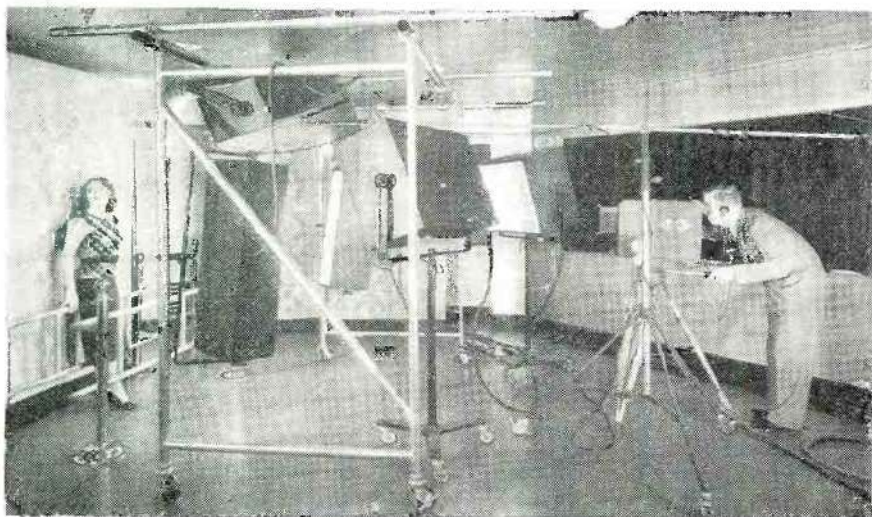


The above shows the operating technique which will be used in putting on the Television Show this spring.

Television in New York

by SAMUEL KAUFMAN
New York City

Television preparations have reached fever heat in New York, with plans to have regular schedules by next spring.



A mock setup for television which was demonstrated at the public NBC tour.

AMERICAN television, dormant as far as the public was concerned for a considerable period, has burst forward with a tremendous surge in recent weeks. New York is the scene of great television activity. NBC and CBS report much sight-and-sound program progress; parts, tube and set manufacturers are being heard from regarding their active participation in the newest branch of radio and, all in all, indications are that the way is being paved towards the early introduction of television on a mass scale to radio enthusiasts in many parts of the U.S.A.

Still in the fore of the American television scene are the broadcasters. NBC recently resumed New York transmissions for a one-month period prior to shutting down again for the final overhauling that will prepare the Empire State Building video station for the gala sight-and-sound programs planned for the period of the New York World's Fair starting in the Spring of 1939. The recent experimental transmissions revealed great progress in program technique although technical details of the image were virtually unchanged from the previous period of activity a few months before.

The big new television step of the network, however, was not so much the on-the-air tests as the launching of a television "tour" available to Radio City visitors at a nominal fee.



How your television set might look.



A television receiver for use by home groups. It uses 9" C.R. tube.

The importance of this phase of video activity, of course, is contained in the significance of its educational possibilities in showing the public how truly advanced the television art is.

CBS, long silent on its activities of installing a television transmitter atop the Chrysler Building, New York, suddenly proclaimed its progress and completion of the installation is expected early in 1939, also in ample time to tie-in with the much-ballyhooed World's Fair. A race for television program supremacy between NBC and CBS is anticipated and both companies believe that such competition will lead to a high program standard.

The long delay in CBS television activity was caused by considerable technical difficulties in getting the massive and heavy transmitter equipment to the seventy-second and seventy-third floors of the skyscraper. Also, it was explained that some constructional changes had to be made in the tower to accommodate the bulky sight transmitting equipment.

Arrangements have also been completed for the laying of a coaxial cable between the tower transmitter and the nearby Grand Central Terminal video studios. It was revealed that the CBS television transmitter will cost \$650,000, including installation charges.

A new type of antenna consisting of sixteen independent dipoles—eight for sound radiation and eight for visual images—will be used. The aerial system will be heated during the winter under thermostatic control so that no ice will form on exposed surfaces.

A power supply of 1,500,000 watts will be available. Of this, the transmitter will use about 300,000 for send-

ing out the 441-line image signals. It was explained that the additional power supply provides protection against circuit failures.

Call letters of the new CBS video station will be W2XAX, the same as the present experimental station in the CBS headquarters building on Madison Avenue.

The NBC television "tour" arrangement at Radio City has no technical connection with W2XBS, the Empire State transmitter, or the Radio City studio which feeds it with image programs. Visitors are informed by lecturer-guides of the fundamental principles of the video art and are shown working equipment. Highlight of the tour is the opportunity of visitors to be televised to the group behind them.

