AUGUST 1972

aeronautical Journal



THE ROYAL AERONAUTICAL SOCIETY



Everything that flies needs a brain of some kind.

What kind of brain for the latest reconnaissance and strike aircraft, with their far probing sensors and variety of weapons?

It obviously needs to be pretty alert to cope with all the information flooding in and the systems to be controlled.

Computers with this sort of capability have been a bit thin on the ground up to now.

And even thinner in the air.

Now there's one that's right for the job and ready for action.

It's called FM1600D.

Sounds familiar?

It has the same kind of power as our FM1600B, at the heart of action information and weapon control systems for so many of the new ships of the Royal Navy and other friendly fleets.

Specially developed for airborne use FM1600D comes with revised interfaces making for simpler systems engineering and greater integrity between system units.

And it takes future storage developments in its stride.

FM1600D provides fast 48-bit floating-point arithmetic, 24-bit fixed-point arithmetic, over 320 instructions and up to 65,536 words of ported core and/or semiconductor memory.

It can concentrate its power on any sensor, weapon or tactical activity as events require.

Ferranti Limited, Digital Systems Division, Bracknell, Berkshire, England, RG12 1RA



VOLUME 76 NUMBER 740 AUGUST 1972

THE eronautical

Incorporating The Institution of Aeronautical Engineers and The Helicopter Association of Great Britain

JOURNAL

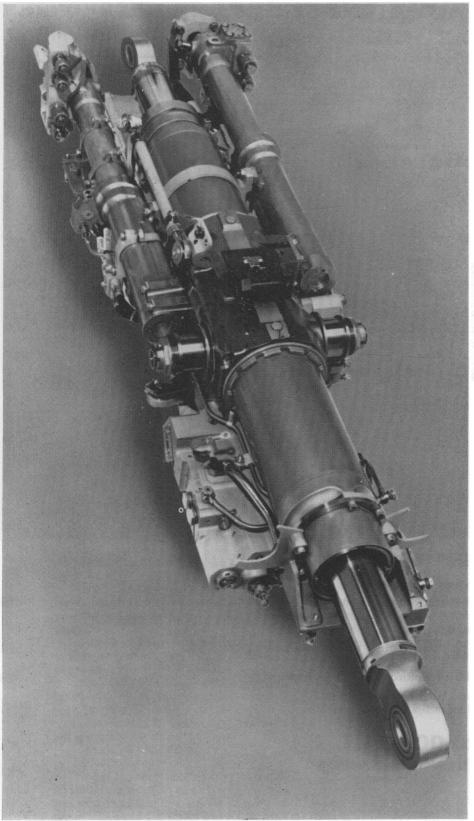
Published Monthly

contents

Editor: G. R. Wrixon, ARAeS, TEng(CEI).	Exhibitors at Farnborough 1972	
Assistant Editors: Jay Wolff, David Scallon.	Notices	iii
Secretary of the Society: A. M. Ballantyne, OBE, TD, BSc, PhD, CEng, HonFCASI, FAIAA, FRAeS. 4 Hamilton Place, London, W1V OBO. Tel: 01-499 3515.	Captain L. B. Bryson, Captain F. E. Heenan and Captain C. A. Johnson HELICOPTERS IN THE ROYAL NAVY	469
Telegrams: Didaskalos, London, W1	R. C. Rainey	
Reproduction of any of the papers published in this journal is not permitted without the written consent of the Editor.	FLYING INSECTS AS POTENTIAL TARGETS: INITIAL FEASIBILITY STUDIES WITH AIRBORNE DOPPLER EQUIPMENT IN EAST AFRICA	501
None of the papers or paragraphs	TECHNICAL NOTES	
must be taken as expressing the opinion of the Council unless otherwise stated.	R. Le Claire	
Advertisements only: H. E. Southon	Energy Flow Diagrams	507
Magazine Advertising Ltd, 184 Fleet Street, London, EC4. Tel: 01-405 6279 & 01-405 3363.	R. C. Sachdeva	
Tel: 01-405 0279 & 01-409 3303.	A numerical experiment of two-dimensional turbulent separation	509
Printed by Lewes Press Ltd., Lewes, Sussex, England.	Library, Reviews, Additions, Reports	512
Subscriptions: £20 per annum, post free.	Council	517
Single copies, including back numbers: £1.75.	SUPPLEMENTARY PAPERS	
Published by	Sydney L. W. Mellen	
The Royal Aeronautical Society, 4 Hamilton Place, London, W1V OBQ, England.	The operation of the Intelsat communications satellite system	519
	Dr. N. Simmons	
O	The state of the art in remote sensing from space	524
Cover picture: Latest anti-submarine helicopter in the Royal Navy, the twin-engined	List of Rotorcraft Section Reprints	528

Latest anti-submarine helicopter in the Royal Navy, the twin-engined boat-hulled Westland Sea King is based on the Sikorsky SH-3D. Powered by Rolls-Royce Gnome H1400 shaft turbines the Sea King has an endurance more than double that of the earlier Wessex 3. Captains Bryson, Heenan and Johnson in their paper in this issue say that the Sea King specification represents a milestone in the history of naval helicopters because, for the first time, the manufacturer was bound contractually to achieve certain basic standards of reliability and maintainability.

Dowty and Concorde



Tandem powered flying controls with duplicate monitored electric signalling and mechanical standby. Relay, elevon and rudder units. Seals. Solenoids, toggle switches, miniature indicators and nose droop switch. Dump valves. Selectors and electro-selectors—all part of the massive contribution to Concorde technology.



DOWTY

Dowty Group Aviation, Cheltenham, England.