LISTING

16	**MicroModeller** Crystal ball of the '80s?
21	**Surround** Try this fast-moving game
23	**Bach and the byte** Mountain Hardware MusicSystem
31	**Applecart** The computer in education
37	**Appletips** . . . random numbers to EXEC files
40	**Compucopia** What's new in software/hardware
42	**Format 80** Word processor typists love
48	**Profile** Mr Apple in Britain
53	**Cis Cobol** The flexible file handler
57	**What's news..** Windfall's chat show

No 1 July 1981

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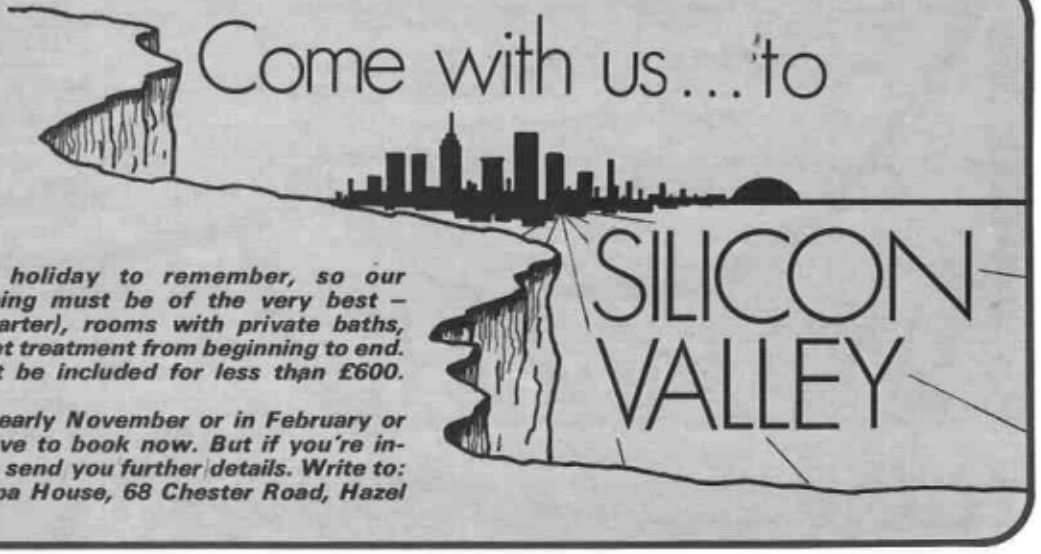
WE'RE working on a fabulous holiday offer that will be exclusive to readers of Windfall – a 16-day visit to America's West Coast, staying in first class hotels in San Francisco, Las Vegas and Los Angeles . . . and with a tour of the Mecca of the world of computers, the legendary Silicon Valley.

We want this to be a holiday to remember, so our instructions are that everything must be of the very best – scheduled air flights (not charter), rooms with private baths, sightseeing trips, the red carpet treatment from beginning to end. And we've said all this must be included for less than £600. How's that for a bargain?

The dates we suggest are early November or in February or March of 1982. You don't have to book now. But if you're interested let us know and we'll send you further details. Write to: Holiday Offer, Windfall, Europa House, 68 Chester Road, Hazel Grove, Stockport SK7 5NY.



LISTING

14 **Networks** — Talk to another Apple

17 **What's news...** — Windfall's chat show

18 **Compucopia** — What's new in software/hardware

21 **Make a date** — Some useful routines

24 **Boris Allan** — The limits of his world

30 **Word Processor** — Down Under design reviewed

37 **Applecart** — The computer in education

43 **Conversion** — Integer Basic to Applesoft

47 **Book review** — Machine code minus maths

60 **Feedback** — Your views

No 2 August 1981

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Teach your Apple to sing!

WINDFALL is organising a Music and Speech Synthesiser Workshop, to be held in Manchester on Saturday, September 26. While primarily designed for Apple users, it will be open to anyone interested in this fascinating subject.

The music side of the workshop will be the responsibility of Dr David Ellis, who runs the London-based Apple Music Synthesis Group.

The speech synthesis section is in the hands of a number of experienced users, including a team from Salford University.

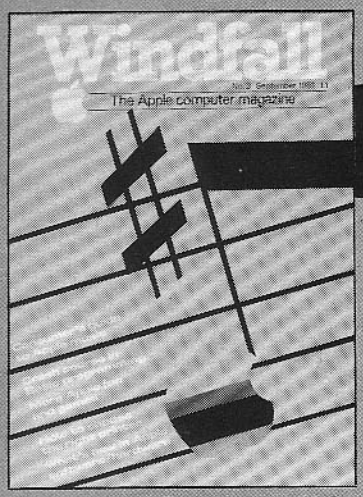
Aim of the workshop is to create a greater awareness of the remarkable developments now being made in music and speech synthesis systems.

There will be lectures on various technical aspects of using a computer to create music or speech, as well as a general "hands on" session where you can try out the equipment and talk to the experts. Several Apple-based systems will be represented, including an Alpha-Syntauri keyboard.

More details will be given in the next issue of Windfall. But as it is expected that a lot of Apple users will want to attend the workshop we urge any readers interested in this subject to write to us now to reserve a place.

The address is: Music and Speech Workshop, Windfall, Europa House, 68 Chester Road, Hazel Grove, Stockport SK7 5NY.

81_09



No 3 September 1981

LISTING

12 **Apple music**
Comprehensive consumers' guide

16 **Gamesmanship**
Three new offerings reviewed

18 **Ski Run**
Take your Apple on a downhill race

21 **Valuable variables**
Foil the microsecond munchers

24 **Applications**
Non-linear curve fitting

28 **Feedback**
Your views

29 **First steps**
Routines in machine code

32 **Crash course**
Seven days to pick up programming

34 **Compucopia**
What's new in software/hardware

37 **Appletips**
To make life easier

39 **Printers**
Get your priorities right

42 **Communications**
Making most of modems

46 **What's news..**
Windfall's chat show

52 **Case history**
Personal computing at SEGAS

58 **User groups**
Monthly round-up

Managing Editor
Derek Meakin

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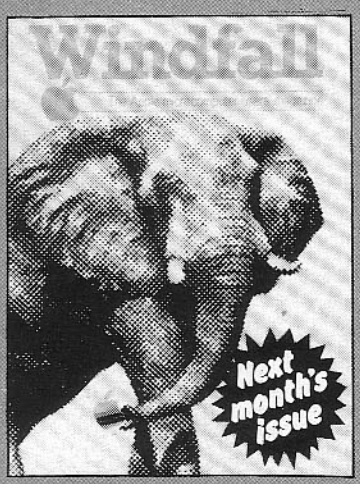

81_10

No 4 October 1981

LISTING

13 **Review**
Micro Planner, the patient one

16 **Gamesmanship**
From Napoleon to Raster Blaster

18 **Puzzle**
Strictly for squares

21 **What's news..**
Windfall's chat show

27 **First steps**
Keeping our dumps elegant

31 **Communications**
American Apples have it made

34 **Crash course**
Now try branching out

36 **Apple music**
Completing our consumers' guide

40 **Case history**
Quick dummy runs

44 **Compucopia**
What's new in software/hardware

47 **Applecart**
The computer in education

51 **Feedback**
Your views

55 **Appletips**
They make life easier

58 **User groups**
Monthly round-up

Managing Editor
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82_07

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17 **WHAT'S NEWS . . .** A quick look at the Apple world

23 **COMPUCOPIA** The latest in software/hardware

30 **APPLETIPS** They make programming easier

33 **GAMESMANSHIP** Pursuit of the Graf Spee

34 **ELEMENTS of the APPLE** Prerequisites of design

38 **APPLE '82** Our first convention reviewed

43 **FORTH** Part II of Keith Lander's article

48 **VISICALC** Making the most of its capabilities

55 **DIALECTS** Paul Rayner looks at Basic

56 **ORMBETA** Finding your ideal system

60 **USER PORT** Powerful port for the handyman

63 **MONITOR CHECK** A plotting routine problem

65 **EARTH DEFENCE** A schoolboy's complex action game

70 **FEEDBACK** Aid for creature venturers

72 **PROGRAMMING** Interrupting your Apple

75 **APPLECART** The computer in education

85 **ABC of the APPLE** Handy glossary

82_08

LISTING

Vol. 2 No. 2 August 1982

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17 ***WHAT'S NEWS . . .***
A quick look at the Apple world

23 ***COMPUCOPIA***
The latest in software/hardware

28 ***THE MICRO PARADOX***
Why Apple's keeping mum

30 ***APPLETIPS***
They make programming easier

33 ***GAMESMANSHIP***
Suffering from battle fatigue

36 ***DESIGN***
Making the most of your software

39 ***MORSE CODE***
Learning it without going dotty

48 ***VISICALC***
'Thinking Matrix' keeps it simple

53 ***PASTEXT II***
Formatting's the name of the game

56 ***PROGRAMMING***
Interrupting your Apple

58 ***OMNIS***
The wait is worthwhile

60 ***TEMPO***
Melody from your micro

65 ***DIY MOD***
Make Videx appreciate Pascal

70 ***FEEDBACK***
Poke in your point of view

72 ***MAH JONG***
Easier than you might imagine

74 ***SORTING***
RA Mould considers bubbles and shells

77 ***APPLECART***
The computer in education

82_09

Vol. 2 No.3 September 1982

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LISTING

17 ***WHAT'S NEWS . . .*** **A quick look at the Apple world**

21 ***COMPUCOPIA*** **The latest in software/hardware**

26 ***APPLETIPS*** **They make programming easier**

29 ***CP/M*** **Making back-up discs**

35 ***GAMESMANSHIP*** **Take on Odyssey . . . fly Choplifter**

38 ***VISICALC*** **DOS isn't just any old boot**

41 ***GAME*** **Score wins with strings**

42 ***TASC COMPILER*** **Storing numeric arrays**

44 ***MED-RES GRAPHICS*** **A touch of the Van Goghs**

49 ***MORSE CODE*** **Communication aspects**

53 ***DIY*** **Push buttons to ease MCQs**

54 ***PROGRAMMING*** **Access to Apple memory**

59 ***BAG OF TRICKS*** **Insurance you can't miss**

60 ***G-WHIZ*** **Program for pilots**

62 ***FEEDBACK*** **Giving CTRL-C the KO**

65 ***MEDICAL RECORDS*** **Software for the surgery**

69 ***APPLECART*** **The computer in education**

82_10

Vol. 2 No. 4 October 1982

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LISTING

17 ***WHAT'S NEWS . . .*** **A quick look at the Apple world**

19 ***COMPETITION*** **Win a Christmas Bit Stik**

20 ***APPLETIPS*** **They make programming easier**

23 ***COMPUCOPIA*** **The latest in software/hardware**

31 ***GAMESMANSHIP*** **Tackling Knight of Diamonds**

35 ***THINK TANK*** **New forum for programmers**

38 ***MED-RES GRAPHICS*** **Filling in the shapes**

41 ***LISA*** **Assembler for all abilities**

44 ***VISICALC*** **A touch of magic**

46 ***BFM . . .*** **speedy way to harness power**

50 ***SHELLSORT*** **Keeping track of variables**

57 ***APPLE-VOX*** **Good line in synthetic chat**

60 ***FEEDBACK*** **Guides to machine languages**

64 ***MORSE CODE*** **The final listing**

67 ***APPLECART*** **Age of the multi-disciplinarian**

77 ***ABC of the APPLE*** **Dictionary for beginners**

81 ***APPLE CLASSIFIEDS*** **Our marketplace for sales and wants**

82_11

Vol. 2 No. 5 November 1982

LISTING

17 **WHAT'S NEW** — A quick look at the Apple World

19 **APPLE '83** — Preparing for the big show

23 **THINK TANK** — New forum for programmers

26 **PROGRAMMING** — CALL in those PEEKing POKEs

28 **APPLETIPS** — They make programming easier

31 **GAMESMANSHIP** — Blend of brains and brawn

34 **EVALUATION** — Three 80 column cards compared

40 **VISICALC** — Brush up your algebra

44 **BIT STIK** — Graphics by the pageful

49 **COMPUCOPIA** — The latest in software/hardware

55 **APPLECART** — Educational software pitfalls

60 **FEEDBACK** — Servicing data needed

65 **MED-RES GRAPHICS** — Useful ampersand routine

77 **ABC of the APPLE** — Dictionary for beginners

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Derek Meakin

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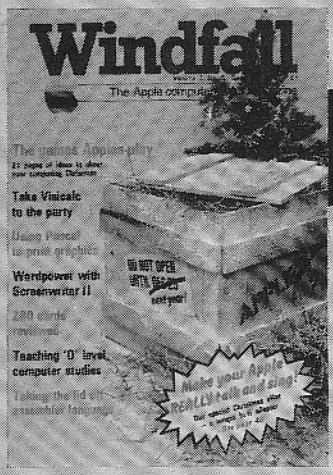

Vol. 2 No. 6 December 1982

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LISTING

17 **WHAT'S NEW**
A quick look at the Apple world

23 **THINK TANK**
Our forum for programmers

26 **GRAPHICS**
Doing the impossible in Pascal

29 **MACHINE CODE**
Interactive editor-assembler

32 **VISICALC**
VC magic for Christmas parties

36 **APPLETIPS**
They make programming easier

Get into the Christmas spirit now

GAMES!
Page after page of ideas start on 39

60 **FEEDBACK**
Programs that do . . . and don't

63 **APPLECART**
Aid for tyro computer teachers

69 **SCREENWRITER II**
Word processor package reviewed

72 **PEEK and POKE**
Max Parrott concludes his beginners' guide

75 **COMPUCOPIA**
The latest in software/hardware

81 **CP/M**
Z80 cards for the Apple II

Vol. 2 No. 7 January 1983

Managing Editor
Derek Meakin

Features Editor
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LISTING

17	***WHAT'S NEWS . . .***	**A quick look at the Apple world**
22	***THINK TANK***	**Our forum for programmers**
26	***REVIEW***	**Secrets of Apple graphics**
28	***APPLETIPS***	**They make programming easier**
30	***GAMESMANSHIP***	**Fairy tale for adults**
34	***DISCS***	**Six pages on memory storage**
36	***BUBBLE MEMORY***	**MPC card reviewed**
37	***RAM CARDS***	**Showing a clean pair of heels**
38	***RELIABILITY***	**Don't let back-up get you down**
39	***DUOFILE and UNIFILE***	**New drives offer massive storage**
40	***TRON***	**Electronic odyssey from the Apple**
42	***GRAPHMAGIC***	**As easy as pie charts**
45	***COMPUCOPIA***	**The latest in software/hardware**
50	***CP/M***	**Installing Wordstar**
52	***FEEDBACK***	**Plea for the raw recruit**
55	***VISICALC***	**Keep that cash flowing**
59	***APPLECART***	**Pilot for teachers**
62	***ASSEMBLER***	**What it's all about . . .**

