Where is the economic balance between the efforts expended in the reduction of drag of antenna and the benefits realized, in the various airspeed groups?

It was felt that wire aerials were expensive to maintain, but relatively cheap to install. Suppressed aerials, on the other hand, if introduced early enough into the original aircraft design, might cut the cost of installation, and also reduce drag in design might operate to keep maintenance costs low. Other advantages of suppressed aerials were said to be low drag, improvement in appearance, and relative freedom from icing.

The optimum desirable airspeed group to which suppressed antennae might be applied was felt to start at about 250 miles per hour. To what extent has experience shown that the operational performance of various radio systems is affected when their associated antennae are drag-free?

Suppressed antennae already in use were felt to give results equally as good as those of the type at the present time, and to have greater potentialities for improvement. Although pick-up is slightly less with suppression, it was felt that this has been compensated for by improved design techniques.

In the case of 1,000 m/c, there has been some difficulty in getting desired radiation patterns, but little operational data has been collected on results obtained so far. It was felt, however, that this possible trouble might have to be overcome by using diversity antennae.

What have been the results of drag reduction developments as regards: (a) antenna losses and precipitation static characteristics?

Little information was said to be available as yet on either of these points. It was felt, however, that antenna discharge presented no difficulty provided the antenna was adequately matched to its associated transmitter. In general this was possible, and lower peak voltages at the antenna resulted.

Equipment Design and Installation

What is the justification for continuing the practice of having most radio installations specified by the airline?

It was felt that in the case of a single type of aircraft, orders from 27 airlines had specified 21 different radio installations and that the difference in cost between the basic system provided and the most expensive one ordered was $600 per aircraft. The airlines pointed out that some reason for divergence was to be found in the desire of an airline to maintain standardization within its own fleet, and that they warned against standardization to a degree which might stultify progress. There was, however, general agreement that it was advisable to shrink the area of divergence as much and as soon as possible.

What are the advantages of complete A.C. operation of radio equipment in aircraft?

Complete A.C. operation was held to offer the advantages of eliminating much rotating machinery (such as inverters), increasing reliability, and reducing weight. However, it was pointed out that D.C. supplies might still be required for improved design techniques.

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