

that both feed-lines fail at the same time (a very remote possibility) W71NY will still function without an air break; this is assured by having a supersensitive receiver on the control panel constantly tuned in to WOR. In the event of a landline break, the mere throw of a switch assures a continuous program feed to the W71NY speech input.

While programs do not originate at the transmitter location, mikes and turntables, in addition to special acoustical wall construction, make possible the use of the transmitter hall itself as a studio. Technically and practically, the apparatus room can accommodate any "live" program from a single speaker to a symphony concert.

The new 10-kw. transmitter is equipped with a brand new 25-foot vertical coaxial antenna. It was designed by the WOR Laboratories Facilities Division and is the first and only one of its kind in the world. Two vertical 20-foot aerials are also located on the roof, one to serve the auxiliary 1-kw. transmitter, the second to accommodate a

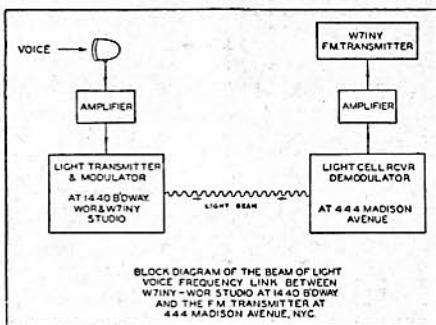


Diagram of Light-Beam Transmission

100-watt unit normally used for short-wave contacting of WOR mobile broadcasting units; this transmitter, however, is also at hand for facsimile broadcasting purposes.

Laboratory and workshop equipment is incorporated in the transmitter floor layout. Costly measuring equipment—a considerable amount of it designed and built by pioneer-

ing W71NY FM engineers because of its market unavailability—is located here. This apparatus includes built-in measuring devices as well as costly-intricate portable equipment for measuring signal strength in the field.

Representatives of both the Army and Navy attended the dedication of W71NY's new 10,000-watt transmitter. Special interest was expressed on the part of military and naval observers in W71NY's experiment in transmitting sound over a beam of light from the WOR studios at 1440 Broadway to W71NY's transmitter at 444 Madison Avenue where the dedication was held.

The use of light beams to transmit sound was developed in the laboratories of Western Union. Previously tested in the laboratory, W71NY's experiment demonstrated for the first time out of the laboratory the latest equipment developed by Western Union. Military and naval authorities will study its possible uses in connection with practical warfare.

FM in 1942 — As I See It

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It would take a prophet of the ancient world to tell what the status of frequency modulation broadcasting will be twelve months from now. But for those who may have grave doubts, occasioned by the possible limitations of set output due to war efforts, let's see what we have to date.

First, there are 50,000 sets on which to receive FM programs in Greater New York, with the National total reaching a quarter of a million. Secondly, as of January 15, 1942 there were 24 commercial FM stations on the air with 39 more in the process of being built. There are 53 applications for commercial licenses pending in Washington and 12 experimental stations offering program service, in most cases prior to commercial transmission.

From the above it would seem that FM, which started out as a radio step-baby, is no longer an immature child. FM is here to stay and is growing daily. If the manufacture of sets should be seriously curtailed during the months to come, there are already in existence enough sets and enough stations broadcasting programs to guarantee a healthy status quo pending resumption of set manufacture.

If I take W71NY, WOR's station, as a typical example, it is with the pardonable pride of one of its "fathers". Ever since April 1, 1941, the station has been New York's first full-time commercial FM outlet. On November 30, 1941, W71NY's new 10,000 watt transmitter was dedicated on top of 444 Madison Avenue in New York City. During both 1940 and 1941 W71NY broadcast a daily schedule from 8 a.m. to 11:30 p.m. composed of a small percentage of WOR programs, some Mutual network programs not otherwise heard in our territory, but primarily programs of W71NY's own origination.

This complete program schedule plus the original investment of capital, reaffirmed by the purchase of the 10,000 watt transmitter is an indication of WOR's faith in FM as a broadcasting medium. Granted that the 10,000 watt installation was planned before the United States entry into the war, with all of its subsequent potentialities of limitation of non-essential pro-

duction, the fact remains that we are continuing to operate normally.

Our present plan is to continue to operate for the same number of hours for the first half of the year to come. At that time we will undoubtedly reevaluate our operation in terms of set sales, audience, and commercial possibilities. Unless world events and our production set-up take an acute turn for the worse, the chances are we will continue our activities for the second six months on about the same basis. We feel that FM has been developed too far to be sidetracked, and we regard an audience of 50,000 sets with their multiple listeners for each, an audience worth cultivating.

I've been writing about the future. Let's consider one or two of the highlights of the past year. One of the most notable of these was the linking together of six stations for point-to-point broadcasting. This special one-time network, which carried commercials, was assembled as part of a salute program for W71NY's new transmitter. The technical results were amazingly successful. The stations involved—W2XMN, Alpine, N. J.; W65H, Hartford, Conn.; W43B, Boston; W53PH, Philadelphia; W39B, Mt. Washington, N. H., and W47A, Schenectady, N. Y., "blanketed" New England. Although the test was made under clear winter conditions, it is easy to realize how such a test under summer conditions with attendant static, would have been even more dramatic, especially to listeners in the more remote receiving locations such as the mountainous regions of New England.

Not much publicity has been given to FM as a communication medium for Army and Navy use. The reasons for this reticence are obvious, but it is easy to conceive and foresee the potentialities of such use. Unpublicized as military use of FM is, radio broadcasters are mindful of their contribution to this phase of our national military efforts, by continuing the fostering of frequency modulation transmissions with its attendant experimentation.

Up until now the advertisers have been extremely helpful in furthering the sales of FM sets. How much longer their cooperation can be expected if production is

curtailed is, of course, problematical. But I do not believe that any of us, today engaged in this form of broadcasting expect prompt financial returns on our efforts. We are prepared to carry on for a number of years before receiving any substantial return on our investments.

The above does not mean to say that there will be no returns. An audience of some 150,000 listeners in our area is, not an audience to be disregarded. Once we know more about this audience we will be able to cater more directly to its preferences and we will have a story to tell our advertisers. Research will do much to foster the commercial advancement of FM and research is included in our plans.

It wasn't so very long ago that the average man on the street was completely ignorant of the meaning of the letters "FM". It is gratifying to find out that this is no longer the case. Here again, the set manufacturers and dealers were wise enough to promote FM generally in their advertising along with the merits of their individual sets. They realized that a job had to be done and they went out whole-heartedly to do it. The FM broadcasters are doing the same thing.

One indication of the effectiveness of this general education process and the growing interest in the subject, is the fact that two large New York morning newspapers—the *Herald-Tribune* and the *New York Times* both now list W71NY's program schedule daily in its entirety. Furthermore, at the time of the W71NY dedication in November, 1941, the *Herald-Tribune* published a 16 page special FM section, devoted to this form of broadcasting as a whole, and tracing the rapid advances that have been made. The interest in newspapers, which in turn are guided by their reader interest, is a healthy sign of the shape of things to come. There have been other effective special newspaper sections in various areas of the country during the past year as well.

One point that must not be neglected during the coming year is program service. It is not enough to point to the technical virtues of frequency modulation. People must have something to which they can listen with enjoyment and interest.