

does not go far around the earth's curvature, as it does on intermediate frequencies, and the range of this equipment is normally only about double the line of sight. From this it follows that the range of F.M. car transmitters depends upon the height of the aerials which should be as great as is practicable.

Accordingly, in acquiring property for its radio stations, the Force purchased the highest suitable available site for each mast supporting an F.M. aerial, and if there were no power and telephone lines nearby these had to be built into the sites. Also bearing on the choice of this property were such considerations as accessibility, proximity to highway, electric power and telephone control circuits, distance from airports and travelled air routes, and freedom from noise sources. An efficient ground system for the intermediate frequency transmitters was installed. At each station this ground system consists of 120 copper wires, together approximating five miles in length, buried six inches in the ground and radiating at three degree intervals from the mast base.

Under the supervision of members of the Force shelters covered with an aluminium siding and whose interior dimensions are eight by ten feet, were constructed at the base of the towers at Brandon, Saskatoon, Swift Current and Calgary, there already being buildings adequate for the purpose at the other points. The apparatus is entirely controlled over two pairs of telephone lines, thereby eliminating the necessity of maintaining operators at the shelters. It may however be locally controlled as well. The equipment can be operated with very little technical instruction, and sub-division personnel engaged on regular duty learn to do so quickly. The widening influence of radio and aircraft may in time well lead to a reduction of the Force's strength at certain points.

To insure that the equipment would meet our rigid specifications, test exami-

nations of models were conducted before contracts were let. The new Regina, Saskatoon and Calgary towers came in for careful study, particularly as to design, special thought being devoted to wind-and-ice-loading resistance which has an important bearing on continued reliable operation.

The Force's aim was to have the whole lay-out in complete operation by the "fall safe-cracking season"—a well-known writer was amused at that term, but to the R.C.M.P. it represents no joking matter; farmers want cash when they unload their grain at the elevators during the harvest season, which means that vulnerable safes often are stuffed with folding money to meet the demand, and the result is a tempting prize for the safe-blowing fraternity and a strenuous period for the police. Some manufacturers had a great deal of difficulty making their deliveries in time, but everyone cooperated splendidly and, with the radio personnel working hard, often late into the night, most of the system was ready on schedule. A few detachment receivers and car transmitters did not arrive until early in the winter but by the time this article appears in print the following equipment will be operating in full swing:

- Base stations—8,
- Detachment stations—2,
- Two-way cars—54,
- Detachment receivers—151, and
- Car receivers—164.

Moreover, as previously mentioned, plans include two small detachment stations at Moose Jaw and Weyburn to provide communication with Regina, plus six extra car transmitters at points from which tests have shown communication is satisfactory. Further, it is proposed to fit the R.C.M.P. Aviation Section aircraft CF-MPJ, a Stinson plane based at Regina, with a small lightweight F.M. transmitter and receiver capable of communicating with any of the base stations in the system from a