

CONTENTS

APPLICATION

ARE YOU BEING WATCHED? We look at the latest in computer surveillance techniques

461

HARDWARE

APPLE BITES BACK The Macintosh is the latest in micro innovation from Apple

469

SOFTWARE

THE GENTLE TOUCH The ability to touch-type can be of enormous benefit

463

TROUBLED WATERS River Rescue is a challenging game

473

PROGRAMMING PROJECTS

ADDING DAZZLE We add some last-minute refinements to our Minefield program for the BBC and Electron

466

CIRCULAR MEASURE Our program simulates a Towers of Hanoi puzzle

474

PROGRAMMING TECHNIQUES

TOP SECRET The key to good programming is the 'top-down' approach

476

JARGON

FROM DISASSEMBLER TO DOWNLOAD A weekly glossary of computing terms

468

MACHINE CODE

NOT SO FAST We learn how to implement time delay loops

478

PROFILE

COLOURFUL CONNECTION After successfully launching Micronet, Prism has become a force to be reckoned with

480

Next Week

• A computer, monitor and disk drives for £500? We examine the Tatung Einstein.

• Out with a bang. We come to the conclusion of the BBC Minefield project.

• Soft sounds from your computer—we begin a new series on computerised music.



QUIZ

- 1) Having taken the trouble to assemble a program, why should one wish to disassemble it again?
- 2) What is the purpose of 'top-down' design?
- 3) Which type of disk is used on the Macintosh?
- 4) What is the significance of ! (exclamation mark) in the Towers of Hanoi program?

Answers To Last Week's Quiz

A1) True. Using the RAM within the Psion Organiser means that data can be deleted and the memory reused. However, the memory in the datapaks cannot be reused.

A2) There is no edge connector on the Electron, so if Acorn plan any further interfaces they need a connector for the Plus 1.

A3) Audiogenic's Alice In Videoland uses 90 Kbytes of code.

A4) Yes. Although the Spectrum version uses a GOTO statement to control the keyboard, the program is designed as discrete subroutines.

QUIZ

COVER PHOTOGRAPHY BY IAN MCKINNELL

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 Steve Colwill, Steve Malone, Peter Jackson, Ted Ball, Richard Pawson, Martha Ellen Zentell, Graham Storrs; Group Art Director Perry Neville; Managing Director Stephen England; Published by Orbis Publishing Ltd; Editorial Director Brian Innes; Project Development Peter Brooksmith; Executive Editor Chris Cooper; Production Controller Peter Taylor-Medhurst; Circulation Director David Breed; 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, Intermap, 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.