

# CONTENTS

## APPLICATION

**MADE TO MEASURE** Ergonomics is more than the study of the physical environment in which a computer is used: it also incorporates considerations of the way we interact with complex software

521

**SOUNDS IN SEQUENCE** Our series on electronic music continues with a look at the MIDI interface

534

## HARDWARE

**GOOD AT GAMES** The Sega SC3000H is an inexpensive home micro from a company famous for arcade games machines

529

## COMPUTER SCIENCE

**TURNING TURTLE** By drawing a variety of shapes using turtle graphics, we introduce you to some of the basic commands of the LOGO language

532

## JARGON

**FROM ELECTROSTATIC PRINTER TO EXPERT SYSTEM** Our weekly glossary

528

## PROGRAMMING TECHNIQUES

**GUIDELINES** We consider the three main user aids available to the programmer: instructions, 'help' pages and 'signposts'

526

## MACHINE CODE

**REGISTER TO REGISTER** We investigate the variety of registers used by the 6809 processor, and consider some of the elementary instructions that they use

537

## PROFILE

**FOSTERING AN IMAGE** Australian creativity is behind the image-conscious software company, Melbourne House

540

## WORKSHOP

**PROTECTIVE GEAR** Our practical course continues by showing you how to build a buffer box — a device that protects the delicate internal mechanism of a computer

523

**THE WORKSHOP ANSWERS BACK** We supply answers to the workshop exercises given last week

INSIDE  
BACK  
COVER

## Next Week

- Pocket computers offer desk-top programming power at calculator prices. We examine the latest machines from Casio.
- Our LOGO series introduces procedure definition and editing — the essential features of any programming language.
- The equipment to interface computers to electronic musical instruments is available now for many home micros. We continue our investigation of modern musical techniques.



# QUIZ

- 1) What was the first version of LOGO to appear on microcomputers?
- 2) Why is the 6809 wrongly called a 'pseudo 16-bit processor'?
- 3) What is 'fax'?
- 4) What is SQL?

### Answers To Last Week's Quiz

- 1) The 'kludge' is a black box on the Sinclair QL containing extra operating system chips.
- 2) An IDC is an 'Insulation Displacing Connector'.
- 3) The advantage of digitised sound is that it can be reproduced by a synthesiser as part of a programmed sequence with variable rhythm, pitch and timbre.
- 4) An emulator is a computer system that mimics the operation of another, different, computer.

Editor Jim Lennox; Managing Editor Mike Wesley; Art Director David Whelan; Technical Editor Brian Morris; Production Editor Catherine Cardwell; Art Editor Claudia Zeff; Chief Sub Editor Robert Pickering; Designer Julian Dorr; Art Assistant Liz Dixon; Editorial Assistant Stephen Malone; Sub Editor Steve Mann; Researcher Melanie Davis; Contributors Geoff Bains, Harvey Mellor, Mike Curtis, Steve Colwill, Steve Malone, Rory Forsyth, Richard Pawson, Graham Storr; Software Consultants Pilot Software City; Group Art Director Perry Neville; Managing Director Stephen England; Published by Orbis Publishing Ltd; Editorial Director Brian Innes; Project Development Peter Brookesmith; Executive Editor Chris Cooper; Production Controller Peter Taylor-Medhurst; Circulation Director David Bred; Marketing Director Michael Joyce; Designed and produced by Bunch Partworks Ltd; Editorial Office 14 Rathbone Place, London W1P 1DE; © APSIF Copenhagen 1984; © Orbis Publishing Ltd 1984; Typeset by Universe; Reproduction by Mullis Morgan Ltd; Printed in Great Britain by Artisan Press Ltd, Leicester

HOME COMPUTER ADVANCED COURSE - Price UK 80p IR £1.00 AUS \$1.95 NZ \$2.25 SA R1.95 SINGAPORE \$4.50 USA and CANADA \$1.95

How to obtain your copies of HOME COMPUTER ADVANCED COURSE - Copies are obtainable by placing a regular order at your newsagent, or by taking out a subscription. Subscription rates: for six months (26 issues) £23.80; for one year (52 issues) £47.60. Send your order and remittance to Punch Subscription Services, Watling Street, Bletchley, Milton Keynes, Bucks MK2 2BW, being sure to state the number of the first issue required.

Back Numbers UK and Eire - Back numbers are obtainable from your newsagent or from HOME COMPUTER ADVANCED COURSE. Back numbers, Orbis Publishing Limited, 20/22 Bedfordbury, LONDON WC2N 4BT at cover price. AUSTRALIA: Back numbers are obtainable from HOME COMPUTER ADVANCED COURSE. Back numbers, Gordon & Gotch (Aus) Ltd, 114 William Street, PO Box 767G Melbourne, Vic 3001. SOUTH AFRICA, NEW ZEALAND, EUROPE & MALTA: Back numbers are available at cover price from your newsagent. In case of difficulty write to the address in your country given for binders. South African readers should add sales tax.

How to obtain binders for HOME COMPUTER ADVANCED COURSE - UK and Eire: Please send £3.95 per binder if you do not wish to take advantage of our special offer detailed in Issues 5, 6 and 7. EUROPE: Write with remittance of £5.00 per binder (incl. p&p) payable to Orbis Publishing Limited, 20/22 Bedfordbury, LONDON WC2N 4BT.

MALTA: Binders are obtainable through your local newsagent price £3.95. In case of difficulty write to HOME COMPUTER ADVANCED COURSE BINDERS, Miller (Malta) Ltd, M.A. Vassalli Street, Valletta, Malta. AUSTRALIA: For details of how to obtain your binders see inserts in early issues or write to HOME COMPUTER ADVANCED COURSE BINDERS, First Post Pty Ltd, 23 Chandos Street, St. Leonards, NSW 2065. The binders supplied are those illustrated in the magazine. NEW ZEALAND: Binders are available through your local newsagent or from HOME COMPUTER ADVANCED COURSE BINDERS, Gordon & Gotch (NZ) Ltd, PO Box 1595, Wellington. SOUTH AFRICA: Binders are available through any branch of Central Newsagency. In case of difficulty write to HOME COMPUTER ADVANCED COURSE BINDERS, InterMag, PO Box 57394, Springfield 2137.

Note - Binders and back numbers are obtainable subject to availability of stocks. Whilst every attempt is made to keep the price of the issues and binders constant, the publishers reserve the right to increase the stated prices at any time when circumstances dictate. Binders depicted in this publication are those produced for the UK market only and may not necessarily be identical to binders produced for sale outside the UK. Binders and issues may be subject to import duty and/or local taxes, which are not included in the above prices unless stated.