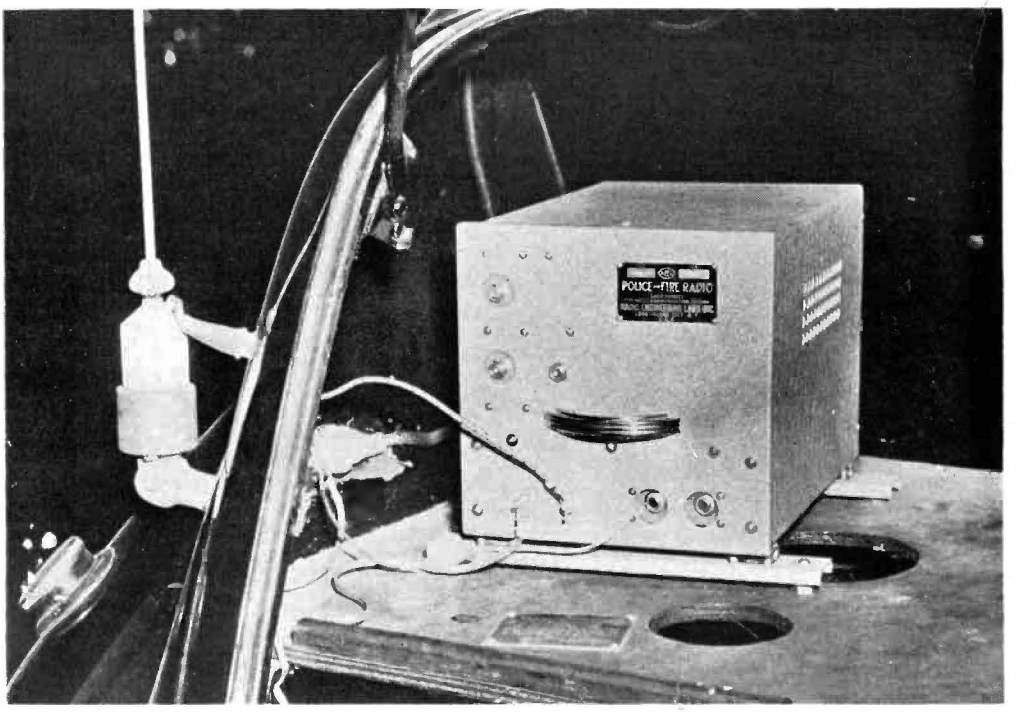


PERFORMANCE OF THIS F-M TRANSMITTER EARNED R.E.L. AN ORDER FOR 200 LIKE IT

POLICE RADIO WITH THIS F-M TRANSMITTER, R. E. L. MADE POLICE RADIO HISTORY IN CHICAGO

ANYONE who has had experience in going after contracts for police radio equipment knows that it's hopeless to ask for changes in specifications after they have been sent out and all the bids have come in. Hopeless? Well, most anyone would consider it so — except Frank A. Gunther, vice president of Radio Engineering Laboratories, at Long Island City, N. Y.

That was the situation confronting him when, last March, he took off for Chicago, a newly developed prowl-car transmitter under one arm, figuratively, and a headquarters receiver under the other. Specifications had been sent out for 200 car transmitters, and the bids were all in when he reached the Chicago police headquarters.

It was fortunate for the City of Chicago, and for Frank Gunther, that police radio is under the technical direction of such an able man as Fred H. Schnell. A dyed-in-the-wool operator and experimenter who had come up through the ARRL ranks, Schnell just couldn't resist the temptation to find out what f-m could do on prowl-car service.

Accordingly, the R.E.L. transmitter, of 25 watts, was installed in a police car, as shown in the illustration above. The receiver and antenna were set up on the top of the Field Building. Receiving conditions were difficult in the extreme, due to interference from adjacent elevator motors, controls, and other electrical equipment.

The purpose of the tests was to determine the relative reliability of a-m and f-m reception. Fred Schnell supervised these tests himself. The illustration on the opposite page shows him at the test receiver. At the right, on the second shelf, is a changeover switch for cutting in one receiver or the other. Test conversations were held between headquarters and various points in the City where communication was known to be difficult, first on one system, and then on the other.

The difference between f-m and a-m performance was decidedly in favor of f-m. In fact, after reviewing the advantages of f-m which were demonstrated in these tests, a way was found to reject all the bids on a-m transmitters, and to award the contract for 200 transmitters to R.E.L.