LISTING

17	***WHAT'S NEWS . . .***	**A quick look at the Apple world**
23	***THINK TANK***	**Our forum for programmers**
26	***ASSEMBLER***	**The process in action**
28	***APPLETIPS***	**They make programming easier**
31	***SCRABBLE***	**Designing . . . implementing . . . testing**
35	***VISICALC***	**The delights of DIF**
39	***GAMESMANSHIP***	**On the road to Nuggyland**
43	***STRUCTURED BASIC***	**New life for Applesoft**
49	***GRAFORTH***	**For education and games**
51	***NEW APPLES UNVEILED***	**Full story of Lisa and Apple IIe**
57	***PASCAL POINTERS***	**Two pages of programming tips**
61	***BUSINESS***	**Project management**
64	***TIME SAVER***	**Handling interrupts**
68	***APPLICATION***	**Putting fish in their place**
70	***UPDATE***	**Date-stamping DOS**
71	***APPLECART***	**Cutting teacher prompts**
76	***FEEDBACK***	**Extending stock control**
79	***COMPUCOPIA***	**The latest in software/hardware**
86	***FORMATTING***	**Improving Applesoft listings**

Vol. 2 No. 8 February 1983

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83_03

Vol. 2 No. 9 March 1983

LISTING

14 **APPLE DARTS**
Use our listing, and fire away

17 **WHAT'S NEWS . . .**
A quick look at the Apple world

23 **THINK TANK**
Our forum for programmers

26 **BEGINNERS, PLEASE**
Using the System Master disc

28 **APPLETIPS**
They make programming easier

33 **GAMESMANSHIP**
Our monthly look on the light side

36 **LOWER CASE DISPLAY**
How to use it in Basic strings

37 **OFFER OF THE MONTH**
Windfall's lower case generator

39 **VISICALC**
Magnificent obsession called Multiplan

44 **LISA AND THE IIe**
They live up to expectations

48 **APPLEWRITER III**
Best of the bunch?

53 **APPLESOFT**
Beat the bugs in error handling

56 **ASSEMBLER**
Putting it to work

58 **APPLICATION**
Apple on the pig farm

60 **FEEDBACK**
Where to find help

63 **APPLECART**
Geometry drill examined

67 **COMPUCOPIA**
The latest in software/hardware

72 **CP/M**
CLIP the cost of a good memory

Managing Editor
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David Creasey

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LISTING

17	**WHAT'S NEWS** Inside look at the Apple world
21	**THINK TANK** Our forum for programmers
25	**GAMESMANSHIP** Tackle Type and learn a craft
29	**WORD PROCESSORS** Four packages reviewed
36	**APPLETIPS** They make programming easier
39	**VISICALC** Economics of electronic worksheets
41	**BOOK REVIEW** Assembly language programming
43	**GONE FISHING** Nine-year-old's game listing
47	**APPLICATIONS** Apples into pet food and pictures
48	**APPLE IIe** The thinking behind improvements
54	**BEGINNERS, PLEASE** Now start experimenting
58	**OMNIS** Re-engineered for humans
60	**FEEDBACK** Apple Pilot problems
62	**STROBE 100** Persistence produces fine graphics
65	**APPLECART** Make it CAT, not CAL
71	**COMPUCOPIA** Latest in soft and hardware
76	**ACCOUNTING** Hilderbay Bookkeeper reviewed
79	**CP/M** The friendlier approach

Vol. 2 No. 10 April 1983

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83_05

Vol. 2 No. 11 May 1983

LISTING

17	***WHAT'S NEWS . . .*** **Inside look at the Apple world**
25	***THINK TANK*** **A touch more magic . . .**
29	***GAMESMANSHIP*** **Win a spy-type T shirt**
34	***APPLETIPS*** **They make programming easier**
36	***MANUALS*** **An easy way to insanity**
41	***ETHICS*** **To copy or not to copy**
44	***APPLICATIONS*** **Taking your Apple walkies**
47	***WILDWORD*** **WP package with a lot to offer**
49	***HANDLING DATES*** **Aid to database management**
50	***EPSON Part I*** **Ascii has the answers**
53	***APPLE CIRCUIT 1.0*** **Good, but not for beginners**
54	***FEEDBACK*** **Tackling CHAIN problems**
56	***VISICALC*** **Super Expander examined**
60	***GRAPHICS*** **Generating bar indicators**
63	***COMPUCOPIA*** **The latest software/hardware**
69	***APPLECART*** **Studying wave formation**
72	***ANALYSIS*** **Micro DP package reviewed**

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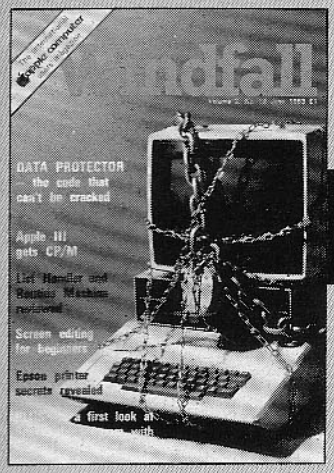

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LISTING

17 ***WHAT'S NEWS . . .*** **Inside look at the Apple world**

21 ***THINK TANK*** **Translating the language card**

25 ***GAMESMANSHIP*** **Playing Pie Man**

30 ***APPLETIPS*** **Stop FID fretting**

32 ***ENCRYPTION*** **DES keeps your data safe**

35 ***APPLE III CP/M*** **Three micros for price of one**

38 ***SAVVY*** **Meet the pondering program**

44 ***LIST HANDLER*** **Follow Santa's example**

50 ***APPLE '83*** **The Apple event of the year**

55 ***BEGINNERS PLEASE*** **Learn screen editing**

56 ***UNDERSTANDING THE EPSON*** **Talk to your printer**

61 ***BOOK REVIEW*** **Problems with word puzzles**

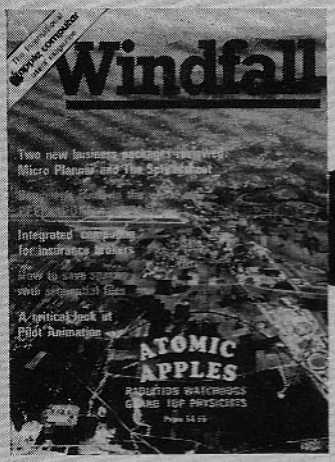
66 ***BUSINESS PACKAGES*** **APM and Micronet**

69 ***APPLECART*** **User defined characters with Apple Pilot**

74 ***FEEDBACK*** **That cry for help**

77 ***COMPUCOPIA*** **The latest software/hardware**

83 ***ROUTINE MACHINE*** **Open up new Applesoft avenues**



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LISTING

17 ***WHAT'S NEWS***
Inside look at the Apple world

21 ***APPLE '83***
Big show brings big orders

25 ***THINK TANK***
Apple Pascal and Fortran directory

28 ***APPLETIPS***
Make programming easier

31 ***GAMESMANSHIP***
Wouldn't you rather be Zorking?

35 ***PROGRAMMING***
Directing output to the printer

38 ***MICRO PLANNER***
Using critical path analysis

40 ***VISICALC***
Spreadsheet manual makes heavy going

44 ***FEEDBACK***
Hang on to your variables

47 ***BEGINNERS PLEASE***
PEEKs, POKEs and CALLs

50 ***BUSINESS***
Turnkey makes life simpler

54 ***CERN***
Apples in atomic research

56 ***SPACE SAVER***
File organisation methods

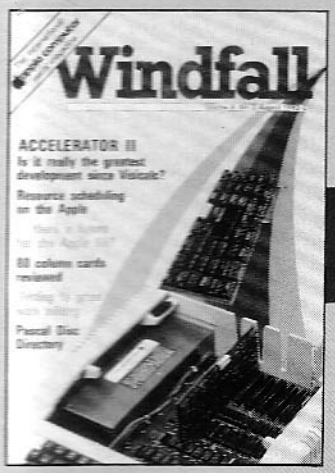
59 ***INSURANCE***
Keeping the competitive edge

61 ***COMPUCOPIA***
The latest soft and hardware

69 ***APPLECART***
Pilot Animation reviewed

73 ***DISC DOCTORING***
A switch will cut costs

83_08



Vol.3 No. 2 August 1983

LISTING

17	***WHAT'S NEWS . . .*** **A quick look at the Apple world**
23	***THINK TANK*** **Our forum for programmers**
25	***ACCELERATOR*** **Tripling the speed of an Apple II**
28	***APPLETIPS*** **They make programming easier**
31	***GAMESMANSHIP*** **Our monthly look on the light side**
34	***MICRO-PLANNER*** **How does resource scheduling work?**
40	***APPLE IIe or III?*** **Catching the IIIrd wave**
44	***VISICALC*** **Using indices to make changes**
48	***BEGINNERS, PLEASE*** **Getting to grips with editing**
50	***80 COLUMN CARDS*** **Two independent offerings for the IIe**
52	***FEEDBACK*** **Where to find help**
55	***APPLECART*** **A way through lecture room snags**
62	***DISC DIRECTORY*** **Accessing disc files from a Pascal program**
67	***COMPUCOPIA*** **The latest in software/hardware**

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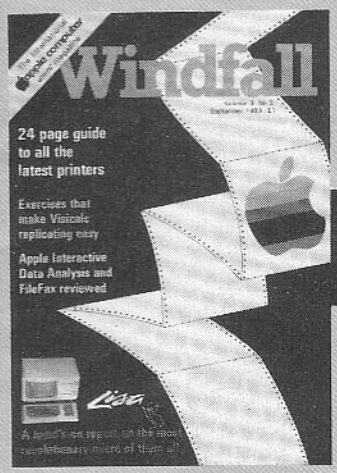

LISTING

Vol. 3 No. 3 September 1983

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17 ***WHAT'S NEWS . . .***
Update on the Apple world

21 ***GAMESMANSHIP***
Entrée to advertising

25 ***LISA***
More than meets the eye

34 ***APPLETIPS***
They help make programming easier

37 ***THINK TANK***
Our forum for programmers

40 ***AIDA***
Data analysis package reviewed

44 ***FILE-FAX***
Easy to grasp, fun to use

47 ***VISICALC***
Master the skills of replicating

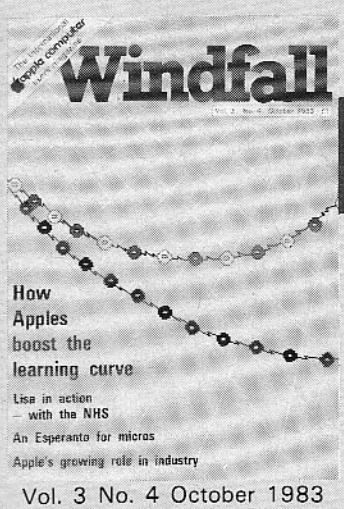
PRINTERS **Special Windfall 24 page supplement starts on page 53**

77 ***APPLECART***
The Apple in education

83 **FEEDBACK**
Two pages to air your views

85 ***COMPUCOPIA***
The latest in software/hardware

83_10



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LISTING

17 **WHAT'S NEWS . . .** Update on the Apple world

23 **GAMESMANSHIP** Odyssey on the grand scale

28 **APPLETIPS** Take some toil out of programming

31 **THINK TANK** Forum for programmers

34 **EMULATION** Apple's place in industrial control

38 **LISA IN ACTION** Tackling NHS planning

43 **BASICODE** All things to all machines

44 **DIGISOLVE** Professional touch to graphics

48 **VISICALC** Picking horses for courses

50 **FORTH** Powerful version from Metacraft

54 **TRAINING** Six page feature starts here

62 **PACKAGE DEAL** Thinking man's Space Invaders

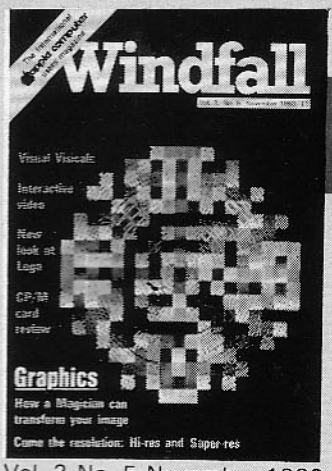
64 **ABG** Pascal-based business graphics

