

# The Rural Radio Network

## First Broadcast Network Sans Fil

By Don deNeuf  
Fellow, 1974

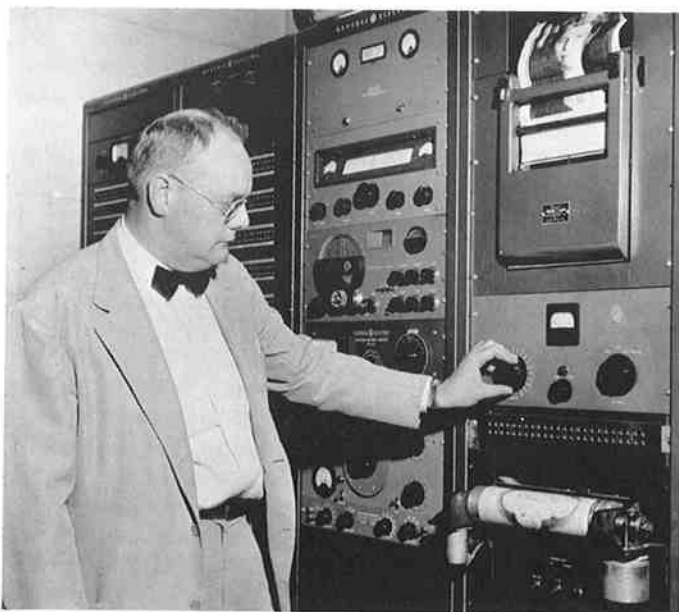
World War II put pressure on farmers to increase their production greatly. New techniques were developed and others continued to be pursued at the end of the war, as in the case of the thinkers and planners of the ten farm organizations of New York State.

One important need was for a much faster method of disseminating vital information to farmers. The monthly Grange Hall meeting and even the mail was too slow to meet some of the requirements. One of these was specialized weather information, and another was market reporting—supply, demand, and prices. Both were, of course, extremely perishable forms of information.

Weather data is vital to many farming operations—planting, haying, spraying, irrigation and harvesting. All the weather factors—temperature, humidity, precipitation and wind—have an important bearing on efficient functioning and even preventing disaster.

The organization and birth of an FM radio broadcasting network to cover some 120,000 farms in upper New York State came about in 1948 because of this need. The farm organizations applied to the FCC for licenses covering six FM broadcast stations, each located on a mountain top, some 2,000 feet above sea level, spread across New York State, each within line of sight distance of its adjacent stations, and each operating on a different frequency. This arrangement enabled programs originating at one station to be received with perfect quality and rebroadcast by the others on a relay basis. It was named the Rural Radio Network. The stations were so remotely located geographically that they did not even have telephone service. Each of the stations and the several field vehicles were VHF radio equipped to maintain instant communication between all of them.

Through the wholehearted cooperation of the U.S. Weather Bureau in Albany a special combined weather report and forecast service called the “Weather Roundup” was developed into an extremely valuable service to farmers. Weather across the State invariably moves from west to east. A format was employed wherein each of the RRN stations would, one after another, report local weather conditions in a west-to-east direction. At the end



Donald K. deNeuf, WA1SPM, at one of the stations of the system.

of the reports, the network would switch to the Weather Bureau in Albany. Based on the information just reported by the stations, plus its own data, it would issue a detailed forecast for the areas covered by each of the stations.

The “Weather Roundup” became so popular that a network of major AM broadcast stations such as WGY Schenectady and WNBC of the National Broadcasting Company in New York City eventually hooked into the network by FM pickup and rebroadcast one or more of the programs live each day. (see Fig. 1a).

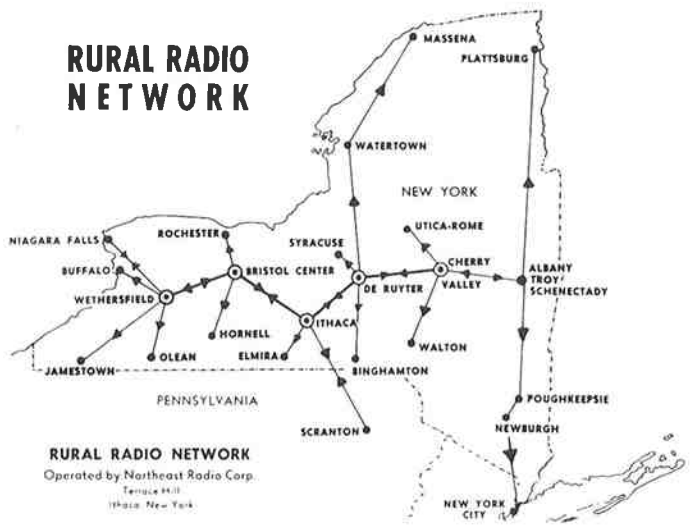
The network also looked toward the use of its facilities for additional services. First, the “good music” programs and news reports from the *New York Times* station WQXR-FM were rebroadcast over the network during the periods it was not carrying information for farms—weather, markets, advisories from the College of Agriculture at Cornell University, etc. The network in 1952 asked the FCC for authority to experiment with the Halstead-Hilferty system of multiplex superimposed on the regular audio service of the network.

