

HAPPY LANDINGS

A happy landing in spite of a cold sweat can now be achieved by pilots using new methods of practising descents through low cloud. And the equipment which eliminates the danger for instructors and inexperienced pilots is the Flight Simulator Visual Attachment.

A number of these new machines have now been supplied to the R.A.F. and to civil airlines at home and overseas, because the realism obtainable with the Marconi television cameras, and the Queen's Award-winning large screen colour projectors with which they are equipped, is invaluable for training aircrews.

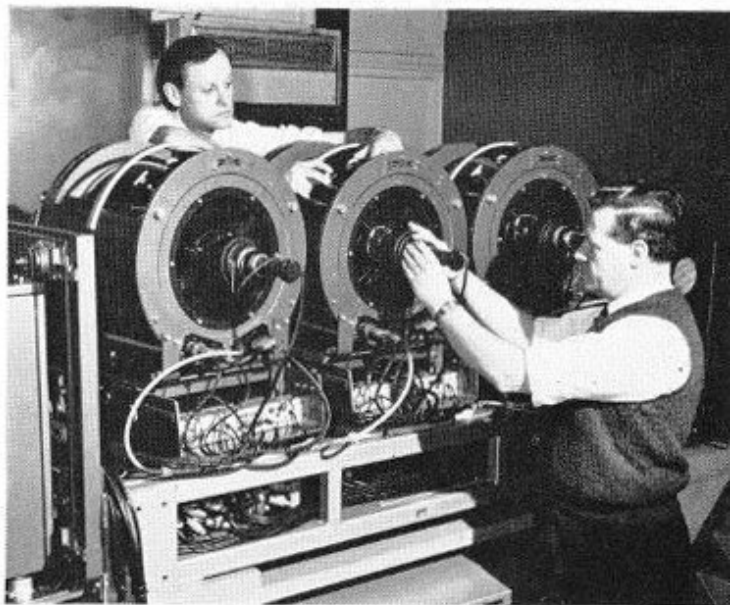
Do you remember the television demonstration on Open Day 1967 in the New Street Works when

the then new colour cameras were panning on the visitors so that they could see themselves in colour? And, do you remember a separate projection room where a large colour picture of a bowl of fruit was formed from three sources of light of primary colours?

This was a new TV colour projector, on which a great deal of time and money had been spent to produce a colour picture on a large screen. Experimental work had been going on in Electro-Optical Systems Division's laboratories (then C.C.T.V.) at Waterhouse Lane to apply its use to the theatre, and in another direction to a television visual system for aircraft flight simulators.

Here was the means, when used in conjunction with a closed circuit colour television camera and the controls in an aircraft cockpit, of training pilots to land aircraft after breaking out of cloud with a base as low as 200 ft. half a mile from the runway. This could be done on the ground, without taking off and without risking lives in dangerous circumstances in the air.

To achieve a complete sensation of flying, the cockpit of the aircraft simulator moves in response to the pilot's controls, while the view from his window represents the airport and the runway he is



LEFT: One of the flight simulators built by Redifon Air Trainers Limited with a Marconi large screen colour projector mounted on the cabin top. This is a 727 cockpit used by Trans World Airlines

ABOVE: One of the last of the batch of colour projectors built for use in R A T's flight simulators being tested at New Street by Test Engineers Aubrey Greenslade and Gilbert Boakes

BELOW: The runway is reproduced on the screen by the projector, and the pilot makes his approach by normal flying methods





Apprentices Malcolm Davies and Paul Webber checking the power supply cabinet for the large screen colour projector

approaching. This combination of effects is obtained from a television camera which follows the aircraft's movements and tracks over a model of the airport and the country round it, feeding back a realistic picture to the colour projector mounted on the roof of the cockpit. At the same time computer-controlled information of his situation is fed

to the pilot's flying instruments. Simulators supplied to the Services for aircraft flying at mach speeds are technically more advanced, so that in these pilots can even fly down valleys.

One of the problems of our project was to make a projector with three tubes which, in spite of its size and weight, would maintain the register to within a few thousandths of an inch while the cockpit moves swiftly through the angles of climb, turn and descent which represent the aircraft's movement while the pilot is taking off and landing.

Few of us realized the full potential of this on Open Day 1967, and it was not until we heard in 1968 that the large screen colour projector had won a Queen's Award for Marconi that the penny really dropped.

The Award, for technological innovation, was presented in November, and representatives of Electro-Optical Systems Division, Basildon, who developed the projector, and of the Works at New Street, who built and tested it, were present.

Altogether thirty projectors have been produced and sold to Redifon Air Trainers Limited for use in flight simulators built and marketed by them. Over half of them have been exported, and a number are being used by the R.A.F. and by civil airlines at home and overseas. For example, American Airlines bought two; Trans World Airlines one; Lockheed one; Qantas two; Saudi Arabian Airlines one. At home B.E.A. have one, and the Ministry of Defence has bought ten for use in the R.A.F.

Retirements in the Chelmsford area

(Second half of 1968)

STAFF

July

A. E. Marjoram	41 years	Supplies Division
K. G. Woodhouse	40 years	Supplies Division
T. T. Canfield	22 years	Radar Division

August

G. A. Martin	49 years	Fabrication Division
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September

S. H. Amey	46 years	Works Engineering Division
J. L. Hurd	22 years	Hackbridge

October

W. A. Watts	31 years	Supplies Division
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November

S. A. Hunter	42 years	Central Division
R. H. Goulden	41 years	Fabrication Division
H. H. Lightfoot	36 years	Directorate of Engineering

December

R. J. Davies	50 years	Photographic Section
R. E. Pipe	50 years	Research Division
V. C. Sayers	46 years	Works Services Division
F. C. Chamberlaine	44 years	International Division
S. H. Warren	40 years	Research Division
W. T. Elder	40 years	Research Division
G. P. Parker	40 years	E.O.S.D.
T. F. Eastman	40 years	Central Division
F. S. Cork	39 years	Radar Division
E. T. Wrathall	39 years	Broadcasting Division
E. B. Lloyd	34 years	Central Personnel Services
E. A. Tillsley	34 years	Central Division
G. A. Jacoby	33 years	Computer Division
A. T. Urquhart	32 years	Supplies Division
T. Armstrong	29 years	Fabrication Division
C. S. Cutts	17 years	Research Division
Mrs. I. Waskett	10 years	Equipment Division