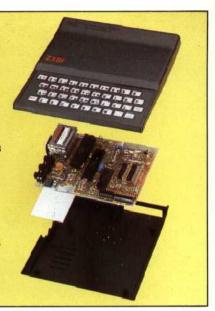
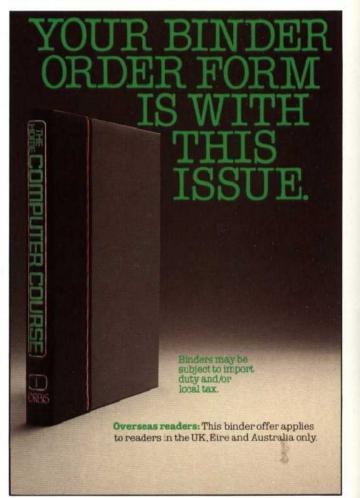
Hardware Focus	旦
Texas Instruments' 99/4A This home computer reveals a very high standard of construction, but uses some old technology	189
Software	8.
Alternative Translation Compilers and interpreters are two different ways of converting Basic to machine code	184
Forging Ahead Piracy is a constant threat to software writers	192
Basic Programming	<
Another Dimension Continuing our course on programming we look at two- dimensional arrays for tables and charts	194
Insights	01111
Moving Pictures Animation has come a long way since the Zoetrope	181
Talking Back With the use of a speech synthesiser a computer can be programmed to respond verbally	186
Intricate Plot A printer is not usually adequate for graphics. Using pens a plotter produces high quality drawings	198
Passwords To Computing	?
Peek and Poke These two commands can be used on most home computers to go 'beyond Basic'	188
Pioneers In Computing	
Alan Turing A mathematical genius who did much work on the theory of computation	200
Digital Doodles Graphical wizards will be interested in the ROBO 1000 for the Apple	INSIDE BACK

Next Week

- The Sinclair ZX81, first mass-marketed micro and performing miracles on just four chips, can still be viewed as a triumph of design
- Flight simulators for pilot training make heavy use of computers and cost thousands of pounds. Some of the work put into their development is now appearing in the form of sophisticated games for the micro
- One way of sending data from your computer to another over the telephone is by means of an acoustic coupler. We explain how this device works





Editor Richard Pawson; Consultant Editor Gareth Jefferson: Art Director David Whelan; Production Editor Catherine Cardwell; Staff Writer Roger Ford; Picture Editor Claudia Zeff; Designer Hazel Bennington; Art Assistants Li Safu Maria Gilbert; Sub Editor Tracy Ebbetts; Researcher Melanie Davis; Contributors Tim Heath, Richard King, Henry Budgett, Brian Morris; Mel Pullen Group Art Director Perry Neville; Managing Director Stephen England; Co David Tebbutt; Published by Orbis Publishing Ltd: Editorial Director Brian Innes; Project Development Peter Brookesmith; Executive Editor Chris Cooper; Production Co-ordinator Ian Paton; Circulation Director David Breed; Morris Publishing Ltd: Typeset by Universe; Reproduction by Mullis Morgan Ltd; Printed in Great Bratian Press Ltd, Leicaster

COVER

II computer

NOME COMPUTER COURSE — Price UK 80p IR £100 AUS \$1.95 NZ \$2.25 SA R1.95 SINGAPORE \$4.50 USA and CANADA \$1.95

How to obtain your copies of NOME COMPUTER COURSE — Copies are obtainable by placing a regular order at your newsagent.

Back Numbers UK and Ere — Back numbers are obtainable from your newsagent or from HOME COMPUTER COURSE. Back numbers, Orbis Publishing Limited, 20/22 Bedfordbury, LONDON WC2N 4BT at cover price. AUSTRALIA: Back numbers are obtainable from HOME COMPUTER COURSE. 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 COURSE.—UK and Eire: Details of how to obtain your binders [and of our special offer] are in issues 4, 5, 6, and 8. EUROPE: Write write 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 HONE COMPUTER 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 COURSE BINDERS, First Post Py Ltd, 23 Chandos Street, St. Leonards, NSW2065. The binders supplied are those illustrated in the magazine. NEW ZEALAND: Binders are available through your local newsagent or from HOME COMPUTER COURSE BINDERS, Grid on & Gotta (NZ) Ltd, PO Box 1595, Wellington. SOUTH AFRICA: Binders are available through your local newsagent or from HOME COMPUTER COURSE BINDERS, Gordon & Gotta (NZ) Ltd, PO Box 1595, Wellington. SOUTH AFRICA: Binders are available through your local newsagent price of the issues and backnumbers 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 dictat