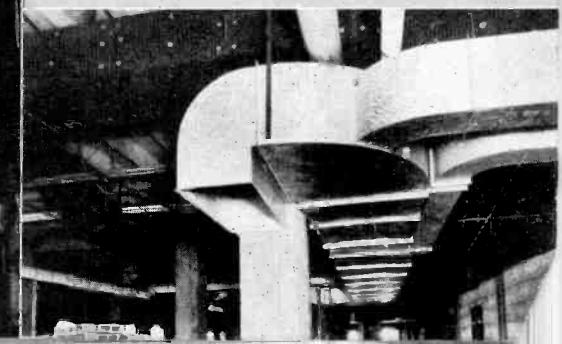
By means of a complicated system of supply and exhaust ducts concealed above the ceilings, studios and offices are supplied continuously with fresh, purified air whose temperature and humidity automatically remains constant the year 'round.

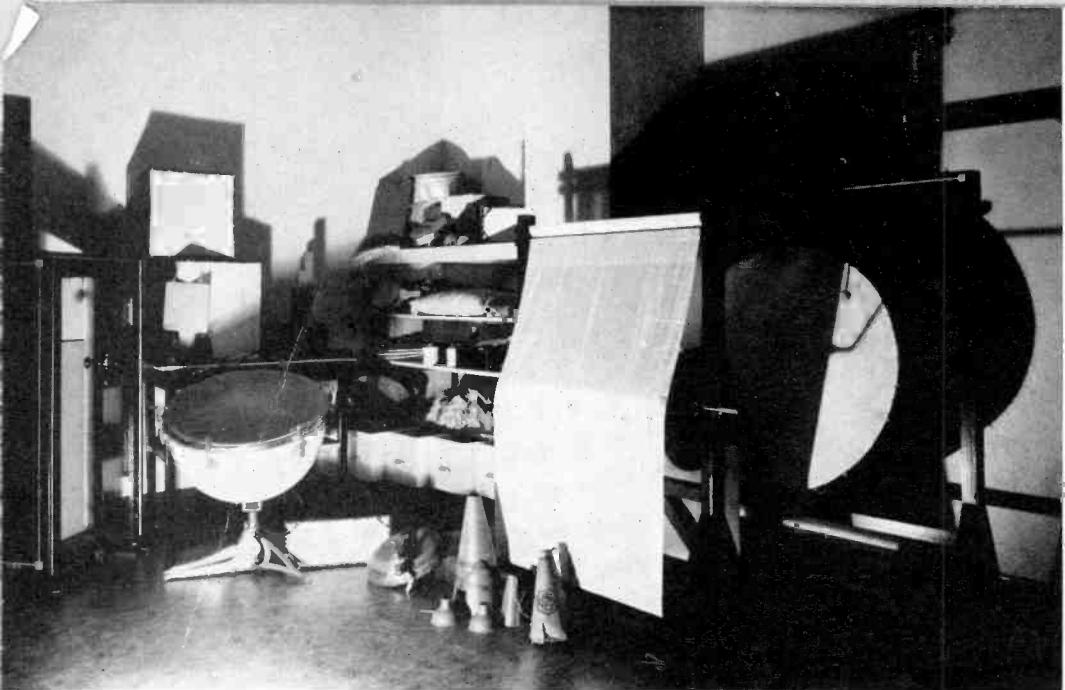
Fresh air from the outside is drawn through special petrolatum-coated glass wool filters to remove every trace of dust and foreign matter before it enters the studios. Thermostats operate valves and dampers automatically to control the heating and cooling units.

Ordinarily, air ducts are excellent sound transmitters. To conform to the acoustical treatment of the studios, the ducts were lined with a sound absorbing material made of a Nova Scotia seaweed which effectively absorbs all sounds.



