FLIGHT SYSTEM SURVEY

Land-mass radar simulator made by ACF Electronics and used for familiarizing pilots with the radar view of treacherous terrain before low-level missions. Light is projected down the tube to illuminate as much of the terrain model as would be covered by the search radar

Flight Recording all the Time

THE Federal Aviation Agency has now proposed that flight recorders should be mandatory in all turbine-powered flying and not only during scheduled passenger services. All turbine-powered aircraft weighing more than 12,500lb, whether turboprop- or turbojet powered and aircraft of this kind with provisional certificates of airworthiness should have recorders on all flights. At least the five basic parameters of speed, height, course, vertical acceleration and time are to be recorded, but there is strong feeling that engine performance and a great number of additional parameters from systems should also be added.

The five-channel recorders have already proved to be of considerable help in incidents, as distinct from accidents, in defining the flight-path of the aircraft in such cases as strong turbulence from which passenger injuries have resulted, or in reported near misses. A logical extension, and one already well appreciated in Britain, is the use of recorded information in assessing the actual wear on major components from the servicing point of view. Recorders could also be applied to pre-flight checking by recording the performance of a complex system and allowing an assessment of its serviceability before the next flight without specific testing. Statistical analysis in service, using accumulated tape records, is also possible.

The FAA has asked for comments on its latest rule by the end of this month.

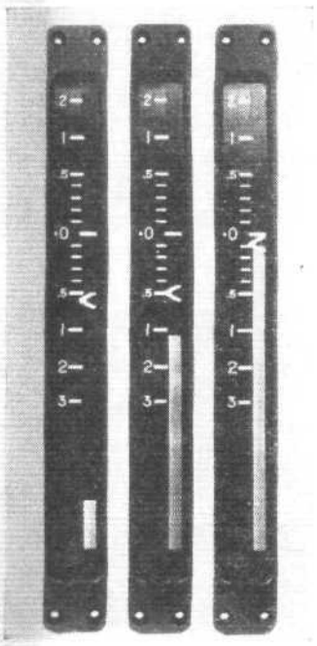
Equipment on Order

SEVERAL new orders and deliveries of British equipment have recently been announced. BEA Vanguards, at least three of which have now been delivered, are the first civil airliners fitted with the new Ekco Electronics transistorized weather radar. This equipment has also been ordered for the Argosy freighters for RAF Transport Command and is fitted in the Comet 4Cs of Middle East Airlines. The first of four MEA Comets is due to go into service today, January 6.

These aircraft also carry an extensive range of Standard Telephones & Cables radio equipment, including STR 23 VHF radios with 360 transmitting and 560 receiving channels; SR 34/35 VOR instrument drive unit and ILS glide-path receiver working with an SR 23; SR 36 marker-beacon receiver; STR 18C 100-channel HF transmitter/receiver; and SA 10/11 loudspeaker and intercom system.

Under a contract worth about £100,000, Ultra Electronics are to supply the new UA60 transistorized, push-button intercom system, cabin address and cockpit address system for the 35 Vickers VC10s ordered by BOAC. The UA60 has also been specified for the Britannic, Beaver, P.531, Avro 748 for Skyways and BKS, Herald and Wessex 2. Ultra have received an order from the RAAF for a further supply of Sarah search and rescue beacons, with speech facility, to a value of about £9,000.

Bahrein, in the Persian Gulf, has now been equipped with Pye ILS incorporating uni-directional localizer. More than 100 airfields now have Pye ILS.



Three indications of the landing altimeter and rate of descent indicator produced by Lear and described on this page on December 2. The rate pointer can be seen at 600ft/min, 500ft/min and at 80ft/min in the three views, with the height tape showing descent towards touchdown. The pilot in theory maintains both indicators coincident but, according to BLEU researches, this would not give a suitable flare-out path

Semi-Automatic Navaid Checking

THE use of 26 or 43 separate navigation receivers to take continuous bearings from as many VOR beacons while an aircraft flies a grid course has been proposed by Airborne Instruments Laboratory for checking these aids in the US. The airborne system, which weighs 500lb, flies the aircraft automatically on a course pre-computed by tape on an IBM computer. In this way a single aircraft can check beacons along a stretch of country between 80 and 160 miles wide instead of having to fly orbits or series of radials at each beacon in turn.

All the airways beacons in the US could be checked in four months by this method, and results from each flight would be computed and printed out by the IBM 704. All five of the FAA's Convair 440 navaid checking aircraft are to be fitted with the equipment during this month.

More F-104 Simulators

A BELGIAN order has now been added to those from Germany and Holland for F-104G simulators from Canadian Aviation Electronics. The RCAF has also ordered simulators for the CF-104 from the same company. There will be six for the RCAF, four for Holland, sixteen for Germany and two for Belgium, the total value being about $25 million. The German and Dutch orders were recorded in these columns on September 23: an order from Italy, which is now to build 200 F-104Gs, might be expected.

Automatic Approaches for Dart Heralds

IT has now been announced that the Sperry Flight Director Gyropilot has been made standard equipment for Handley Page Dart Heralds, six of which have been ordered for Jersey Airlines and three for BEA. The Flight Director Gyropilot consists of the AL.30 with Zero Reader, the combined equipment weighing only 30lb installed. The second prototype and first production Heralds carried the Gyropilot during 750hr of world-wide demonstration tours. No spares were carried, except for the routine filter element change.

AL.30s have already flown thousands of hours in Doves, Herons, Princes and Noratlas and are shortly to be installed in the Dornier Do 27 and Piaggio P.166. The AL.30 is offered as standard equipment for the Fokker Friendship.

ILS for Rotterdam

AN ILS installation serving Runway 24 at Rotterdam Airport was handed over to the Dutch directorate of civil aviation shortly before Christmas. It is an ILS-3 designed by International Telephone and Telegraph Corp and made by ITT's Italian subsidiary, FACE of Milan. The localizer transmitter is in an underground hut, and there are three marker beacons and monitor and control equipment. Permission has also been given to extend the runway from 4,200ft to 5,500ft, making the airport capable of accepting larger aircraft. Two new navigation beacons are to be installed next summer on the islands off the south-west Dutch coast. Rotterdam is at present served by KLM, Channel Airways, BUA and BKS as well as being used by business and charter aircraft. Approach control was formerly based on two NDBs and VDF.

Another Pictorial Presentation

SEVERAL pictorial presentation systems using VOR have from time to time been demonstrated in the US. The latest is the Vortac Pictorial Display developed by International Telephone and Telegraph Corp and shown at Teterboro recently. The 13lb unit contains 20 maps, presumably able to operate from 20 pairs or 20 single Vortac beacons. The relatively low accuracy of VOR has always made navigation computers for this aid difficult to design. The accuracy of this further pictorial aid is not stated.