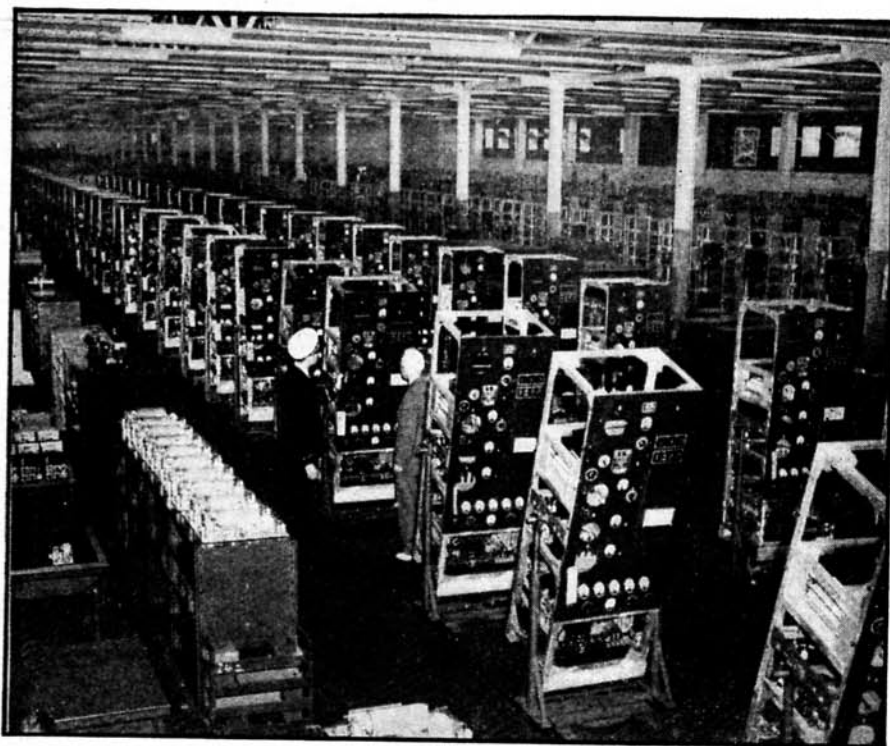


A Digest of News Events of Interest to the Radio Craftsman



RADIO EQUIPMENT FOR THE WAR AT SEA

Long rows of radio transmitting equipment for the Navy are shown here in one of the vastly expanded factories of General Electric's radio, television and electronics department. Many warships have not one but a number of transmitters and receivers of various frequencies and power. They carry also equipment for detecting enemy planes and ships as well as portable radio equipment for various uses. Besides making radio equipment for the armed services, General Electric is conducting courses in its care and use for many military and civilian technicians in government service.

"TEMPORARY" FM STATIONS TO GET WARTIME LICENSES

Because war conditions have caused great shortages in materials, equipment and skilled personnel necessary to radio broadcasting, the Federal Communications Commission has announced that holders of construction permits for new frequency-modulation (FM) radio stations may obtain licenses during the war to operate presently existing facilities, provided construction has reached a point where the transmitter is presently capable of being operated to render a substantial public service. FM broadcasters obtaining licenses under this policy will have to show that additional construction is not possible at this time and they must assure the Commission that construction will be completed according to the rules, regulations and standards of the FCC as soon as the required materials and engineering personnel become available.

According to FCC records there are 5 licensed FM stations now in operation. Twenty-three stations are operating under special temporary authorization pending completion of construction in accordance with the construction permits. Upon appropriate application these would receive licenses to replace the special temporary authorizations. An additional 7 stations are now conducting program tests and have filed applications for operating licenses. The new policy under which the FCC will consider applications for operating licenses on the basis of partial construction probably will affect also 21 other holders of FM construction permits. Six permittees now building studio transmitter links, which

connect with station transmitters would come under the policy. Applicants for new facilities, however, are barred, except under special circumstances, by an earlier "freeze" policy announced in April, which recognized the necessity for conserving critical materials and banned new grants for FM as well as most other types of broadcast radio.