*Views of part of the air conditioning equipment and the complicated network of ducts, now hidden above the ceiling, required for the circulation of conditioned air in studios and offices.*





## WKY's SOUND "SCENERY"

● Dramatic broadcasts are dependent for vividness and reality upon the sound "scenery" with which the radio stage is set. The numerous devices and gadgets used to supply the sound "scenery" for WKY broadcasts are kept in the sound effects room adjoining Studio "A".

Making noises for the microphone is entirely different than for the human ear. Many sounds such as those of railroad trains, running horses, thunder and others must obviously be studio-manufactured imitations, yet sound natural and authentic to the ear. Then there are many sounds that lose their identity entirely over the microphone. These must be substituted with sound effects that will reproduce over the microphone with

the naturalness of the actual sounds themselves.

WKY brought Count G. Mazzaglia Cutelli, the nationally known Hollywood and radio sound expert, to Oklahoma City to build and install his system of sound production and to train WKY's staff in its use.

Count Cutelli has simplified production of sound to eleven fundamental devices: plunger, tom-tom, canvas bag, tin box, rubber balloon, banjo, train box, pillow, piece of silk cloth, handful of cellophane and rubber bottle.

Supplementary items are plywood used for thunder; boxes full of shot for surf; cocoanut shells grinding into bits of granite for horses; wind machine that covers anything from a breeze to a hurricane.

# STATION W5XAU

## WKY's New Ultra-High Frequency Transmitter

• Just as WKY pioneered the broadcasting of regular daily programs on the ordinary broadcast band in 1920, so today it pioneers in the newest field of radio activity with its new transmitter designed to broadcast on ultra-high frequencies, more popularly known as the ultra-short wave bands.

Little is known about the behavior of radio at these very high frequencies and W5XAU is one of the first three of its particular type and among the first twenty-five ultra-high frequency transmitters licensed for experimental broadcasting in the U. S.

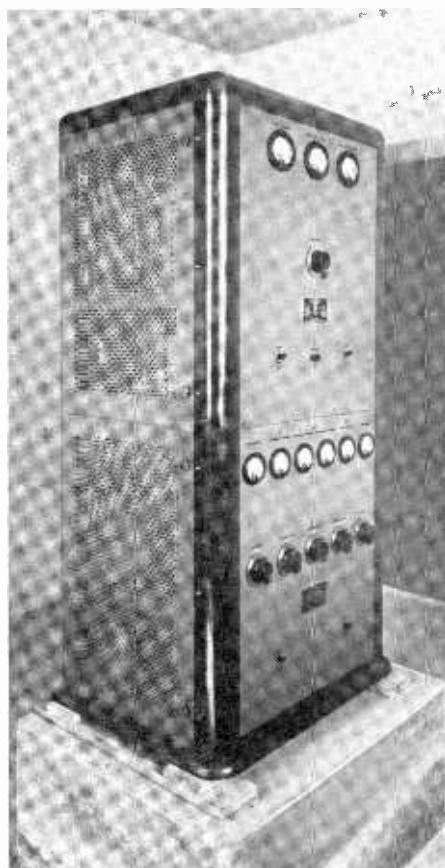
Experiments thus far have shown that although the local service area of UHF transmitters is comparatively small, reception is of remarkable quality and fidelity and free from static and noise. It is also certain that television when it comes ultimately will be assigned to these very high frequencies.

The W5XAU transmitter located atop the Skirvin Tower Hotel and licensed to broadcast on frequencies from 31,600 to 41,000 kilocycles is a separate transmitter entirely apart from that of WKY broadcasting on 900.

While the two stations can and often will carry the same programs simultaneously, W5XAU's experimental broadcasting will include

many special programs and features.

Only a few of the latest all-wave sets are equipped to receive programs broadcast by W5XAU but more and more all-wave sets in the future will be so equipped. Any set, however, can be equipped for UHF reception by the installation of a converter unit.





# WKY

*Affiliated with*  
THE DAILY OKLAHOMAN  
OKLAHOMA CITY TIMES  
THE FARMER-STOCKMAN