68 **FEEDBACK** Two pages to air your views

77 **COMPUCOPIA** The latest in software/hardware

83 **AID FOR DISABLED** The door to independence

83_11



Vol. 3 No. 5 November 1983

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LISTING

17 **WHAT'S NEWS . . .** Update on the Apple world

21 **THINK TANK** Forum for programmers

25 **GAMESMANSHIP** The Alien – enough to make you scream

30 **STYLE** How to produce mainframe-type listings

31 **INTERACTIVE VIDEO** An express route to learning

33 **CP/M CARD** Versatile, but take care

35 **DISC-O-DOC** Document debugger disappoints

36 **APPLETIPS** Take some toil out of programming

38 **GRAPHICS** Focus on the latest techniques

41 **VISICALC** Putting it in Apple pie chart order

44 **FEEDBACK** Two pages to air your views

46 **CONTROL** Card for the hardware hacker

51 **LISA** Mainframe link-up

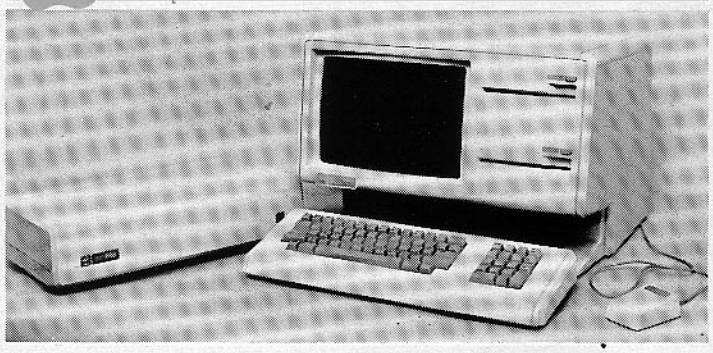
54 **HI-RES GRAPHICS** Give your text a whirl

63 **COMPUCOPIA** The latest in software/hardware

69 **APPLECART** Taking a new look at Logo

apple user

Volume 4
Number 1
January 1984



Ampersand

- Get rid of unwanted spaces in your listings. 48

Books

- Picture This Too
- Pascal for the Apple. 23

Business

- Briefcase. Introducing a regular column explaining the basics of micro use in business. 29
- Spreadsheet. Nick Levy takes a preliminary look at Advanced Visicalc on the Apple IIe. 46

Feedback

- Your letters on faulty ROMs, Ascii Express, HGR co-ordinates, hi-res character generator, printer problems with Applewriter I and Esperanto and other languages. 70

Games

- Play patience on the Apple. Complete listing. 56
- Reviews of Apple Cider Spider, Theseus and the Minotaur, Thunderbombs and Buzzard Bait. 62

Graphics

- The Apple comes of age in the world of CAD. Peter Gorry takes a second look at the improved Bit Stik graphics system. 42

Handicapple

- Bliss Symbols help disabled on a Dutch Apple. 73

Hi-res text

- Uncover the free hi-res text generator lurking in your System Master. 37

Lisa

- A Programmer's dream.
  A look under-the-hood at Lisa's remarkable Workshop software. Part One: File/System/Workshop Management; Basic; Exec Files. 17
- A second look at Lisa in the National Health. 20

Logo

- State of the art in America. Christopher Roper brings you up to date with Boxer, word processing, animation and robotics. 39

News

- Mice and new integrated software packages for the Apple IIe and III. 13
- A future for Apple as an innovator and market leader? A forecast for the year ahead, the market and the competition – according to Peter Cobb of Apple UK. 14

New products

- Round up of the latest products on the market for Apple users. 66

Pascal

- Tutorial. The first in our teach-yourself-Pascal series introduces the language and outlines the structure of a simple program. 34
- Practical Pascal. Discover PEEKing and POKEing with Jonathon Lewis. 51

Reviews

- Cheaper peripherals from Taiwan. We examine a 40 column printer, a slimline disc drive, two joysticks... and a light pen built by British schoolboys. 30
- Delve into the mysteries of the Apple disc with the CIA utility package. It could be a "must" in the Apple user's repertoire. 40

Technique

- Max Parrott ponders upon programming and learning Assembly language with the Nano 6502. 24

WP

- How long is that story you've just written on Applewriter II? Count the words with this small routine. 33
- The Olivetti Praxis 35, Applewriter and the IIe. 61

Apple User Managing Editor **Derek Meakin** *Production Editor* **Peter Glover** *Features Editor* **David Creasey**
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apple user
Volume 4
Number 2
February 1984

Macintosh, the mighty mite

Books

● We review a series of books from Usborne which cater for a wide range of newcomers and are particularly suitable for children. 29

Business

● How a British clothing manufacturer and retailer used an Apple II to help decide on a £4.25 million takeover bid. 24

● Nick Levy continues his discussion on developing a cash flow model with Visicalc. He also shows the value of @ISERROR 58

Darts update

● Many people have played darts on the Apple using our listing published in March 1983. This routine gives voice to your darts game. 50

Feedback

● Your letters on failed keyboard keys, our Patience listing, the ALS CP/M Plus card, and on problems with Applewriter II, the RND function and an 8in disc drive controller. 70

Games

● Reviews of The Quest (an adventure game with more than one route to the solution), Story Machine (instant authorship for children); Repton (probably the best defender game yet on the Apple) and Sammy Lightfoot (the daring young man on the trapeze, trampoline and other hazardous equipment). 42

Graphics

● Develop your own library of integrated graphical routines. Peter Gorry explains the basic considerations to take into account in designing such a system. 40

Lisa

● Mike Glover concludes his article on the Lisa Workshop software with a look at the Pascal and Quickdraw packages. 37

Logo

● Looking at Lists – and Logo's power for manipulating languages. 33

Macintosh

● The next best seller in the Apple range. We give full details and first impressions of the remarkable new micro that is inexpensive, powerful and refines the revolution that was embodied in Lisa. 17

New products

● Round up of the latest products on the market for Apple users. 66

News

● Apple and Franklin settle their differences; more lookalikes slip through the net; price war imminent? 13

Pascal

● Produce animation with Pascal – Jonathon Lewis shows you the technique. 56

● Tutorial, Part II. Extensions, conditional and compound statements, Begin-End pairs, loops and examples of nested statements/conditions. 53

Pro DOS

● A new operating system for the Apple II which will replace DOS 3.3 and give the Apple II much closer links with the Apple III. The first of two articles by Keith Lander. 30

Technique

● Manipulate dates within programs using two algorithms from Max Parrott and a date conversion routine listing from Basil Shall. 47

Reviews

● Bank Street Writer: A word processor aimed at and suited to the educational market. 61

● Keystar. Linked to the Apple II via a serial card, this peripheral provides a simple way to enter commands using the WordStar program. 65

● Word Weaver: A poor WP program for the Apple III – but it provides an interesting example of how not to write and present software. 73

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apple user

Volume 4
Number 3
March 1984

Business

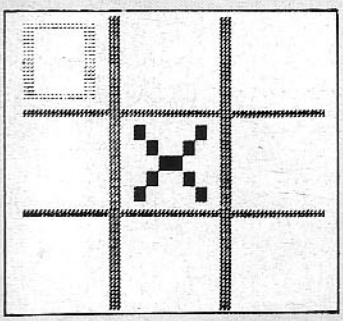
● Spreadsheet. Print out your Visicalc models sideways! Nick Levy reviews a South African program called Sidevise. 40

● Vic Tann looks at project planning using critical path analysis and Visicalc. 41

Feedback

● Your letters on disabling the re-set key; compatibility between Advanced and Ordinary Visicalc; animated use of the HGR pages. 50

Games

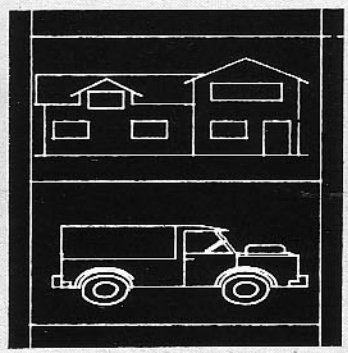


● Noughts and Crosses – the complete listing. 17

● Reviews of Police Artist, Facemaker, Microbe, Adventure in Flesh and Dungeon. 24

● Twenty Questions. Use our listing for "non-object" code (or cheating at parlour games). 12

Graphics



● Peter Gorry presents two histogram routines to add to your integrated graphical library. He also shows how to move a program past the graphics page. 32

Lisa

● Lisa moves into second gear with the release of three new models and a drastic reduction in price. 39

Herman Bruce of Systems Union describes his company's full ledger accounting system, SunAccount. 31

Micro pop

● Apples take to the stage in a marriage of programming and pop music. 21

New products

● Round up of the latest products on the market for Apple users. 55

News

● A portable IIe on the horizon; mice invade Apple IIe and III; Lisa scoops top award. 9

Pascal

● Tutorial, Part III. Numbers aren't everything – you need to know how to handle names and addresses, questions and answers and so on. Gordon Findlay discusses Pascal's string handling capabilities. 28

Technique

● Max Parrott shows how to index Forth program discs. 37

Reviews

● Incredible Jack, a three-in-one word processing, calc analysis and record retrieval program. 45

● Studentdata, a global administration package for schools. 22

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apple user

Volume 4
Number 4
April 1984

Apple '84

● All the latest on next month's star-studded Apple exhibition. 12

Business

● Spreadsheet. Nick Levy sees who ll benefit from TK! Solver. 18

Books

● Reviews of Visicalc for the Apple II Plus and The Elementary Apple. 65

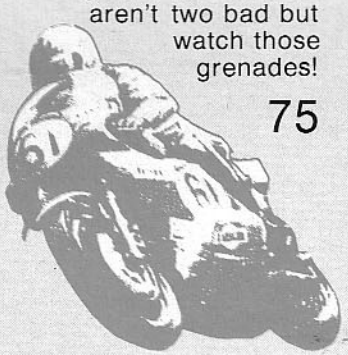
Feedback

● Your letters on the economics of using spreadsheets; Incredible Jack; Patience problems. 66

Games

● Reviews of Wizardry III, The War of the Samurai and The Spy Strikes Back. 54

● Speedway. Put your riding skills to the acid test with this easy-to-list game. The oilslicks aren't two bad but watch those grenades! 75



Graphics

● Peter Gorry's guided tour round the plotting instructions maze. 24

Introduction

● John Vann tells how the Apple bug bit 53

Macintosh

● We report the big response to the launch of Apple's latest micro. 21

News

● Six senior Apple men disappear; robots roll out the Macintoshes; and those cooking Apples. 9

New products

● Expert eye on the latest products on the market for Apple users. 79

Pascal

● Our tutorial looks at WHILE loops and introduces Boolean variables. 35

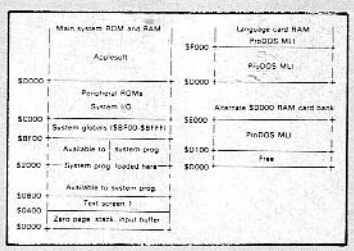
Reviews

● Peter Ashford looks at a batch of parallel printer cards to speed printout production. 70

● Get through a page faster with Rapid Reader. 19

● Christopher Roper compares two word processing packages. 28

● Keith Lander concludes his review of ProDOS. 30



Technique

● Save your secrets with Jonathan Lewis's encoding programs. 60

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apple user

Volume 4
Number 5
May 1984

Apple '84

● Europe's biggest and best Apple get-together. Find out who will be there and how to join them. 11, 32

Appleworks

● We preview the three-in-one integrated program that Apple believes will rival Visicalc in popularity. 17

Comment

● Keeping up with the children – or how Grandad became an Apple owner. 29

Cover story

● Enter Apple's newest micro. An exclusive report on the Apple IIc, a transportable 128k machine with a half-height floppy disc drive and a lot of other extras built-in. 39

Feedback

● Your letters on ITT2020 compatibility, leap year lapses, mixing graphics and text and problems with colour. 66

Games

● Reviews of Missing Ring (a marathon adventure with no guarantee of success), Color Me (hi-res colouring for kids), and Black Death (the scourge of the 14th century on an Apple). 44

● Listing – Apple Raid. A maze chase that takes you scrumping in the 21st century. 58

Graphics

● Peter Gorry discusses 3-dimensional surface pictures – or how to ensure the Apple doesn't draw lines you shouldn't see! Also reviews of Paper Graphics and Transitions, two graphics packages from Penguin. 34

Lisa

● Fledermaus – a new, ingenious mapping tool for the Lisa mouse. 22

Macintosh

● A software company explains its involvement with the Sand Project – part of the early development work on Macintosh. 56

New products

● Summary of the latest products on the market for Apple users, including four new database management systems. Omnis 1, 2 and 3 from Blyth, and Keystrokes from Brock Software Products. 69

News

● Macintosh sales top 50,000 . . . Apple and the Office of Fair Trading . . . how Apple plans to purge the look-alikes in Britain. 9

Pascal

● In our tutorial Gordon Findlay discusses CHOICE/CASE, a powerful alternative to a succession of nested IF statements. 53

Programming

● Use DOS from within Basic. 24

Reviews

● Ultraterm – a powerful display card for the Apple II that can give you 132 columns × 48 lines. 47

● MEM/DOS – a versatile French operating system on a plug-in card. 51

Spreadsheet

● Nick Levy takes a second look at Multiplan (and how the Xternal command makes up for memory restrictions). 26

WP

● Putting Applewriter's Word Processing Language to work. 60

The new Apple IIc

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apple user

Volume 4
Number 6
June 1984

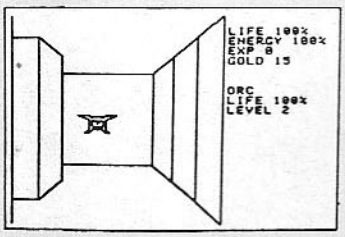
Education

● An unusual approach to marking school work from Gilbert Dispaux. 61

Feedback

● Your queries, problems and opinions from faster file access to decoding morse and disabling an 80 column card when using Pascal. 74

Games



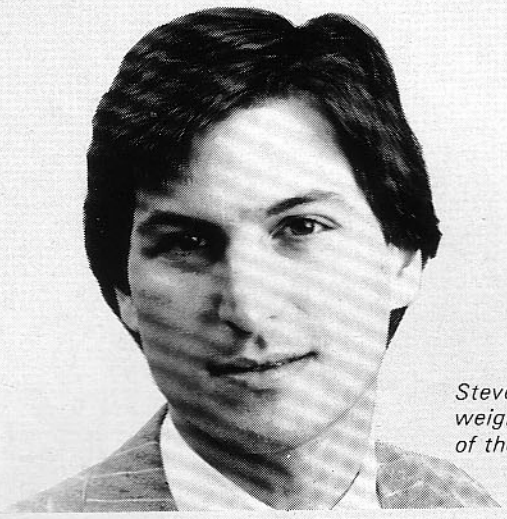
● Cliff McKnight looks over the home grown talent in the Apple games market. 55