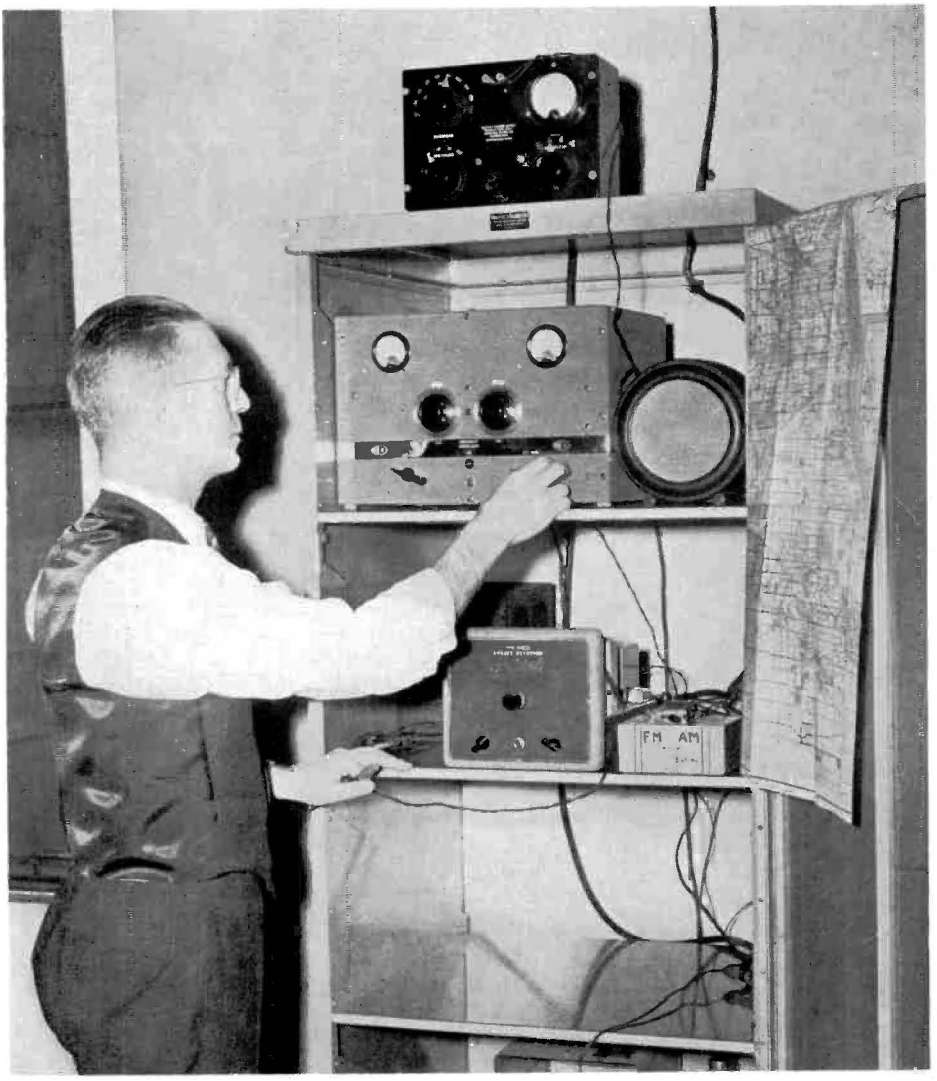
With the new f-m car transmitters in operation, the Chicago police are still using a-m for talking from headquarters to the cars. That is a matter of economics, however, rather than

radio performance. That a-m equipment is not yet scheduled for replacement, but as soon as it can be declared obsolete Chicago will be f-m all the way.

There is already evidence of a general shift to f-m for police service. The state police of Connecticut are currently installing the first state-wide f-m system in the country. Under the guidance of Professor D. E. Noble of the University of Connecticut, who is consulting engineer for the Connecticut State Police, the new set-up has been designed and is now being installed. It will comprise 10 fixed location f-m transmitters, 250 watts each, at various headquarters stations, and a total of 225 two-way mobile units in patrol cars.

Tests have been underway for more than a year, with Professor Noble covering 20,000 miles by automobile to every corner of the state. It is estimated that actual f-m transmission took place during more than 2000 miles of travel while the car was in motion.

The fixed station in these tests was operated by Sidney Warner, supervisor of radio maintenance for the Connecticut Department of State Police.



FRED SCHNELL, CHECKING THE COMPARATIVE PERFORMANCE OF F-M AND A-M PROWL-CAR TRANSMITTERS FOR USE BY CHICAGO POLICE. RESULTS WERE STRONGLY IN FAVOR OF R.E.L.'S F-M EQUIPMENT, AND ALL BIDS FOR THE 200 A-M TRANSMITTERS WERE REJECTED