It's SECAR for air safety

Secondary Radar System for Shannon and Brussels

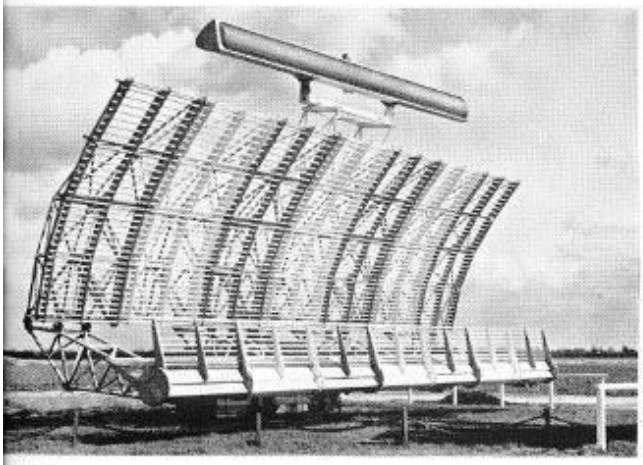
Eurocontrol, the organization which is responsible for the control of all civil aircraft flying in the upper airspace over Europe, has placed an order with Marconi and Compagnie Française Thomson-Houston for the provision and installation of secondary radar systems at Shannon and Brussels.

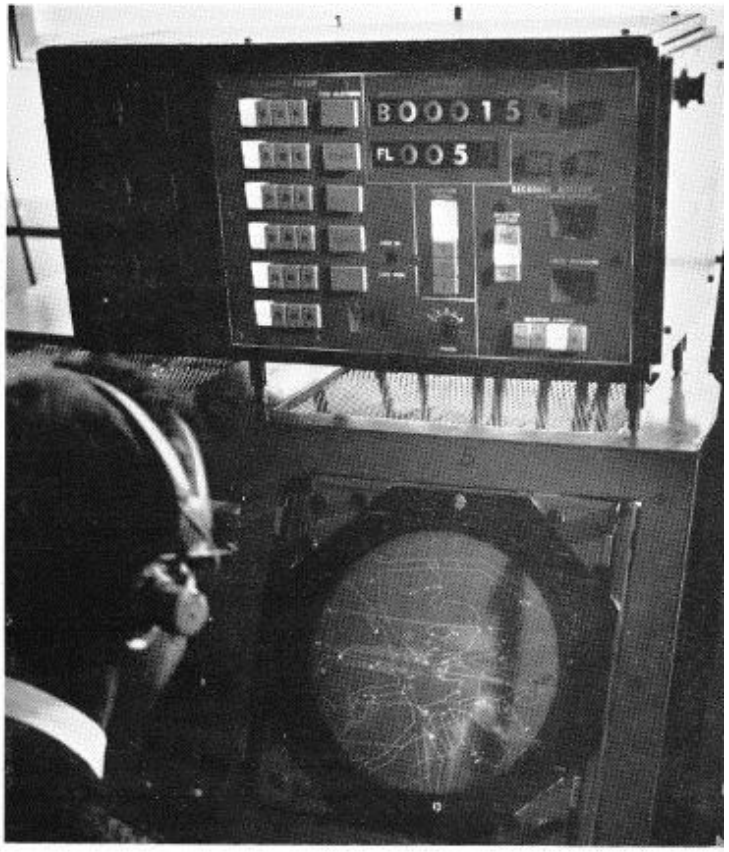
This is the radar system of communication for air traffic control—Secar which was launched at a special exhibition at Rivenhall last year.

The equipment, which we have designed jointly with Compagnie Française Thomson-Houston, is a ground-to-air link for air traffic which provides identity, height and position information to the radar controller. The whole system works on a question and answer basis and the aircrew takes no part in the transfer of information.

Secondary radar is a data link system designed to obtain information from an aircraft in flight and so add to the normal radar position finding. A number of interrogation signals are transmitted to the aircraft from a ground station, the signals are received in the aircraft by a transponder and automatically a reply is sent back in the form of a digital code. Up to six interrogation modes are available and each corresponds to a definite question: 'Who are you?', 'What is your height?', Secondary radar also obtains height automatically from the aircraft altimeter which provides the most accurate measure of altitude available and resolves the need to contact the pilot on radio telephone.

The Secar aerial is seen here mounted on top of the Marconi 50 cm airways surveillance radar type S264A Mk II





A Secar control and indicator unit mounted above a radar (PPI) display. It illustrates the decoding of automatic replies from an aircraft to requests for air traffic control information. The display shows secondary radar responses with a video map of the airways

The Secar equipment, at present installed at Rivenhall for demonstration purposes, will be transferred to Brussels at the end of the year when initial site trials will be made. Civil engineering work will be started at both Brussels and Shannon early next year and the main equipment will begin to arrive in the autumn.

When Secar is installed at Brussels it will play a major part in the control and safety of one of the most complex and crowded airway systems in the world.

The installation at Shannon, on the west coast of Eire, will cover one of the principal entry and exit points for North Atlantic air traffic. The order for Secar from Eurocontrol is the first for equipment specifically for their own use.

At present, much of the air traffic control is carried out by national air traffic control authorities on behalf of Eurocontrol. Now the new equipment will give Eurocontrol an independent system.