The commission observed that the Communications Act does not contemplate extensions of time within which to complete construction unless it appears that construction can be completed within a reasonable length of time. Nor is it desirable to continue the issuance of special temporary authorizations upon a short-term basis. However, it is desirable to encourage such service as is now possible to listeners having FM receivers. Accordingly, the commission will give consideration to applications for licenses to cover partial construction of FM and ST (studio transmitter) stations where such construction has proceeded to the point where it is possible to provide a limited but satisfactory FM service. The commission will also consider applications where construction has been completed and the permittee has been unable to obtain equipment and technical personnel to make measurements, required as a prerequisite to issuance of a license. Such licenses will be granted on the definite understanding that as soon as the required materials and personnel are available, steps will be taken to comply fully with the original construction permit.

NEWS FROM FM CENTERS

CHICAGO—Some of FM's best tributes have come from some of the nation's finest musicians. Stravinsky, Koussevitzky, Deems Taylor, Stokowski and others have commented on the tonal qualities of FM. Among the latest laurel wreaths is a remark by Felix Borowski, one of the country's top musicians and composers who is also professor of music at Northwestern University.

After hearing a piano concerto over W59C, The Chicago Tribune's FM outlet, Dr. Borowski declared: "Frequency modulation is an answer to the prayer of music lovers who have longed—and many of them have spent years in longing—to hear musical instruments as they really are.

"The greater fidelity of certain instruments under the new system has to be heard to be believed. This, it appears to me, is particularly noticeable in the case of the piano, whose tone with frequency modulation is not only a true reproduction of the original sound but often takes on a well-rounded singing quality that may not have been present in the performance that is broadcast. Altogether, I am convinced that the new system has a great future before it."

MILWAUKEE—FM is becoming quite a husky youngster in the radio world around these parts. According to figures obtained by W55M, The Milwaukee Journal's 50,000-watt FM outlet, following a recent comprehensive study, there were—as of June 1—a total of 16,230 FM receivers in the 8,540 square miles which make up the W55M service area. These figures tally closely with those issued by FM Broadcasters, Inc., FM's national trade association, which indicate 13,000 FM sets in the city of Milwaukee alone. This amounts to an increase of more than 75% over totals shown in a similar study made last Fall.

PHILADELPHIA—The unique color and sound film—"Listen! It's FM!"—produced last fall by the General Electric Company to explain and illustrate the merits of frequency-modulation broadcasting, is now making the rounds of Philadelphia schools as an educational feature. Roger W. Clipp, general manager of W53PH (operated by WFIL), was so impressed recently with the instructive qualities of the film that he invited the entire Philadelphia Board of Education to view it. They concurred with his opinion, and Philadelphia school children are now learning what FM means in terms of better radio reception.

COLUMBUS, Ohio—W45CM in this city, Ohio's pioneer FM outlet, has encountered what it believes to be the ultimate in listener loyalty. The owner of a new FM receiver, so pleased with the purity of FM reception, called up the station and offered to donate money if it should ever be needed to keep W45CM on the air! The gentleman's generosity was politely declined, of course, but W45CM says the incident shows how much the public appreciates and approves of noise-free, full-fidelity broadcasting.

CBS MOBILE TELEVISION PERMIT

Columbia Broadcasting System was granted modification of its construction permit for a new portable mobile television relay broadcast station, W2XCB. Completion date was extended from July 7, 1942, to January 7, 1943.

NEW F-M STATIONS

Station KYW of Philadelphia announced last month that its F-M affiliate, W57PH, is now on the air on regular schedule.

This brings up to five, the number of commercial F-M stations in Philadelphia, which means that this city has more F-M service than any other city in the U. S., except New York City.

Station WMBI in Chicago also announced last month that W75C will start broadcasting programs soon. This station being owned by the Moody Bible Institute will be the first non-commercial F-M transmitter, with religious programs being the feature.

For the duration the power will be limited to 1000 watts, because material of that size is on hand. The station is using an ST link (studio-to-transmitter radio beam) instead of the usual telephone wire connection, the first in Chicago to do so.

New York City now has nine F-M stations, since W75NY, constructed by Metropolitan Television, Inc., controlled by two New York Department stores, went on the air last month, as did W39NY, owned by the City of New York. This latter station, of course, will be non-commercial.

STATION KFAR IS REOPENED

Reopening of Station KFAR at Fairbanks, Alaska, last month, on 5000 watts established a new frontier broadcaster of radio programs at a point close to the top of the world.

Installation of the new equipment was signalized by an NBC coast-to-coast broadcast originating at KFAR, celebrated throughout Alaska as establishing an important link between the Territory and the folks "back home in the States."