Graphics

● Peter Gorry takes some of the terror out of producing hi-res text. 36

In touch

● Introduction to the rapidly expanding world of computer-to-computer communication. 58



Steven P. Jobs... weighs up battle of the giants

Jobs talks

● Apple boss gives an exciting in-depth interview outlining the company's future plans. 20

Logo

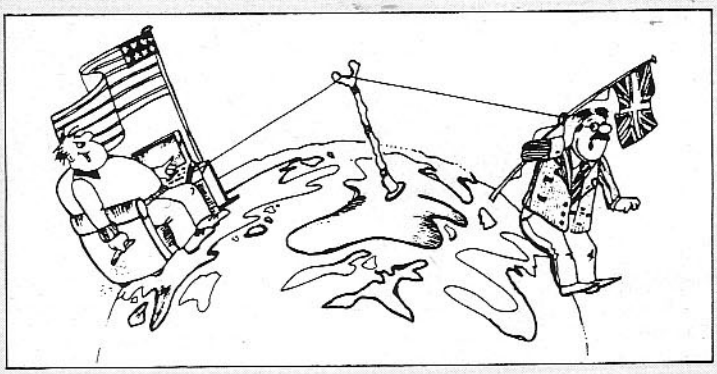
● Christopher Roper looks at two new ultilities, a sample program disc and a toolkit. 77

News

● Apple IIc sales soar... and Macintosh wows the USA... Sony and Apple share hard disc technology. 15

New products

● Summary of the latest products on the Apple scene. 79



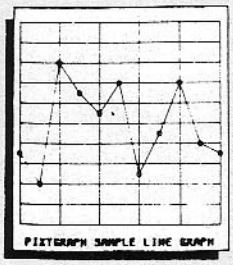
Pascal

● Tag along with a turtle in Part VI of our tutorial. 27

Programming

● Mike Salem in search of an arbitrary byte dump. 33

Reviews



● Pixy, a low cost multi-pen plotter. 69

● Track Ball, a sort of upside down mouse and the C/PW colour modulator. 71

Spreadsheet

● Nick Levy investigates formula swapping with that often neglected @LOOKUP function. 44

WP

● Word Finder. Geoff Wood shows how WPL can be used for solving and compiling crosswords. 48

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CAD

● Paul Nicholson gives an architect's appraisal of Capitol, a computer aided design package for the Apple II. 36

CP/M

● Automating CP/M with a pseudo disc drive.

● Bringing the Epson printer under the full control of Wordstar. 30

Database

● Nick Levy turns aside from his regular look at spreadsheets to delve into the finer points of relational databases. 33

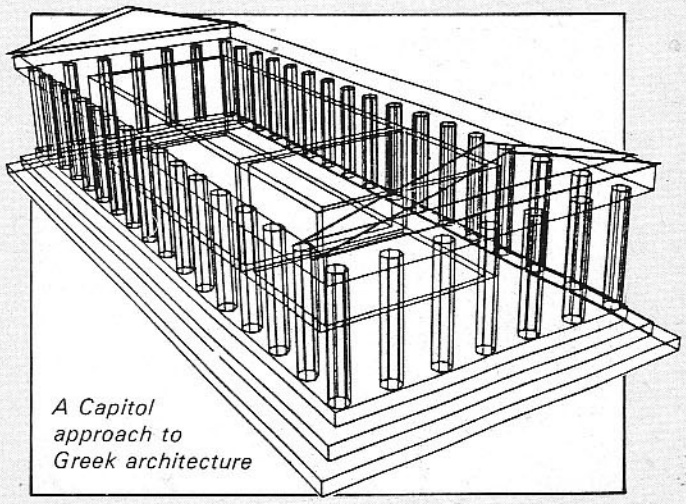
Feedback

● Your letters on TK! Solver problem posers; printer tabbing; name changes; Patience gaming; and learning assembler – with a request for details of your own assembler. 66

Games

● Reviews of Lode Runner (a more addictive version of the classic Apple Panic game), The Coveted Mirror (a value for money adventure game), Crypt of Medea (a standard adventure with few variations in format) and Queen of Hearts (an addictive and above average pinball simulation). 16

● Listing: Roger Gilbertson (of Patience fame in the January issue of Apple User) presents a listing for a do-it-yourself general purpose quiz. 57



A Capitol approach to Greek architecture

Graphics

● Screensplicer, with French author Ricardo Ettore showing how to display two hi-res pictures side by side on the Apple screen. 39

● Peter Rickwood tackles problems with super-res graphics on the Apple IIe. 43

NOTE: Part VI of Peter Gorry's regular column "build your own graphics package" will appear next month.

Lisa

● The variable text sizes created by Lisa can help people with poor or failing eyesight. Charles Fairfax tells you how it's done. 49

New products

● A summary of the latest products on the Apple scene. 63

News

● A £2 million advertising campaign for Macintosh in Britain; full report on Apple '84, Europe's biggest Apple get-together; and how an American's quest for an Apple IIc took him to Slough. 9

Pascal

● Gordon Findlay discusses defining procedures in Part VII of our Pascal tutorial. 53

Review

● Apple's integrated program Appleworks (or 3EZ Pieces on the Apple III) passes muster under the critical eye of Mike Glover. 22

Sound

● Keeping the peace with an Apple. Our Australian contributor Peter Rickwood explains how to turn down the volume on your micro. 20

Visicalc

● Vic Tann shows how to calculate the cost of mortgage repayments. 13

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apple user

Volume 4
Number 8
August 1984

Applications

● How an Apple has helped run a haulage company. 59

Books

● Hugh Dobbs casts a critical eye at a self-teaching guide to data-file programming. 62

CAD

● David Haughton has a look at Scribe, a 3-D CAD package for the Apple IIe. 54

CP/M

● Neville Ash reviews a single-disc accounting system for the Apple II. 32

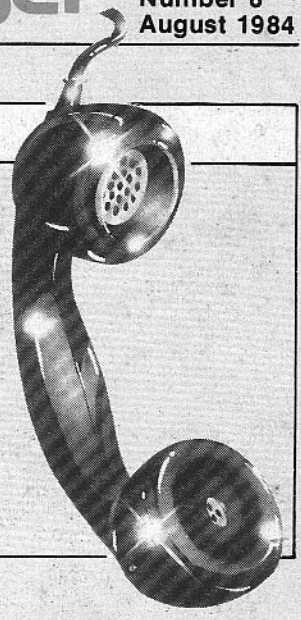
● Pitfalls of the Superfile database system are explored by Roger Heron. 57

Feedback

● Your letters requesting help on the Apple IIe and Epson printer, solving TK! Solver powers using Visicalc, requesting a teletext adaptor for the Apple II, more on Epson codes and how to enter a full string length of 255 characters from the keyboard. 66

Communications

● Peter Tootill describes the Bulletin Board system and Quentin Reidford continues his series with an explanation of some of the hardware requirements. Four pages aimed at getting Apple users communicating. 39



Games

● Thoughts on desirable features of games plus reviews of Plasmania (an arcade version of the Fantastic Voyage film), Bouncing Kamungas (a contender for Silly Game of the Year), and Pinball Construction Set (for DIY pinball addicts). 17

Graphics

● Part VI of ' Peter Gorry's regular "build your own graphics package" section. 26

Lisa

● Charles Fairfax and Geraldine Howe show how Lisa can streamline meetings and reduce paperwork. 29

New products

● Summary of all the latest products on the Apple scene. 69

News

● New head of operations for Apple UK, how to learn American football, Apples helping in medical research, how Taiwan is dealing with the copycats, and we take a creep around the atomic energy labs. 9

Pascal

● P.H.P. Harris shows how to make the most of the Pascal assembler. 44

Reviews

● Don Morrison tries out a popular program generator. 36

● A Ramdrive for the Apple IIe gets the Peter Gorry treatment. 51

● Max Parrott takes some short cuts with a utility package. 52

Speech

● Martin Keeson tests out the Voice Input Module. 24

Spreadsheet

● An unusual use of Multiplan helps John and Jonathan Nixon keep track of some sporting averages. 34

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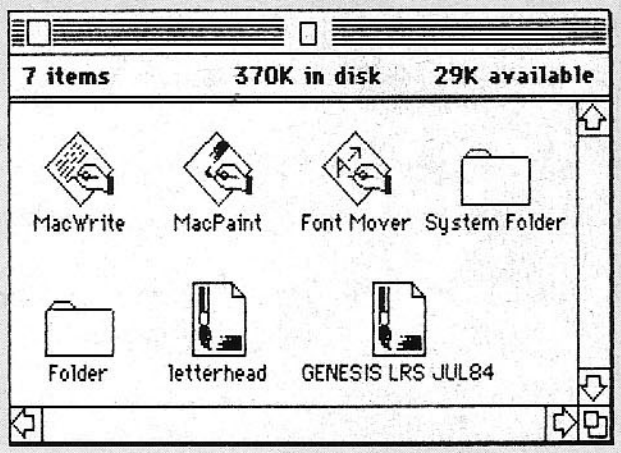
Volume 4
Number 9
September 1984



Application

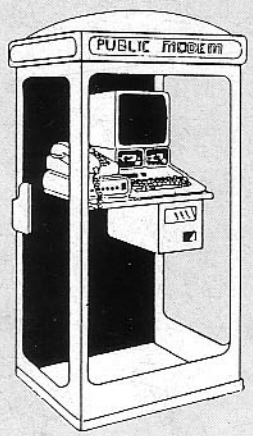
● How an Apple is helping PC Philip Olds to walk again. 59

Books

● Jason W. Smith gives a correction to a best-seller on graphics. 50

Comms

● The advantages of serial data transfer, as seen by Robin Hudson. 47



● Don't miss Apple User's money-saving communications package offer 49

Feedback

● Three pages of your letters on using the back of discs, problems with Darts, Big Mac, decoding Morse, and lots more. 62

Games

● Cliff McKnight improves his education with a music tutor and two home education packages. Douglas Strathdee tries his wizard's wand at Hallowe'en, a pumpkin-coloured arcade game. 17

Graphics

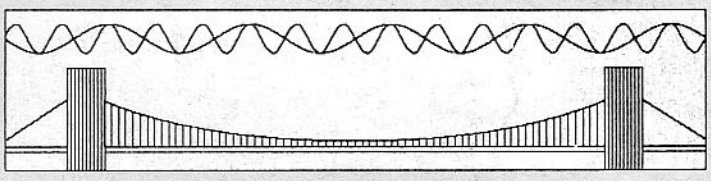
● Part VII of Peter Gorry's DIY graphics package, including a review of Doublestuff for the Apple IIe. 26

Macintosh

● Six pages devoted to Apple's 32 technology stable, with Roger Bowns praising the word processing power of Mac, Nigel Hearne on Mac software development, Cliff McKnight playing Transylvania with a mouse, and Charles Fairfax and Tony Parsons linking Lisa to an ICL mainframe. 39

New products

● All about the latest products to enhance your Apple. 70



News

● Trouble in The Street . . . Apple sells well, gives them away, sues too, and plans to invade Russia . . . down-loading of software . . . and more. 9

Pascal

● Gordon Findlay continues his tutorial series with a look at functions. 33

Pilot

● Gordon Mills gives a full Basic listing of a mini-Pilot interpreter for you to try. 24

Spreadsheet

● Nick Levy shows how Visicalc can be taught to think for itself and Patrick O'Beirne reports on a bug in the Advanced Version of Visicalc. 22

Reviews

● Keith Williamson extols the virtues of Graphpak, a suite of programs for the engineer and scientist. 54

● Nevill Ash looks at the new enhanced version of Format-80. 69

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apple user

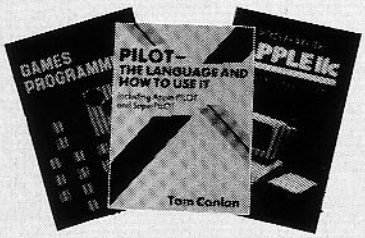
Volume 4
Number 10
October 1984

Appletips

● Drive-cleaning, DOS-dabbling, Remarkable REMs and bizarre listings. 40

Application

● Osia Koranteng tells how Apples are improving efficiency in a clothing factory. 30

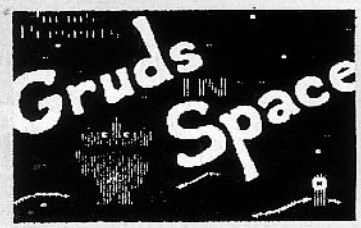


Books

● Reviews of books on games programming, Pilot and the Apple IIc. 44

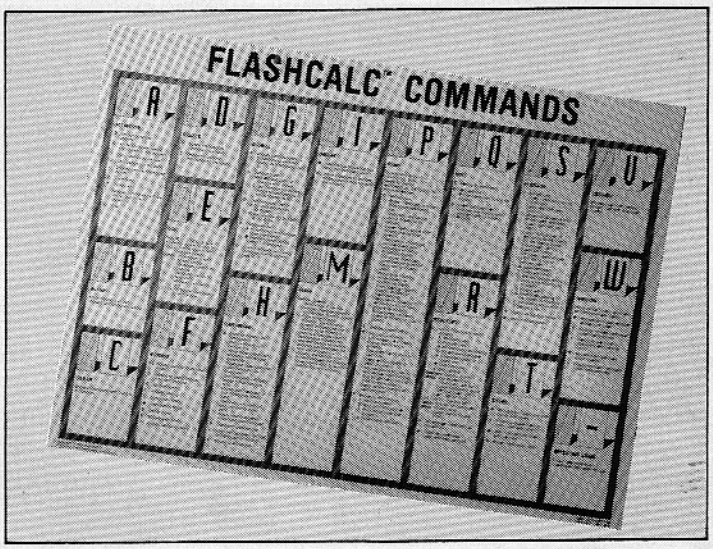
Feedback

● Macintosh – the good and the bad, Apple II family compatibility, protection, encryption . . . and much more. 64

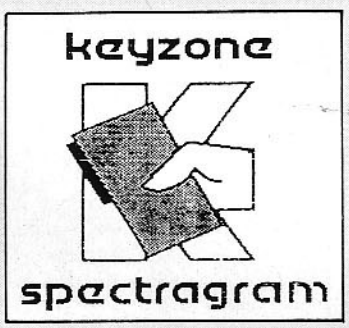


Games

● Cliff McKnight goes into space with the Gruds, makes a fortune discovering oil and loses it on a one-arm bandit. Julian Brewer blasts away at Aquatron. 15

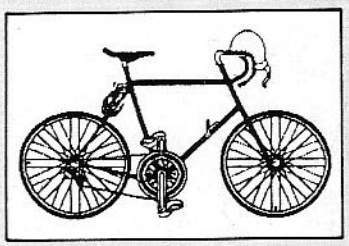


Graphics



● Part VIII of Peter Gorry's Graphics package, including a review of the Spectragram colour card. 50

Macintosh



● Eugene Evans finds MacForth the answer to his problems, while Cliff McKnight uses Click Art and Mac the Knife to make up for his lack of artistic ability. 33

New products

● Three pages of ideas on how to spend your money. 56

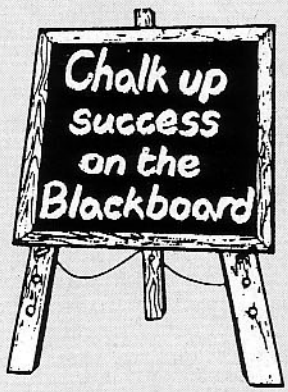
News

● Hemel shake-up . . . Fat Mac arrives . . . MEM/DOS relaunched . . . tax man challenged. 5

Pascal

● Gordon Findlay's tutorial series continues. 42

Reviews



● Max Parrott has a busy time with the Blackboard printer card . . .