RCA sight receivers are shown in operation but are not yet for sale. David Sarnoff, president of RCA, though, announced that sets will be sold by next spring.

The New York NBC and CBS video stations are of especial importance to all communities despite their limited direct service areas. This is due to the fact that the

two "key city" transmitters will set the pace for other heavily-populated zones. The entire industry is observing the New York tests with keen interest knowing that other cities, on short notice, will be able to duplicate the technical set-ups of W2XBS and W2XAX.

The two New York video stations are licensed for transmission on the frequency group bands. "B" and "C" (42,000-56,000 kilocycle band, or the 60,000-86,000 kilocycle band.)

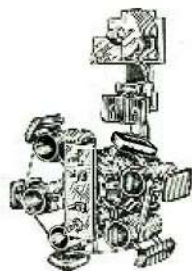
Standards of transmission and reception have already been established by the R.M.A. at Washington, D. C.

Mr. Sarnoff recently told the Radio Manufacturers Association Board of
(More information on page 52)



As a television show will appear on your C-R screen.

THE All Band Exciter

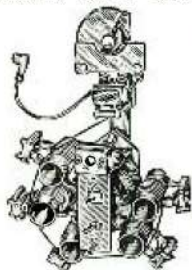


—jump from 5 to 160 at a moment's notice. Ask the Ham who owns one.

At last a band switching all-band Exciter which is simplicity itself and which really puts out. Using the BL-5G and BL-5P Tuners allows the construction of a rig which is truly versatile. Crystal Control or E.C. oscillator on any band at the throw of a switch—E.C. circuit with remarkable stability and a note which cannot be told from crystal

Preselection Simplified

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THIS "SWING" IS DANGEROUS

A veteran airman describes one of radio's puzzling phenomena—the swinging beam. A fascinating article for hams.

JANUARY ISSUE
POPULAR
AVIATION
NOW ON SALE

Television in New York

(Continued from page 7)

Directors that public participation was assured by next Spring and that RCA, in addition to manufacturing video receivers and transmitters, would license other manufacturers under the many patents it holds. But it is anticipated that many leading receiver firms will have sets on the market before RCA, a few models having appeared in New York retail shops already.

C. W. Farrier, NBC television Coordinator and a special assistant to Lenox R. Lohr, president of the network, told the writer that there are many great problems still to be ironed out. He has exactly the same views as Mr. Sarnoff regarding the need of time in which to establish an acceptable and regular home television service.

"For one thing," Mr. Farrier said, "a program technique must be perfected. While we have always considered the program end of television as a chief angle to be developed, the technical side has advanced far more rapidly.

"We now find that engineers and laboratories have provided us with the powerful medium of television. The question is how to use it to best advantage. It's no easy task.

"Many persons may just assume that it will be a simple task to draft talent from the stage, screen and sound radio. But it's not that simple. Here we are with a brand new medium. There is no precedent to follow. There are definitely some technical limitations as to what may be successfully picked up and transmitted and we are doing our best to discover how to best employ the facilities to guarantee an adequate service to the masses.

"Script writers, for example, must know the technical side to the extent of knowing how the designated action can be followed by the television camera. We find, too, that standard motion pictures are not actually as practical for television program purposes as some persons claim them to be. And even if they were, the problem is whether radio can afford to use them, inasmuch as the revenue from movie theatres is tremendous at the outset and the financial side of television programs is still something to speculate about.

"I predict that television entertainment will consist of a brand new technique and will present features not available elsewhere. There's no reason why television must represent a composite of stage, screen and radio entertainment. Just what the public wants is for the public to decide. We know that we have a valuable medium that embraces many possible advantages to society. It's our purpose to provide the best acceptable material but haven't an idea of public tastes as yet.

"Hence, the program side has to do a bit of catching up with technical

television advances. This indicates that time is essential to develop the new art."

Mr. Farrier expressed the belief that, aside from spasmodic on-the-air tests, the Empire State Building transmitter will not present even temporary program schedules before the launching of the public-participating schedule in the Spring. He indicated that the types of sight-and-sound transmissions given during bracketed periods the past year will not be repeated but that, rather, all efforts will be concentrated on the launching of the New York World's Fair transmissions which, in effect, may turn out to be the official starting gun for a big industrial television era.