Alaskans have been clamoring for a long time for a stronger broadcasting service. It took Pearl Harbor, however, to emphasize the fact that it was a military necessity. In the week following that event, KFAR was the only station on the air in Alaska. It was also the only Alaska station on the air during and after the bombing of Dutch Harbor last June. Since Fairbanks is in the interior of Alaska, it was able to reach most of this territory's population.

The increase of the station's output from 1000 to 5000 watts demonstrated how the Army, other governmental agencies and industry can cooperate in slashing red tape and finding short cuts, when a specific need becomes urgent. It was shown that the station was the only means by which military authorities could reach the population with instructions in case of emergency.

In record breaking time an entirely new transmission plant, including the famous RCA type 5-DX broadcast transmitter, was conjured out of the RCA plant, with WPB approval, tested and tried by company engineers and delivered to the transmitter house a few miles outside of Fairbanks. Just two months and thirteen days later it went on the air. Moreover, the installation was made without disturbing daylight programs over the old 1,000 watt equipment, which was an RCA type 1-G broadcast transmitter. In the meantime the old plant was dismantled, moved and reassembled at night, while the new equipment was being installed.

KFAR's first transmitter was built in 1939 by Stanton D. Bennett, then only 23 years old, but already a veteran in radio installation and operation. He is now Chief Engineer of the station, in which post he designed the layout in conjunction with RCA engineers.

CHINESE ENGINEER AIDS WAR WORK



Dr. Chao-Chen Wang, 28-year-old Chinese engineer, is doing his "Jap fighting" in an electronics laboratory of the Westinghouse Electric and Manufacturing Company. By designing high power radio tubes for the armed forces of the United Nations, the young scientist is contributing to ultimate Chinese victory.

Enlisted for the duration of the war as a member of America's production army, Dr. Chao-Chen Wang, 28-year-old Chinese design engineer is at work in the electronics laboratory of the Westinghouse Electric and Manufacturing Company, designing high-power radio tubes which he believes will contribute to the ultimate Chinese victory. He has little doubt about the outcome of the war; he feels that China will keep fighting until the Japanese are driven back to Japan.

The young Chinese scientist studied electrical engineering at Chiao Tung University in Shanghai and was sent to the United States in 1937 by the Chinese Government on a university scholarship. He specialized in ultra-high-frequency communications at Harvard University, receiving his Master's degree in 1938, and his Doctor's degree in 1940.

Since joining the Westinghouse electron-

ics staff four months ago, the tall Chinese engineer has submitted two patentable disclosures, covering new developments in the electronics field. One describes a method for measuring power output of high-frequency radio tubes, that is designed to improve production of communication apparatus for the United Nations. Westinghouse officials said they planned to put this method into operation shortly.

Enthusiastic about the work he is doing, Dr. Wang is convinced that the great strides now being made in electronics for military purposes also will be an important factor in promoting a lasting peace after the war. These developments will be important in expanding China industrially and in breaking down the misunderstandings that have surrounded China for centuries.

Although he is anxious to return to China to see his family again, Dr. Wang intends to remain on his war job for the duration.

"THIS IS A RADIO WAR"

At a War Workers' Rally staged by the Radio Corporation of America employees at Camden, N. J., September 13th, Colonel David Sarnoff, President of the R.C.A. and now on active duty in the Office of the Chief Signal Officer, made some pointed remarks. Among others, Mr. Sarnoff stated:

"This is a radio war. The troops on the ground, the sailors on the high seas, the pilots in the air all depend on radio for their success and for their safety. Millions of men in uniform look to you to supply them with the fastest means of communication the human mind has been able to conceive.

"The deathless courage of our men on the fighting front will win this war," he said. "But they depend on an equal cour-

age on the home front. You have always got to remember that the stuff you turn out today, instead of tomorrow, can mean the difference between life and death to some American boy on a ship, or in a plane, or on a field of battle.

"In the past you have helped to put the United States out in front of all other nations in the fascinating field of radio. You did that in the days of peace; but our enemies say you cannot do it in time of war. They say that when it comes to war, we are slow, and soft, and inefficient. They say they can beat us because what we can do is going to be in their judgment 'too little, and too late.' That is a lie, and you and I know it.

"Every man and woman in this industry has a production job to do."