. . . and the CW/P Waterbell disc drive. 60

Simulations

● Dave Miller offers programs to simulate radioactive decay and Einstein solids. 48

Spreadsheet

● Nick Levy looks at Flashcalc, the latest offering from VisiCorp. 20

Apple User Managing Editor **Derek Meakin** *Features Editor* **Cliff McKnight** *Technical Editor* **Max Parrott**
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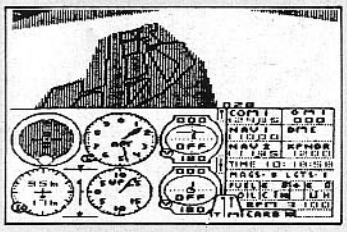
Volume 4
Number 11
November 1984

News

● The Apple Higher Education Consortium, Iceland warms to Symbfile, Macintosh Software, and more. 9

Games

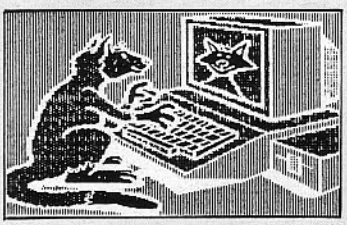


● Off into the wild blue yonder with John Jones and Flight Simulator II, while Cliff McKnight looks at Drol and BC's Quest For Tires. 17

Education

● André Wagstaff tells about the effect an Apple had on a primary school. 23

Graphics



● Part IX of Peter Gorry's DIY package, including a review of the Penguin package Cat Graphics. 26

A Christmas Adventure

● Don't miss Apple User's great offer of a very special Christmas game. 33

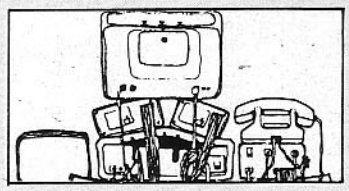
Pascal

● Gordon Findlay leads you gently into the Pascal operating system. 34

Macintosh

● Mike Glover takes a look at four language packages for the Mac and two of the recent spate of Mac books are reviewed. 37

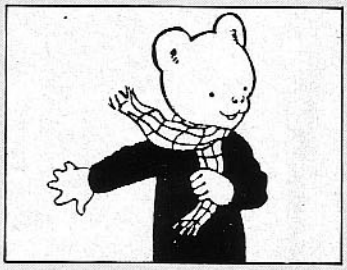
Comms



● Quentin Reidford continues his series with a look at software. 46

● Apple User repeats its unbeatable communications package offer. 49

Reviews



● Ralph Clarke looks at Digisolve's Pixel Paint. 53

● Michael Falter works out his wages with Hilderbay's Payroll package. 54

DOS Toolkit

● P.H.P. Harris shows how to load assembler modules onto a language card. 57

Feedback

● Problems with Applewriter, hi-res text, Mac Mouse Paint – three pages of your letters. 62

New products

● CAD for the Apple II family, LOGO for the Mac, XENIX for Lisa, and many more ideas on how to spend your money. 69

Order form

● Need any back issues? binders to keep them in? 76

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Volume 5
Number 1
January 1985

News

● A nail-biting time for Apple bosses as they wait to gauge the effect of the big end-of-year sales push. The first look at Moscow's new red Apple. How to use a Macintosh to design tiles and record covers. 5

Interview

● Apple boss John Sculley talks about the company's plans for 1985 – including a big push on the office market. 12

Games

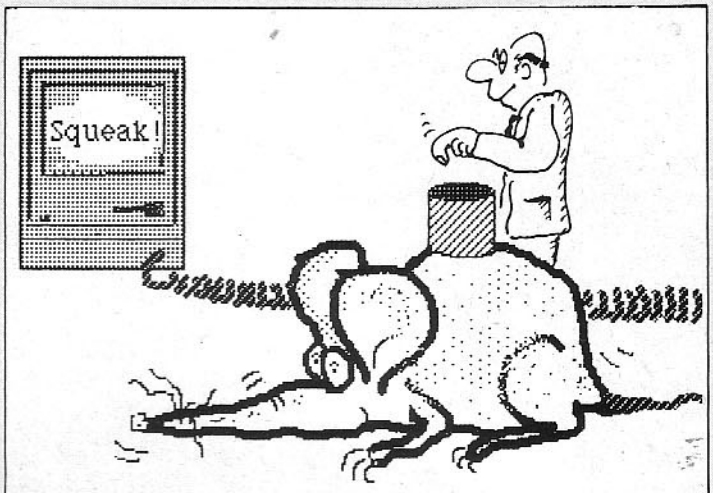
● How to get youngsters involved in adventuring with Gelfling Adventure and to write their own stories with Story Maker. And we battle through seven star systems with Stellar 7. 15

Application

● The Apple is one of the most popular micros with farmers. An ex-president of the NFU tells why he's an Apple user. 19

Education

● We take a look at Clozemaster, an Apple package based on the Cloze method of teaching. 21



A Macintosh romance

● TV reporter Peter Sharratt tells what the arrival of Macintosh has meant for him – and the fun he has with Macpaint. 36

The 6809

● Part II of Cornelis Bongers series on the 6809 processor in which he explores the Flex operating system. 30

Reviews

● A non-accountant sums up the Ormbeta Compact Accounting System. 49

● We test drive the CGL half-height disc drive. 57

Hardware

● What is the relationship between the Apple II and the ITT 2020? We look at their similarities and differences. 43

Compatibility

● What Apple II software also runs on the IIc? We list some programs that work on both machines – and some that don't. 51

Pascal

● We illustrate a technique to determine the addresses of procedures and variables in UCSD Pascal and its 6502 Assembler. 53

Feedback

● An Israeli Mac user seeks help. A bug is found in the Apple IIc. Problems with ProDOS. An Apple that sees double. How to create a new cursor. 58

Comms

● Another chance to join the communications revolution with our bargain offer of a modem and software package. 60

New products

● They're all here – joysticks, business packages, fans, typing tutors, printer interfaces, CP/M cards, educational software and a graphics library. 63

Order form

● Here's where you can take out a year's subscription to Apple User, get your back numbers and binders, or indulge in necklaces and ties. 69

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Volume 5
Number 2
February 1985

News

● GEM doesn't sparkle for Apple; after the Big Mac – the giant Mac; Apple blamed for Acorn's US slump; and more. 5

The Woz

● If you have ever dreamed of a 16 bit Apple II, read what the Wizard of Woz has to say about it. 9

Survey

● Take time to fill out our survey, and don't forget to send it back to us. You may be one of the lucky 10 to win a year's free subscription. 12

Quicksort

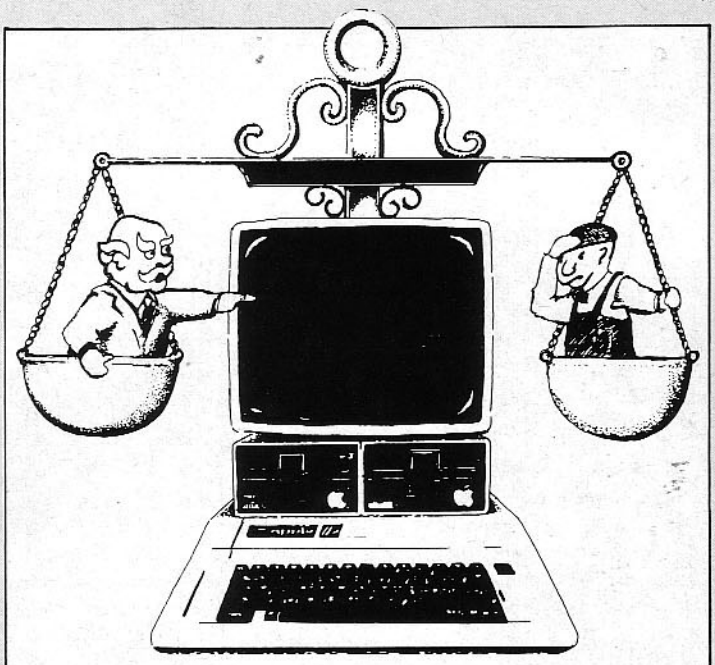
● It's Forth v Basic in Colin J. Davies' look at the Quicksort method. 17

Games

● Adventure games galore with Julian Brewer's Infocom update and Gill Reeve's expedition up the Amazon. 19

Graphics

● Part XI of Peter Gorry's DIY package takes a first look at shape tables. 23



Conflict resolution?

● Can an Apple II program really resolve the miners' strike? 26

Spreadsheet

● Patrick O'Beirne tells how to drive your spreadsheet in reverse. 30

File transfer

● Roy Copping tells how the Qatar police transfer Basic, text and binary files between Apples. 32

Lisa

● Charles Fairfax and Kathryn Carr describe how complex chemical formulae yield to Lisa's charm. 35

Macintosh

● Two more of the recent spate of Mac books reviewed. 38

Review

● Neville Ash tries to psych out the opposition with some Human Edge software. 45

The 6809

● Cornelis Bongers concludes his series with a look at the OS-9 operating system. 46

Application

● Two different ways to Apple-assisted book production, as described by Graham Keeler. 51

Feedback

● Your thoughts on ProDOS, VisiCalc, games software, Apple II series compatibility, and more. 55

New Products

● From gardening to dentistry, jogging to architectural design, new products to capture your imagination and cash. 61

Programming

● Give your programs a split personality with P.H.P. Harris's useful routine. 65

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apple user

Volume 5
Number 3
March 1985

News

● French snub to the Apple, Lisa re-named, taking an Apple IIc to Everest, and more. 5

Programming

● Kevin Farrell explores the best methods of going round in circles. 10

Pilot

● Brian Rushton shows how the System Log can help with analysis of student progress. 15

Reviews

● The Editor gets the blue pencil treatment from Peter Gorry. 17

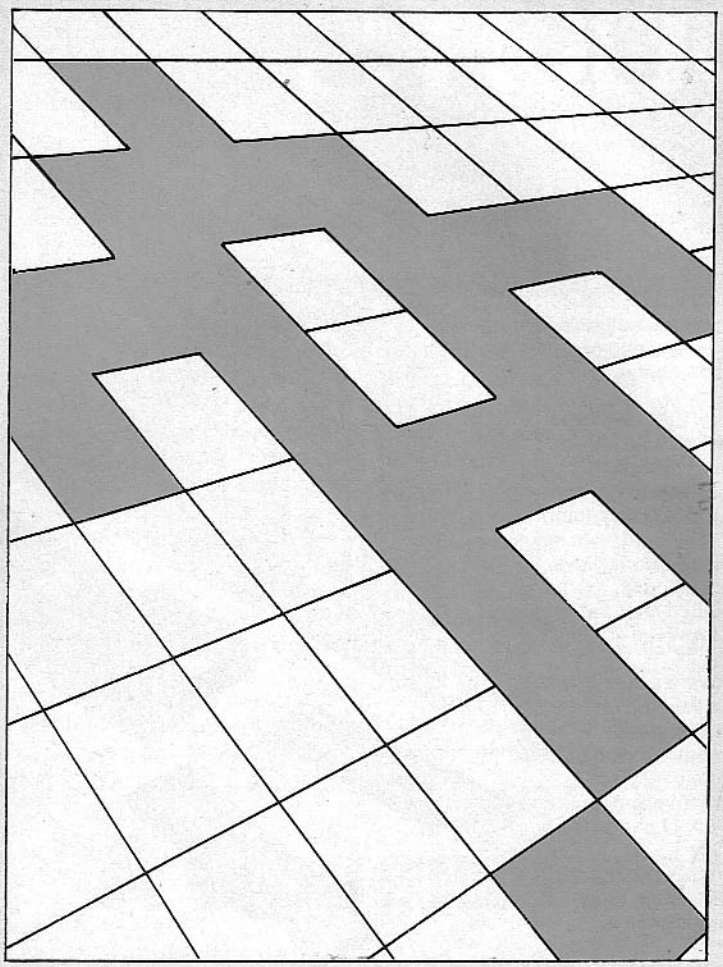
● Hugh Dobbs looks at three educational packages. 19

Spreadsheet

● Vic Tann turns a Visicalc disadvantage to your advantage. 26

Application

● Harry Moore outlines a competitive estimating system built on an Apple/Multiplan combination. 28



