FEELING that radio was not getting sufficient and specialized farm information to the farmers, that an exchange of ideas was not keeping pace with farming progress, and that city stations were not necessarily serving the farmers' exclusive interests, it was decided recently by ten farm organizations at Ithaca, New York that an FM radio network should be established to serve farm homes throughout New York State.

The result has been the establishment of the R*ural Radio Network, Inc*., wholly-owned by ten farm organizations, serving 118,000 farms in New York State. It is the first all-radio network of its kind in the United States and, in its final phase, incorporates every known means of communication to carry on its operation.

Station Locations

Stations in the network are located at Wethersfleld, Bristol Center, Ithaca, DeRuyter, Cherry Valley, and Turin, New York. Each of these station's transmitter is located at an elevation of at least 2000 feet. It is also planned to establish full-time affiliates at New York City and Ogdensburg, New York, which means that the network may soon blanket the entire New York State area.

Elevation of the transmitting sites, which offers line-of-sight radio transmission from Albany to Buffalo, also points the way to television application, although the first job of the RRN is to serve by aural FM radio the New York State farm population. Each station has a 250-watt General Electric FM broadcast transmitter with effective radiated power of 1300 watts. This power radiation enables the service area of each station to overlap that of its adjoining neighbor and, of course, makes the radio network possible.

Two-Way Radio FM Installation

During the installation of the network, G.E. two-way radio communications equipment operating at 152-162 mc. was used. Later, G.E. made modifications in some of the units to permit their use as remote pickup gear. Jeeps and other mobile equipment, including a trailer ordinarily used for field-strength tests, were put into operation as adjuncts to network operations. Radio communication equipment in cars and at transmitter sites is used now by a floating force of three field engineers who keep the network running. Called an *"intercom"* system by RRN engineers, it can call a jeep or truck from one transmitter site to another in a matter of seconds. Another technical feature is the fact that the network can be reversed through the use of G.E. consolettes which enable a fast switch in the radio communication lineup. Thus programs, originating from any station, can be aired from the network.

The engineering staff, headed by Chief Engineer Donald K. deNeuf, consists of about 19 electronics technicians. Two are located at each station in the network, three are field engineers traveling in the trucks and jeeps, and four handle the master control and "remotes" at headquarters. It is a young staff and enthusiastically concerned with keeping the network in a state of highly efficient technical operation.

Coverage Techniques

Headquarters for the Statewide chain are located at Ithaca in the Ithaca Savings Bank Building. A General Electric ST (studios-to-transmitter) link beams programs from atop the headquarters building to a transmitter site at Connecticut Hill, 9.5 miles southwest of Ithaca. There, the programs are put on the network and picked up by the other stations. High quality crystal-controlled receivers at each of the RRN stations pick up programs from headquarters and put them on the air simultaneously Each station, in addition, can also originate programs, at which time the network is reversed, as noted previously.

A *"Nemo"* trailer is used extensively for pick-up of programs covering county fairs, farm on-the-spot broadcasts, farm organization meetings, and other events as they happen. It is the boast of the network that "there is no pasture in New. York State which is not a broadcast point for our network." The Nemo makes this statement a fact.

Transmitter Site Buildings

Feature of the network are the buildings located at each transmitter site. They are clean-cut white-painted structures built of poured concrete and cinder block to make them serviceable during the rigorous New York State winters. Radiation-heated, they contain a complete broadcasting studio, two-car garage, basement, generator room, furnace room, shop-and kitchen combination, and sleeping quarters for any of the engineering staff who might be snow or storm bound on the transmitter site.

Another little-known point in connection with these transmitter buildings is that each has a rain gauge and wind-direction velocity instrument atop the roof. These, combined with a number of other instruments, will be utilized to make available to the U. S. Weather Bureau at Albany regular meteorological observations from these 2000-foot mountaintops. The Weather Bureau is already providing RRN with detailed localized weather forecasts, especially for New York State, to help them with this job.

Programming Techniques

The network's main programming policy is to give farmers information and entertainment they want when they want it-this policy dictates all programs.

Ithica is known as the fountainhead of farm information for New York State because the headquarters of various farm groups are located there and because of its proximity to the New York State College of Agriculture and Experiment Stations. This is the reason Ithaca was chosen as the headquarters and origin point for the Rural Radio Network and it helps their programming techniques tremendously.

Head of this department is Robert Child from General Electric's WGY at Schenectady who brings to the network a world of experience as director of farm programs. Rather than resting on old tried-and-true techniques, Child makes it a point to visit farm meetings, learning just what the farmers want in their programs. One evening this month he learned that Hawaiian music, strangely enough, is very popular with the farmers and they would like more of it.

A special effort is made to properly time all programs. For example, women's programs are at 1:00 p.m., not at 2:00 p.m. when chores usually occupy the farm wife's time. For the man of the house, the period from noon until 1:00 is considered the best time of the day (with the exception of evenings), because the farmer is having lunch and is not out in the fields.

The network programs highlight fine music and straight reading of carefully-selected stories, in place of soap operas. Bonafide farmers and experts from the ten sponsoring farm organizations discuss farmers' problems daily. Some fifteen other agricultural agencies also send guest speakers regularly.

Market reports, right off the wire from New York City, are bought. It is claimed that many hours are saved this way. No program is safe from an interruption with a newsworthy report on markets or weather which will help the farmer in any way. A special programming feature during Farm Safety Week was the ringing of an unearthly-sounding gong every time a farmer was hurt in the field. They announced this as "grim harvest." For instance, about 12:30 p.m. one day, a farmer caught his arm in a hay-loading machine and was rushed to the hospital. About 1:10 the "grim harvest" gong was rung on the RRN.

Children's programs have no "Superman" or "Jack Armstrong," but rather, specialize in dramatization of such books as "Treasure Island" for one age group, and interviews on farm youth project achievements for another age level. A good time to get the teen-age audience's participation is found to be about 4:45 p.m., about the time they get off the school bus and are changing their clothes before help ing their father in the barn before supper. The Rural Radio Network's time signal is the chimes from a mantel clock made in 1880.

At first the *Rural Radio Network* had trouble reaching farmers because there were few FM sets available. Now several nationally known radio firms are very much interested in getting their sets out to RRN listeners. An arrangement was worked out whereby manufacturers make sets and the GLF stores market them. Right now there is available for farm use a needed high-sensitivity receiver and an omnidirectional antenna. This equipment is both sold and promoted by the GLF store and is often purchased when the farmer is buying feed or other necessary farm products.

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