Major Armstrong, the inventor of FM, was extremely interested in the network and its operations and followed its development closely. WOR-FM, under the direction of Jack Poppele, provided an FM multiplex feed to the network from the Columbia School of Journalism in New York City. It issued a miniature “Facsimile Newspaper” twice a day, transmitted through Hogan Facsimile equipment. General Electric provided facsimile receivers in console form to a number of strategic locations where the little newspaper was reproduced. The U.S. Weather Bureau also prepared special weather forecast maps each day, which

were reproduced on the facsimile receivers. The demonstration successfully showed the potential of the overall system. (The photo shows the writer at the facsimile control system at the RRN master control station).

The same mux system was also employed to put all the outlying RRN stations on a remote-control basis from the Ithaca headquarters control station. From here all elements of the individual stations could be operated, measured, and telemetered back to the master control station. All functions were continually monitored (including things like aircraft warning lights on the towers) and weather conditions could be monitored at will. This was conducted under special permission of the FCC—the first authority ever granted to any broadcast station to operate with remote control.

Two listener letters to RRN provide typical samples in two completely different veins. A poultryman in Homer wrote "Three times a day we listen anxiously to your Weather Roundup. We regulate and plan our stoves and windows in the chicken houses accordingly. The RRN egg market prices mean almost life and death to our business as chicken farmers". A housewife at the Sampson Air Base wrote "We enjoy the good music the most, but I must admit that I have learned many things about farmers I never knew before, and the programs make me appreciate some of the farmers' knowledge and needs and problems as well as his physical work necessary to produce food for the rest of us".

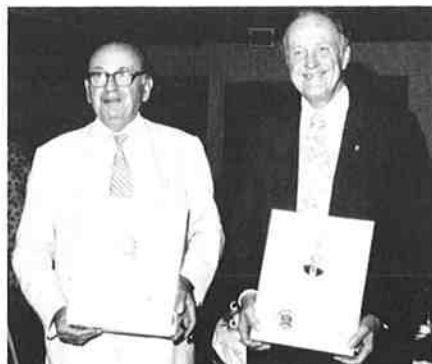


Area covered by the Rural Radio Network.

## WASHINGTON SECTION HONORS "UNCLE CHARLIE"

The Washington, DC Section of the Radio Club of America honored Charlie Higginbotham, former Chief of the Special and Safety Radio Service Bureau on August 30, 1978, with a retirement luncheon at The Touchdown Club of Washington, DC. Perhaps the finest tribute paid to Mr. Higginbotham was that the luncheon was entirely sold out. It was the largest turnout for an exclusively Section event, with 65 persons attending, including the guest of honor and his wife. Fred Link, President of the Radio Club of America, Inc. attended and took part in the occasion. Fred Link, on behalf of the national organization, presented Mr. Higginbotham with a plaque in appreciation of his contribution to both the Radio Club of American and the radio communication industry during his long tenure with the FCC. Stu Meyer, a Director of the Club, was Master of Ceremonies.

The attendees included many from the FCC, including Carlos L.



Finch and Higginbotham with their plaques.

Roberts, who replaced Mr. Higginbotham as Chief of the S&SRS Bureau and Washington representatives from most of the manufacturers of the land mobile industry. A contingent representing the California Chapter of the Radio Club, including Loren McQueen, the Chapter Chairman, attended.

Val Williams of NABER presented, for the benefit of the audience, the plaque given to Mr. Higginbotham at

NABER's Annual Meeting just held in the latter part of July at Geneva, Wisconsin. Mr. Higginbotham spoke briefly about the satisfaction he has had in government service and his plans for the future. As a fitting ending to the luncheon, Mrs. Higginbotham was asked to draw the winning 50/50 lottery number from the hat, whereupon she randomly selected a number, which turned out to be her husband's.

Captain William G. H. Finch, U. S. Navy Retired, was awarded his Director Emeritus For Life Plaque by Fred Link, President of the Radio Club of America, Inc. at the luncheon. Captain Finch, a holder of the basic patent in facsimile, has been an active member of the Radio Club for many years. Most members know that Captain Finch has contributed \$10,000 to start the Radio Club's scholarship fund. For that reason, under a technical interpretation of the tax laws, Mr. Finch had to resign as an active director of the Radio Club.