A superb shape table builder and editor comes free with Part XII of Peter Gorry's Graphics Library, starting on ***Page 20.***

Editing

● Use Keith Nelson's routine to improve your Apple's editing facility. 29

Macintosh

● MacTerminal gives Bill Hill a window on the world. 35

● A book, a game and an alternative mouse keep Cliff McKnight busy. 37

Hardware

● The Merl modem card, as seen by Quentin Reidford. 42

● The Intec 505 hard drive, as seen by Neville Ash. 45

● The Vision 128/256 card, as seen by Peter Wilson. 52

Fun & Games

● Xyphus plus Fighter Command and Picture Writer keep our intrepid reviewers busy this month. 47

Feedback

● More about ProDOS, new user groups, the paranormal . . . all your letters. 55

New products

● Ideas on how you can spend your hard-earned cash. 61

Classifieds

● Bargains galore from your fellow Apple users. 67

Order Form

● Subscriptions, back issues, binders to keep them in, something to put round your neck. 69

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apple user

Volume 5
Number 4
April 1985

Apple '85

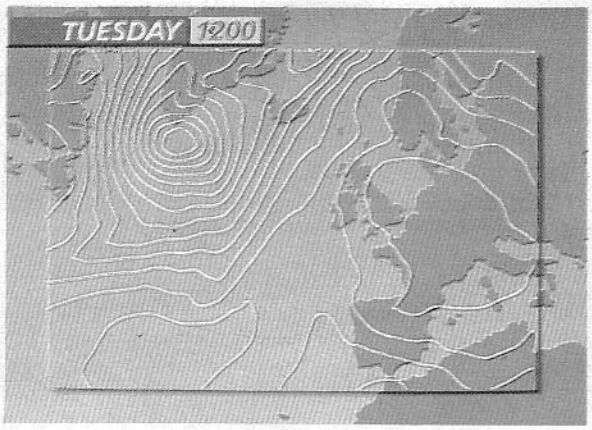
● Make a note in your diary. Don't miss the biggest Apple event of the year. 4

News

● Apple announces big price cuts for education, Hungarian Apple holiday camps, London Festival of Computing, and more. 5

Special Offer

● We're offering free membership of Telecom Gold, normally costing £115. 7



Forecasting

● How a mouse helps in the making of the BBC's new-look weather forecast. 32

Application

● Apples ease the pain of dental administration. 10

Graphics

● Could Gorrysoft take over from Basic? Peter adds two new commands – you could add more. 18

Programming

● Andy Beveridge uses the VBLANK signal to good effect. 25

Starting Out

● You won't go far wrong if you follow this route to software use. 30

Reviews

● Max Parrott accelerates with the Spee-Demon card. 17

● Chris Burridge looks at PFS File/Report on the Macintosh. 34

● W-P-LAB for the Applewriter with form letters or mail-shots to produce. 38

Competition

● Don't miss this chance to win a bumper software bundle, courtesy of Pitman Publishing. 40

Pascal

● Steve Franks shows how to access the Filer's D command. 42

Fun & Games

● Cliff McKnight pursues the trivial and Tim Shreeve designs his dream home. 47

Survey

● If you filled in our survey form, you could be one of the ten lucky winners. 48

Classifieds

● Bargains galore from your fellow Apple users. 50

Books

● Reviews of books on Appleworks, VisiCalc and machine level programming. 52

Feedback

● Setscreen correction, Speedway additions, ITT Jailbreak substitutes, and more. 55

New products

● Plenty of ideas on how to spend your money. 60

Index

● Better late than never, an index to Windfall volumes 1 and 2. 68

Order Form

● Subscriptions, back issues, binders to keep them in. 69

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apple user

Volume 5
Number 5
May 1985

News

● Big European crackdown on counterfeit Apples, Hebrew word processing, colour display for the Macintosh, and more. 5

Apple '85

● Don't miss the biggest Apple event of the year. Read all about it on Page 9. Then turn to Page 15 for your free ticket. 9

Graphics

● In Part XIII of the Apple User Graphics Library, Peter Gorry shows how to create pie charts. 10

Sports

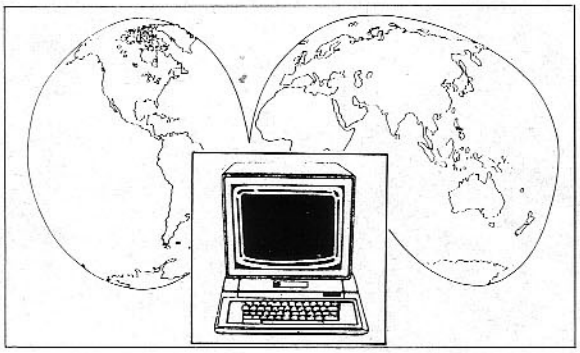
● If you're tired of writing race results, Peter Popham's suite of programs will make Sports Day run smoothly. 18

Reviews

● Malcolm Whapshott works out on the Workbench, the improved DOS Toolkit. 17

● Robbie McLaren gives an account of Macputer IIc. 21

● Max Parrott writes to the hi-res screen with Copytext. 26



Introducing MicroLink

● Join MicroLink, the exciting new micro communications system tailored to your needs. Full details of the service and the facilities it offers, can be found in the centre pages.

Macintosh

● Chris Burridge concludes his comparative review of Omnis 2 and PFS File/Report. 24

Programming

● Michael King tells how to use the RWTS to advantage, and D. Poirier demonstrates it with a useful disc verifying routine. 29

Pascal

● Gordon Findlay on how to access the directory from within a Pascal program. 36

Protection

● Use Chee Wei-Li's routines to protect your programs from Copya. 44

Timer

● Test your reactions with Frank Mallett's timer program. 47

Searching

● Colin Davies implements the binsearch algorithm in Forth and Basic. 50

New products

● Lots of ideas on how to spend your money. 52

Books

● Turn turtle with these seven Logo books. 58

Application

● Laszlo Koranyi gives an update on the Hungarian Apple scene. 60

Feedback

● Recovering deleted Pascal files, Spee-Demon on Ice, 80 columns without a card, and more. 63

Classifieds

● Bargains galore from your fellow Apple users. 69

Fun & Games

● Shopping, gardening, cooking – Denise McKnight looks at some software for the housewife of the future. 70

Index

● Bringing us up to date, an index of Apple User volumes 3 and 4. 74

Order form

● Subscriptions, back issues and binders. 75

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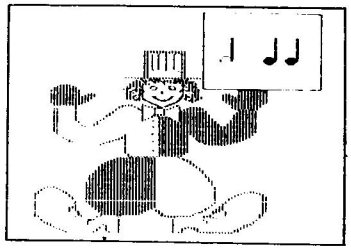
85_06

Volume 5
Number 6
June 1985

News

● Atari's threat to Macintosh, how an Apple IIc survived the ascent of Everest, North Sea gas monitoring, Royalty takes a hand, and more. 5

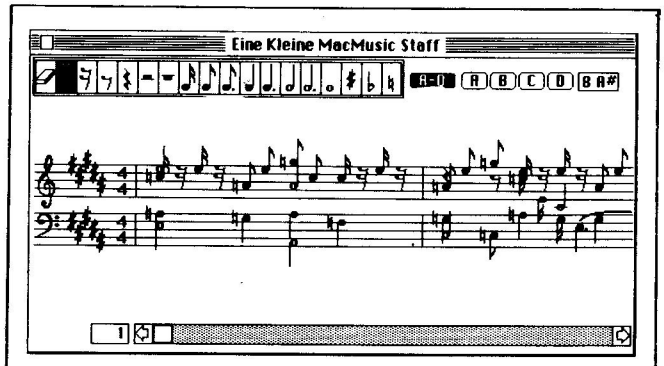
Fun & Games



● The Music Construction Set, Song Writer and Music Readiness keep our reviewers busy and provide the fun and games this month. 9

Application

● Michael Brice gives an insight into how Apples help keep track of five music companies. 17



Make Mine Music

● 1985 is European Music Year so this month we're making our contribution with hardware, software, applications and reviews

Pascal

● Stuart Bell begins a new series of Pascal Tutorials with a look at records – but not the musical kind. 19

Review

● Kevin Farrell looks at Tick-Tack, a useful translation package for foreign correspondence. 25

Macintosh

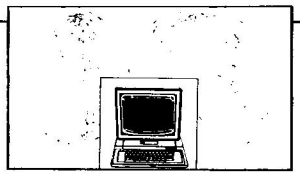
● Bill Hill demonstrates his versatility on the ivory key-caps with Musicworks. 30

Graphics

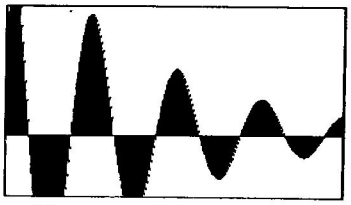
● Peter Gorry takes time out from programming the Apple User Graphics Library to review three books on graphics. 39

MicroLink

● Your chance to join MicroLink, the new micro communications system tailored to your needs. 34



Mugraph



● It's surprising what you can do with a light dependent resistor. Jim Dawson shows you how. 44

Programming

● Mark Bowyer gives an ampersand route to music and sounds in your own programs. 49

Feedback

● Connecting a Koala pad to an Apple IIc, single drive Pascal, screen output in Pascal, and more. 53

New Products

● A small sample of the newest ways to spend your money. 62

Order form

● Subscriptions, back issues, binders to keep them in. 66

Classifieds

● Bargain offers from your fellow Apple users. 70

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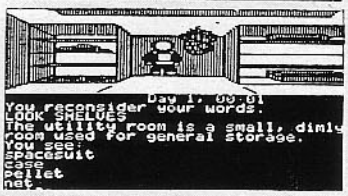
apple user

Volume 5
Number 7
July 1985

News

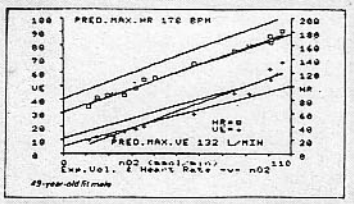
● Asian pirates finally clone the Apple IIe, Macintosh network run by an Apple IIe, and more. 5

Fun & Games



● The accent's on cut-price adventures this month, plus a look at Adventure Writer for the DIY enthusiast. 9

Application



● Apples at the heart of the Pulmonary Function Laboratory in Papworth Hospital. 17

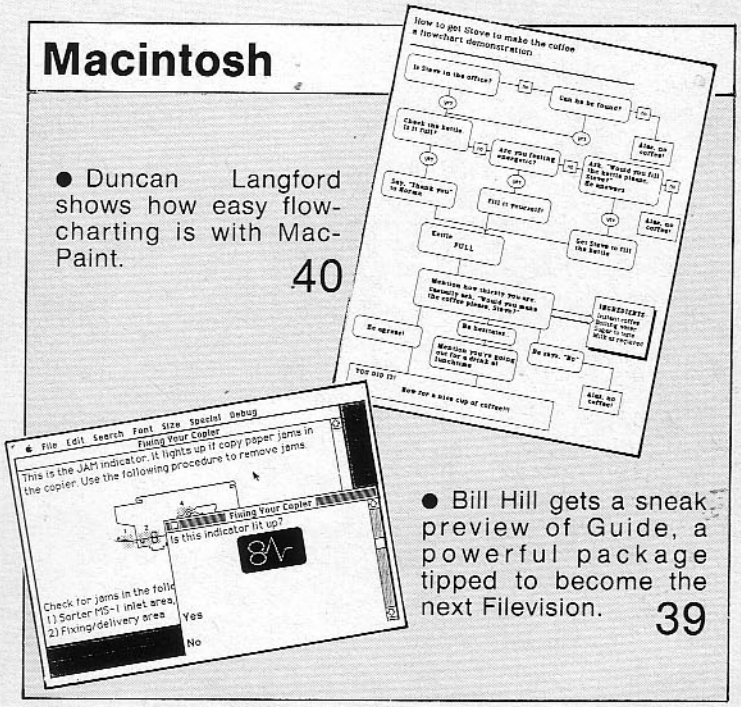
Pascal

● Stuart Bell continues his series of Pascal Tutorials, using files of records to handle large volumes of information. 19

Utility

● Reassign the default load address of binary files with this useful routine. 22

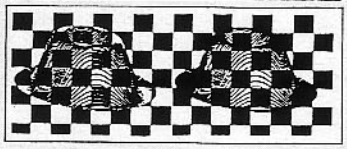
Macintosh



● Duncan Langford shows how easy flow-charting is with Mac-Paint. 40

● Bill Hill gets a sneak preview of Guide, a powerful package tipped to become the next Filevision. 39

Review



● Bill Allen compares Thirdware's Finger Print with Dark Star's Printerrupt. 24

Programming

● Use that extra memory on your extended 80 column card with the help of Paul Overaa's routines. 31

MicroLink

● Your chance to join MicroLink, the new micro communications system tailored to your needs. There's full details of what this newly-opened service offers Apple users, together with an application form. 34

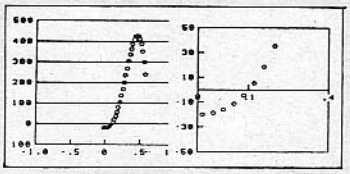
Appletips

● Beat the bug in the ProDOS chain command, and add lines to your program which can't be deleted. 44

Books

● Books on Business Basic for the Apple III and Epson printers are reviewed this month. 46

Graphics



● In Part XIV of the Apple User Graphics Library, Peter Gorry provides some powerful labelling routines. 49

DOS

● Francis Riley provides some excellent enhancements for your DOS. 53

New Products

● The latest ways to spend your money. 58

Feedback

● Three pages of readers' letters on using MacTerminal, the RWTS and more. 61

Classifieds

● Bargain offers from your fellow Apple users. 64

Order form

● Subscriptions, back issues, binders to keep them in. 66

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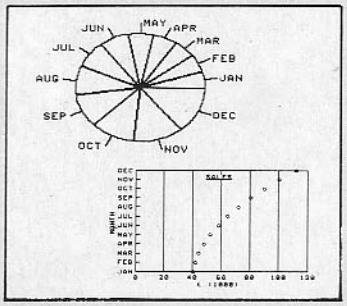
apple user

