FLIGHT SYSTEM SURVEY

Radar for the RAF

THE RAF has ordered from Cossor Radar and Electronics Ltd an undisclosed number of CR.787 surveillance radars with a value "well into the six-figure bracket." The RAF has already taken delivery of a small number of mobile CR.787s, each of which can be transported in a single aircraft, but the present order is for fixed installations with duplicated transmitter/receiver. The CR.787 is an S-band surveillance radar incorporating MTI and switchable circular polarization (by means of a quarter-wave plate) to cancel terrain and weather returns. Detection range on a 10 sq m target is up to 40,000ft and 75 nautical miles; and gap-free coverage without aerial tilting is claimed. The displays ordered with the radar have not been announced, but the CR.787 can accommodate the Cossor CRD.23 system.

Proposed Secondary Radar Standard

THE Ministry of Aviation has now issued a document, entitled *Minimum Performance Required of Civil Transponder: January 2, 1961*, which sets out in detail the operating characteristics of transponders. It is stated that two pulse side-lobe suppression will be mandatory in Mode B and that the UK considers this facility to be essential for any civil transponder operation. Together with the Federal Aviation Agency, MoA have formulated a standard for three-pulse side-lobe suppression for Mode A and are proposing this for standardization by ICAO in addition to the two-pulse system already accepted.

An experimental Cossor secondary radar is already operating at London Heathrow with two-pulse suppression in Mode B; and the carriage of suitable transponders will become mandatory in certain areas, initially above 25,000ft, when this becomes operational. The minimum height will be progressively lowered as re-equipment programmes progress.

The new Kelvin Hughes twin-pointer a.s.i., showing the two needles aligned for low-speed indication (left) and the short needle indicating 310kt on the inner scale with the long needle trapped so that only its black portions are exposed, and barely visible

Twin-needle Airspeed Indicator

KELVIN HUGHES have announced a new twin-pointer a.s.i., which is illustrated here. Applied as a stand-by a.s.i. to supplement the computer-operated instruments in the Trident, the new a.s.i. will be driven by a conventional capsule mechanism, but the single shaft will carry two needles and cover the speed range from 60kt to 430kt in two revolutions. There are two concentric, linear scales marked in 5kt increments and, at speeds below 250kt, both the indicator needles overlap to point in an almost solid line to the outer edge of the dial. As the needles reach the beginning of the second turn, the white head of the longer needle is trapped underneath a black cover, leaving the shorter needle alone to indicate against the inner scale. The needles are connected by a hair-spring to allow the short needle to move independently while the long needle is trapped. A similar instrument, but with a capsule-operated, striped needle showing V_{NE} and a marker for V_R, is to be provided as a main instrument for the VC10. A two-needle r.p.m. indicator is also being developed.

A Cossor CR.787 static surveillance radar installation of the type which has been ordered for the RAF (see first news-item)

Computer Century

MORE than 100 digital computers have now been ordered from National-Elliott. Thirty of them were delivered last year and the present back-log of orders is for 25. Nearly half the orders have been for the National-Elliott 803 transistorized machine; and they have come from six foreign countries, including America and Russia. Plans are now in hand to double the output of these computers.

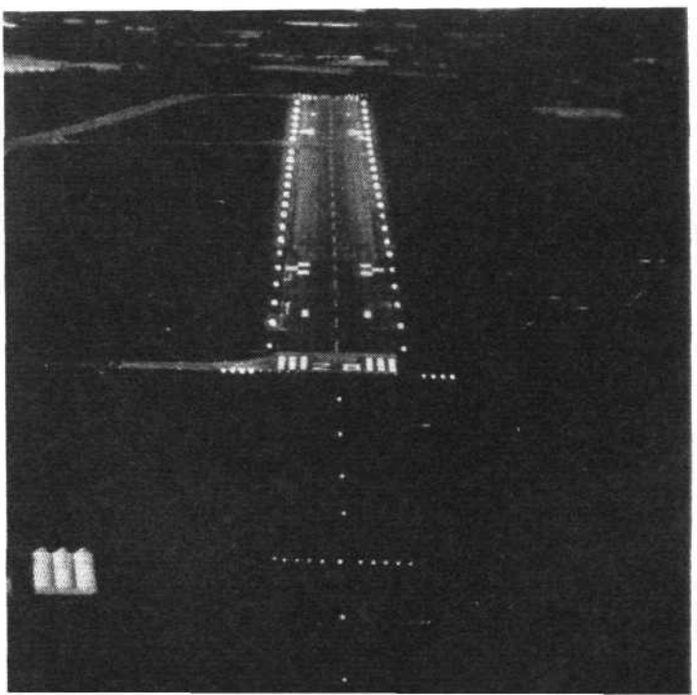
Lighting for Guernsey

THE new 4,800ft runway and taxiways at Guernsey have been equipped with General Electric lighting at a cost of £19,500. The installation was completed by the States of Guernsey Electricity Department. The edges of the taxiway and apron are lined with blue, flush-mounted lamps and the apron is floodlit. Along the edges of the runway itself are high-intensity bi-directional lights wired in two series circuits with individual transformers at each light, the brightness being adjustable in four steps. The threshold at each end is marked by high-intensity unidirectional lights and wing-bars with green filters.

Two sets of approach lighting, 2,000ft long at the western end and 1,400ft long at the eastern, include 100ft-wide cross-bars and centre-lines in white lighting and omni-directional, low-intensity red lights. These are also wired in two separate series circuits so that a circuit failure will only affect alternate lights. Brilliancy of both low- and high-intensity lights can be adjusted and the whole system is controlled from a single switch panel in the control tower.

Radio for UAA Comets

A FURTHER order has been received by Field Aircraft Services Ltd, UK distributors for Bendix Radio, for light-weight radio and radar, to be fitted to the two additional United Arab Airlines Comet 4Cs recently ordered. The new order is worth £25,000. Bendix radio was also fitted to the first three UAA Comets.



General Electric high-intensity approach, threshold and runway lights recently installed at Guernsey Airport (see news-item in column 2)