While all eyes and ears are on New York's pioneering television efforts which are expected to set the pattern for the rest of the nation to follow, it must be remembered that there are a score of licensed experimental television stations throughout the U.S.A. Latest grants by the FCC included the Allen B. DuMont Company, of Passaic, New Jersey, and the Zenith Radio Corporation of Chicago. Both are radio manufacturing firms. The DuMont grant assures a third video outlet in the New York metropolitan area inasmuch as the proximity of Passaic to the metropolis assures the inclusion of the city in the coverage zone. But, despite Zenith's television station licensing, the firm's head, Commander E. F. McDonald, Jr., made an announcement to the effect that there are many technical problems still unsolved and that there are serious economical points which must be settled before the public should be asked to buy television receivers. [See RADIO NEWS, April, 1938.—Ed.]

An important television application was recently made to the FCC by the Journal Company, publishers of The Milwaukee Journal, for a transmitter to present a regular program service rather than experimental images. This will probably be the first newspaper-owned video station. The paper, which operates Station WTMJ, plans the erection of two 1,000-watt transmitters, one for the picture signal, the other for accompanying sound.

The nearness of television is emphasized by recent New York displays and demonstrations. The Radio City television "tour," described in this article, is the most pretentious of the demonstrations, taking observers through every stage of video development.

Other recent displays and demonstrations were given by the Garod Radio Corporation, offering a low-cost television kit using a five-inch tube, and the American Television Corporation with assembled small-image sets. A DuMont cathode-ray television receiver in a New York furniture store window attracted large groups of passers-by. The displayed model was in a table-top cabinet and had a large-sized tube. Glass-panelled sides permitted internal inspection.

Marshall P. Wilder, television de-

velopment engineer of the National Union Radio Corporation, recently returned from a two-month study of television abroad and told of amazing European developments. He said there was a definite trend towards smaller receivers combining video reception with all-wave sound. He reported further that some projection-type receivers were marketed, the cost going over the thousand-dollar mark.

The RCA Manufacturing Company recently announced the availability of television transmitting equipment. The firm had previously made such equipment on special order, but now the products are catalogued in the new line. The unit known as the RCA 1-kilowatt television transmitter is the first medium-powered video set marketed by the firm. Auxiliary television testing equipment is also available.

There has been talk of the British Baird and Scophony companies entering the American market with the establishment of domestic firms backed by American capital. But with the virtual entire American radio industry prepared to enter television on short notice it is problematical as to what share of the market will go to foreign firms.

In all, television is coming ahead with the throttle wide open. In New York trade circles, the feeling predominates that it will bring new prosperity not only within the industry but will affect all business favorably.

-30-

Serviceman's Experiences

(Continued from page 18)

collapse of the fixture which changed all its rectilinear compartments into parallelograms. Had I not been sandwiched between the shelves and the floor, it would have been an interesting phenomenon. It so happened I was too occupied on the way down to be concerned with abstractions, and my science left me.

It was interesting to notice the metal tubes had fared better under such dynamic conditions than the glass ones. While the former were broken, the latter were merely bent. Al, I knew, would be more interested with the cost of the descent than with dispassionate technical results, so I began to reassemble the store quickly. I sorted the tube cartons quickly: shaking them one at a time, I threw away the ones which tinkled. Many of the tubes had flatter curves after the accident.

I walked out to the sidewalk to view the wreckage in panorama from a pedestrian point of view. As I stood there, breathing heavily, several persons stopped, followed my eyes, and began to talk. I did not notice I was key man until one fellow tapped my arm and asked: "What was it, buddy—an ax raid?" I took the Kolster 45 with me on the way in—dogs had been sniffing the scorched insulation, and were gauging the height of the filter block contemplatively.

It was time to turn the lights on, but I couldn't because some lampcord—which I had strung temporarily, in 1932—had torn adrift and shorted at the time the tube cabinet left the wall. Fifteen minutes is long enough for any person to creep about a dark basement, looking for a meter-panel; I came out, bought some candles, and stuck them at various points in the shop which had not yet been razed.

A pinch-featured customer entered, laid a bag of tubes on the counter, looked at the dimly-lighted debris, and said:

"Test these for me—if you think radio is here to stay!"

"I am very sorry," I replied, "but my tube checker broke down this afternoon. Could you call later?"

He pursed his lips several times, and replied: "You might think me a strange person, but nevertheless, when I want music in my home, I want it within the same fiscal month!"

He leaned toward me, making a tripod of himself with his cane, and I noticed something I never knew before: light given from candles is a greenish-purple. "I can call at your house later, after my partner returns with the analyzer," I suggested.

"Young man," he said from behind quivering spectacles, "something is wrong with your business if one instrument shuts the place down. I begin to understand what happens to a mental cripple when someone kicks his crutch

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