Volume 5
Number 8
August 1985

News

● Apple back behind the II family, handling the holiday rush, solar powered IIc, plus Workstation 2000 winners and more. 5

Graphics

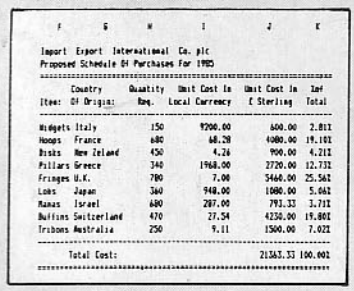


● In Part XV of the Apple User Graphics Library, Peter Gorry completes the automatic annotation routines. 9

Application

● Apple IIIs provide the power behind a successful computer bureau. 18

Spreadsheet

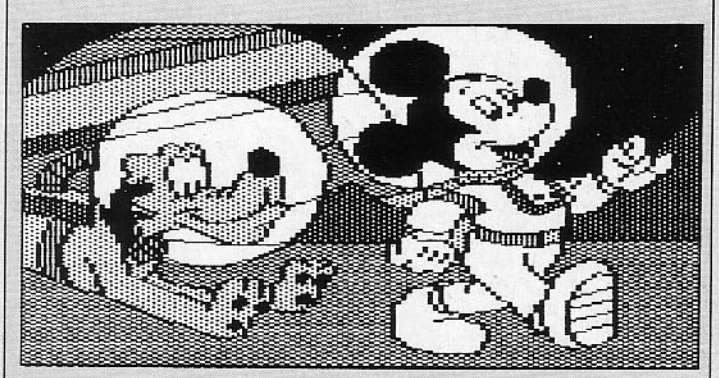


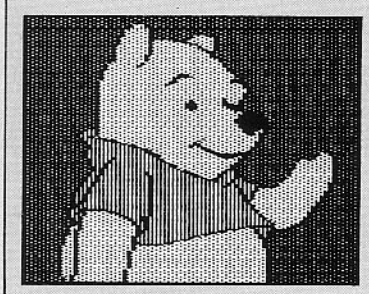
Import Export International Co. plc
Proposed Schedule Of Purchases For 1985

Item:	Country Of Origin:	Quantity Req.	Unit Cost In Local Currency	Unit Cost In £ Sterling	Inf Total
Widgets	Italy	150	9200.00	600.00	2.81%
Hoops	France	680	60.20	4080.00	19.10%
Struts	New Zeland	450	4.24	900.00	4.21%
Pillars	Greece	340	1968.00	2720.00	12.73%
Fringes	U.K.	780	7.00	5460.00	25.56%
Loks	Japan	360	948.00	1080.00	5.06%
Nanas	Israel	680	287.00	793.33	3.71%
Buttons	Switzerland	470	27.54	4230.00	19.80%
Tribons	Australia	250	9.11	1500.00	7.02%
Total Cost:				21363.33	100.00%

● Geoff Wood shares some secrets of successful spreadsheet use. 21

Fun & Games





● The old hands take a look at Winnie The Pooh, Mickey Mouse and the award-winning Hitchhiker while our youngest ever reviewer looks at Print Shop. 42

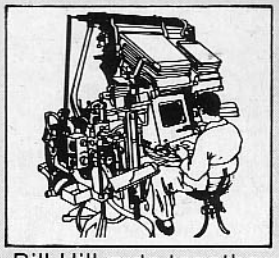
Wordstar

● Horace Tong solves the Wordstar screen scrolling problem and provides Apple User with its first chance to publish Z80 code. 26

Programming

● Generate programs with the aid of K.P.Yu's Descartes program. 29

Publishing



● Bill Hill puts together the pieces of a jigsaw which looks set to turn the publishing industry upside down. 33

Pascal

● Random access files get the Stuart Bell treatment in this month's tutorial. 35

Macintosh

● Steve Hughes reviews MicroPlanner for the Macintosh and likes what he sees. 39

Utility

● Steve Franks shows how to access DATA lines in any order. 47

New Products

● All the latest ideas on how to spend your money. 52

Feedback

● Double-res difficulties, how to blow up the video circuitry, two pages of readers' letters. 55

Classifieds

● Bargain offers from your fellow Apple users. 56

Order form

● Subscriptions, back issues, binders to keep them in. 58

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apple user

Volume 5
Number 9
September 1985

News

● All the latest events in the world of Apple computing. 5

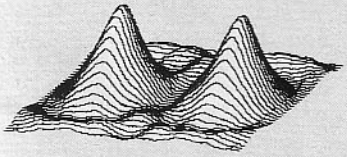
MicroLink

● This month's update on news from Britain's national electronic mail service. 9

Pascal

● Stuart Bell continues the tutorial series with an explanation of units. 10

Graphics



● While Peter Gorry takes a well-earned rest, Max Parrott shows how to dump graphics to an Imagewriter. 17

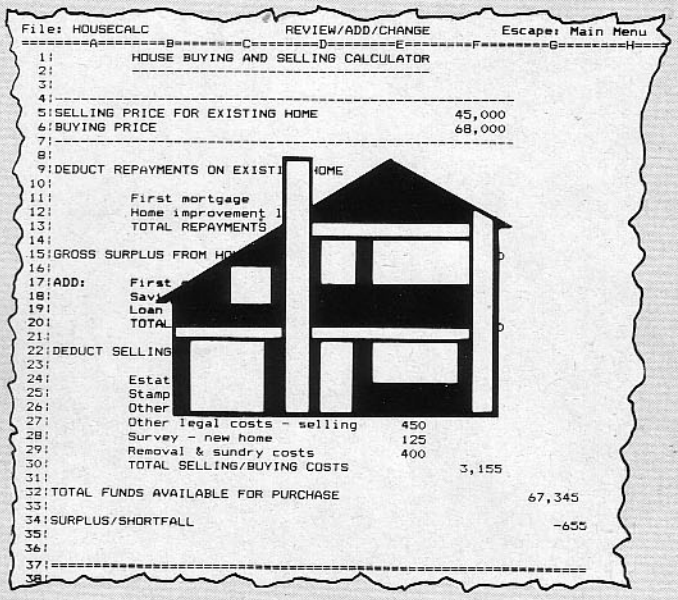
Macintosh

● Will Jazz be music to your ears? Bill Hill gives his opinion on this important package. 21

Utility

● If you've ever tried to compare two versions of a program, you'll appreciate the usefulness of this routine from Richard Shann. 24

Spreadsheet



● Can you really afford that dream home? John MacGibbon's Appleworks spreadsheet may provide the answer. 13

Review

● Bill Hill reviews three packages that provide page layout facilities. Is this the future of publishing? 29

Application

● Fast and efficient kitchen design with an Apple IIe based system. 32

Classifieds

● Bargain offers from your fellow Apple users. 34

Education

● Jenny Preece describes the rationale behind a package aimed at helping teachers select software. 35

Programming

● A. Reicher provides the last word in bomb-proof input routines. 38

Books

● Before you rush out to the bookshop, read these reviews. Choosing accounting software and Visicalc are the subjects this month. 44

New Products

● All the latest ways to spend your money. 46

Fun & Games

● Skyfox, Wishbringer and Rescue Raiders provide the fun and games for our reviewers this month. 51

Feedback

● How to access two screens in Pascal, a Dublin BBS, the Data Protection Act and more. 55

Order form

● Subscriptions, back issues, binders to keep them in. 58

Apple User Managing Editor **Derek Meakin** *Features Editor* **Cliff McKnight** *Technical Editor* **Max Parrott**
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apple user

Volume 5
Number 10
October 1985

News

● A 512k Apple II on the horizon, Steve Jobs is selling his Apple shares, and more. 5

MicroLink

● This month's update on news from Britain's national electronic mail service. 9

&DOSFILE

● Peter Harris starts a new series with some powerful file management routines. 11

Spreadsheet

● If you are one of the many people who pay your bills by monthly budget, this spreadsheet from Chris Burridge could save you time and money. 18

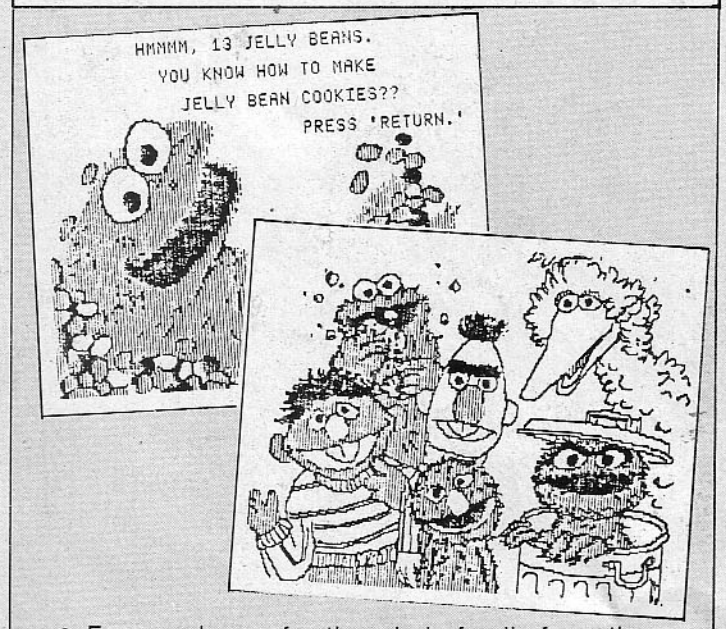
Education

● How a Hertfordshire college is putting Apples to good use. 22

Utility

● Use your language card and David Haynes' program to provide instant access to all those Page 3 routines. 23

Fun & Games



● Four packages for the whole family from the Children's Television Workshop, and at Bargain Basement prices too. 27

Review

● Geoff Wood expands his Appleworks desktop with Ramworks. 29

● Cliff McKnight looks at two digitisers for the Apple II and Macintosh. 32

Appletips

● A full page of tips here, and there's more throughout the magazine. 31

Graphics

● In Part XVI of the Apple User Graphics Library Peter Gorry gives updates for the histogram routines. 35

Programming

● S. Eveson's handy USR routine adds a factorial function to Basic. 37

Pascal

● Stuart Bell continues his tutorial series with a look at assembly language programming under Pascal. 38

● David Wells presents a modification to the Pascal output routine to use the lower case chip. 42

New Products

● All the latest ideas on how to spend your money. 45

Utility

● Find out how much space remains on your discs with Max Parrott's useful routine. 53

Classifieds

● Bargain offers from your fellow Apple users. 55

Feedback

● Spell-check under ProDOS, Belgian Mac user group, trouble with Sage Accounts, and more. 56

Order form

● Subscriptions, back issues, binders to keep them in. 58

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apple user

Volume 5
Number 11
November 1985

News

● New drives and memory card for the II+ and IIe, new price for the IIc bundle, and more. 5

MicroLink

● The latest update from Britain's national electronic mail service. 9

Skyfox offer

● This month we've got a special offer on Skyfox, the great 3D flight and fight simulation. 15

MEMDOS

● Jon Parry enthuses over the operating system that's transformed his database programs. 17

ProDOS

● Chris Payne explains how ProDOS gives Applesoft a new lease of life. 21

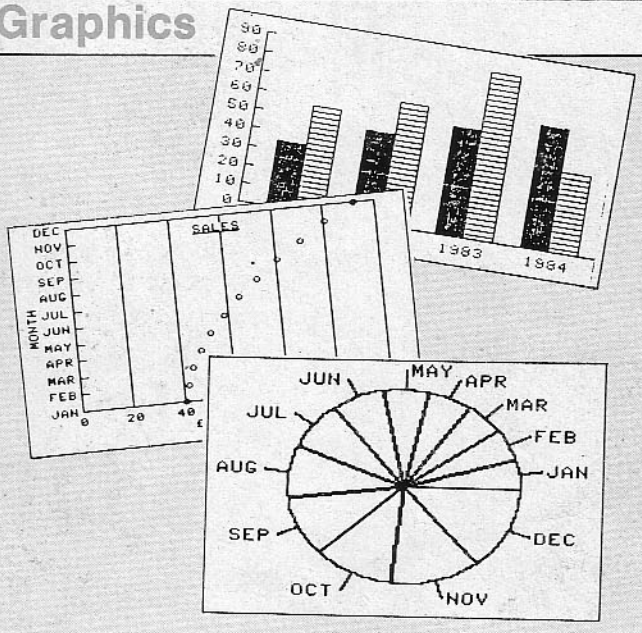
Spreadsheet

● If it's your job to work out duty rosters, Bill Hill's suggestions could save you a lot of brain-ache. 25

Disc offer

● A free disc is yours when you subscribe to Apple User. 26

Graphics



● It's the end of the road for the Apple User Graphics Library. Full details of how you can now get the complete series on disc. 10

Macintosh

● Microsoft's Excel gets the Bill Hill seal of approval. 28

● Read how Apple User's Mac got the upgrade treatment. 29

Fun & Games

● Infocom's Suspect and Broderbund's Karateka and Dazzle Draw provide this month's entertainment. 31

Review

● The Cirtech CP/M Plus system gives the Apple IIc access to an even larger software base. 34

Comparison

● John MacGibbon compares some Apple word processors with their MS-DOS competitors. 37

Pascal

● Stuart Bell continues the Pascal Tutorial series with a close look at parameter passing. 38

&DOSFile

● In Part II of the series Peter Harris provides two more important routines. 42

New Products

● Two pages of money-spending ideas to enhance your hardware and software. 47

Utility

● If you've got a new half-height disc drive, you might not be using it to capacity. Chee Wei-Li will show you how. 54

Classifieds

● Bargain offers from your fellow Apple users. 56

Feedback

● Sideways Appleworks spreadsheets, Apple III software plea, problems with E-Z Draw and more. 58

Order form

● Order everything on this one handy form. 60

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apple user

Volume 5
Number 12
December 1985

News

● Sculley halts decline, new Apple II products, the Woz's latest venture, and more. 5

MicroLink

● The latest update from Britain's national electronic mail service. 9

Pascal

● Stuart Bell continues the Pascal Tutorial series, this month looking at bomb-proofing programs. 10

Fun & Games

● Penguin's Sword of Kadash, Infocom's Cutthroats, plus some golden goodies at bargain prices. 16

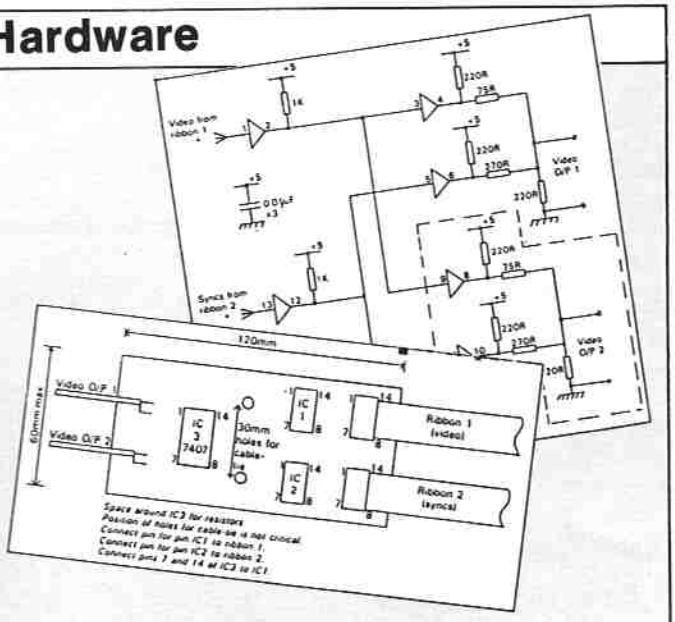
&DOSFile

● This month Peter Harris provides some data compression techniques to ensure efficient use of space. 20

Graphics disc

● Full details of how to get the complete series on disc. 26

Hardware



● A hardware project to improve your Apple's video output, plus a chance to buy the finished product if you don't want to build it yourself. 36

Review

● The DDTe debug card gets the Bill Allen treatment and gives Apple User its first chance to print a C program. 27

Spreadsheet

● If you need to do date calculations with Multiplan, Geoff Wood will show you how. 32

Games disc

● Just in time for Christmas, the Apple User games disc offer. Eight great games at a price everyone can afford. 34

Application

● How an Apple IIe and IIc are put to good use in an academic household. 40

Macintosh

● Chris Burridge keeps busy with reviews of Mac Type and the Mac the Knife Fonts package. 43

Skyfox offer

● A special offer on Skyfox, the great 3D flight and fight simulator. 48

Forth

● Max Parrott demonstrates the power of Forth with this sliding block puzzle. 50

New Products

● All the latest ways to spend your money and enhance your Apple system. 53

Feedback

● Graphics with Appleworks, &DOSFile correction, ProDOS points, all your questions and some of the answers. 56

Classifieds

● Lots of bargain offers from your fellow Apple users. 59

Order form

● Order everything you need on this one handy form. 60

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apple user
Volume 6
Number 1
January 1986

News

● Find out what's new in the ever-changing world of Apple computing.

5

MicroLink

● The latest update from Britain's national electronic mail service.

9

Pascal

● Stuart Bell continues the popular Pascal Tutorial series, this month looking at speed-up techniques.

10

Fun & Games

● Colossus Chess and a disc of a different kind provide the entertainment this month.

14

Spreadsheet

● Terry Morris presents a spreadsheet model for producing that all-important sales forecast.

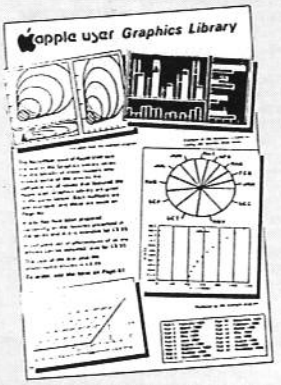
19

Application

● How a small shopkeeper is pioneering Apple computing in the wilds of Northumberland.

23

Apple User Specials



● Full details of how to get the complete Apple User Graphics Library series on disc.

34

● The Apple User games disc offer. Eight great games at a price everyone can afford.

41

Reviews

● Read what Tony Game thinks of Lawtant's new disc controller card.

27

● David Williams looks at the Lemi Midi interface and finds it brings a new dimension to making music on the Apple.

30

Programming

● Colin Davies demonstrates a heapsort, with programs in Forth and Basic for comparison.

32

Hardware

● Gain total control over your Duodisk unit with the help of Peter Wilson's hardware modification.

35

Macintosh

● Jim Mangles looks at Crunch – is it a challenger to Jazz and Excel?

37

● Waves of nostalgia engulf Duncan Langford as he runs Applesoft programs on his Macintosh.

47

&DOSFile

● Peter Harris continues the series with machine code expansion and compression routines.

42

Colossus offer

● A special offer on Colossus, the great new chess-playing program.

49

New Products

● All the latest ways to spend your money and enhance your Apple system.

53

Feedback

● Update on last month's video board, refining the duty roster spreadsheet, and more.

56

Classifieds

● Lots of bargain offers from your fellow Apple users.

59

Index

● Index to the contents of Volume 5 to help you find that article you wanted.

60

Order form

● Order everything you need on this one handy form.

61

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apple user
Volume 6
Number 2
February 1986

News
● All the latest in the ever-changing world of Apple computing. 5

Pascal
● The Pascal Tutorial series continues with a first look at dynamic memory usage. 10

MicroLink
● The latest update from Britain's national electronic mail service. 12

Colossus offer
● A special offer on Colossus, the great new chess-playing program. 13

Graphics disc
● Full details of how to get the complete Apple User Graphics Library on disc 20

Review
● Max Parrott gets nostalgic as he looks at printer cards from Cirtech and Tymac. 21

Hardware
● John Marr shows how to build an interface for the Snap EV-1 video RAM camera. 25

Graphics

● Mix and match your hi-res pages with this routine from John and Darrell Phillips. 17

Fun & Games
● Ariolasoft's Seven Cities of Gold and Adventure Construction Set, plus The Pay-Off from Bignose Software, provide the fun and games this month. 29

Application
● The old and new working in harmony as Apples go to work in a 14th century house. 32

Macintosh
● Chris Burridge gives his verdict on Ensemble, a French entry in the integrated package market. 34

● Robert Beynon finds that Microsoft File meets his needs for a citation database. 36

Games disc
● The Apple User Games disc offers eight great games at a price everyone can afford. 38

&DOSFile
● Peter Harris continues the series with a database and form generator program. 41

New Products
● All the latest ways to spend your money and enhance your Apple system. 47

Programming
● Malcolm Whapshott shows how to make use of the Apple's Text Page 2. 53

Classifieds
● Lots of bargain offers from your fellow Apple users. 57

Feedback
● Graphics for Appleworks, DOS Toolkit patch, Pascal books, and more. 58

Index
● Index to the contents of Volume 5 to help you find that article you wanted. 60

Order form
● Order everything you need on this one handy form. 61

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apple user
Volume 6
Number 3
March 1986

News

● Four pages full of the latest news in the ever-changing world of Apple computing. 5

MicroLink

● The latest update from Britain's national electronic mail service. 12

Fun & Games

● There's a distinct ornithological flavour to this month's reviews. 20

Pascal

● Stuart Bell rounds off his look at dynamic memory usage with a tree-search algorithm. 22

CP/M

● If PIP gives you the pip, this routine from Peter Wilson may alleviate the problem. 24

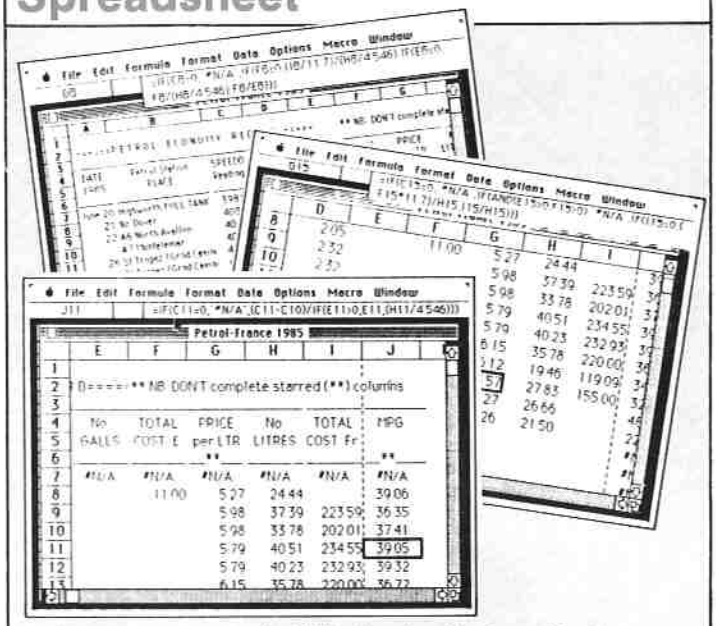
&DOSFile

● Peter Harris concludes the series by providing a RAMdisc function. 27

Books

● If you're getting to grips with ProDOS, you may find some of these books useful. Max Parrott gives his opinions. 30

Spreadsheet



● Is your car a guzzler? Find out with the aid of Chris Burridge's easy-to-use spreadsheet. 17

Comms

● Stuart Bell shows how some ex-GPO equipment, a serial card and some ingenuity can provide a cheap gateway to the world of bulletin boards. 32

Games disc

● The Apple User Games Disc offers eight great games at a price everyone can afford. 37

Reviews

● If loading times frustrate you, SpeedLoader may be the answer. 35

● Converting Basic to Pascal isn't easy. Let P-tral take the pain out of the process. 47

Macintosh

● Chris Burridge gives the thumbs-up to Ultraplan, a British business package that builds on Multiplan. 38

Graphics disc

● Full details of how to get the complete Apple User Graphics Library on disc. 41

Programming

● If you've ever wondered where your machine code is going, try this tracer program from Michael Agerbak. 42

Utility

● Add a lower case input facility to Applesoft with Polon Tang's routine. 53

New Products

● All the latest ways to spend your money and enhance your Apple system. 55

Classifieds

● Lots of bargain offers from your fellow Apple users. 57

Feedback

● Converting an Apple II, Appleworks on the II+, DOS relocation, and more. 58

Order form

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apple user

Volume 6
Number 4
April 1986

News

● All the latest news in the ever-changing world of Apple computing. 5

Spreadsheet

● Annual salary budgets need no longer be a headache. Geoff Wood's spreadsheet shows the way. 10

Graphics disc

● Full details of how to get the complete Apple User Graphics Library on disc. 12

Application

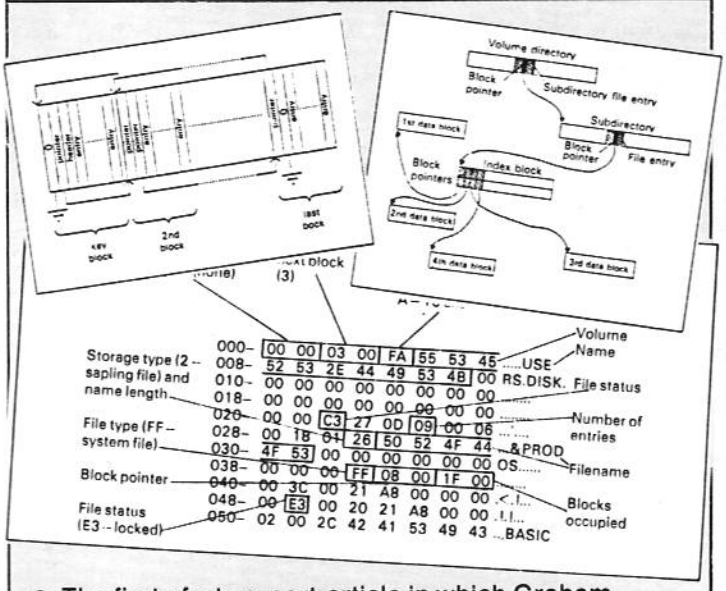
● An Apple IIe is at the heart of a successful slide production service. 13

Special Offers

● We've got two special offers for you this month – Movie Maker, the animation construction set and Homepak, an integrated word processor, database and communications package. 14

Graphics

● John Blaiklock provides a powerful routine to rotate 3 dimensional wire frame objects. 17



● The first of a two-part article in which Graham Keeler shows exactly how a ProDOS disc is organised. 38

MicroLink

● The latest update from Britain's national electronic mail service. 23

Fun & Games

● This month combines Fun & Games with the Macintosh section to bring you the latest Mac Games – the Mac version of Wizardry, Brataccas, Enchanted Scepters and Airborne! 26

Reviews

● David Palmer looks at Apple's new 3.5in UniDisk 30

● Max Parrott runs BBC Basic under CP/M on an Apple. Confused? You won't be after you've read his review. 42

● Geoff Wood looks at Plus-Works, a product which makes Appleworks available to II/II+ users. 53

Games disc

● The Apple User Games Disc offers eight great games at a price everyone can afford. 29

Pascal

● The final article in the current series of Pascal Tutorials. 35

Comms

● Second part of Stuart Bell's article on low-cost entry into the world of telecommunications. 46

Classifieds

● Lots of bargain offers from your fellow Apple users. 55

Feedback

● Problems with Wordstar, ProDOS, Appleworks, Applewriter, and more. 56

New Products

● All the latest ways to spend your money and enhance your Apple system. 59

Order form

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Number 5
May 1986

News

● All the latest news in the ever-changing world of Apple computing. 5

Fun & Games

● Ultima IV, largest of the Lord British series, enchanters galore in Spellbreaker and save mankind with Captain Goodnight. 10

Scrolling

● Ignatius Wu takes an Appletip a step further and shows how to scroll the hi-res pages. 21

WP Pointers

● Make the most of the Wordstar word processor with help from Peter Wilson. 25

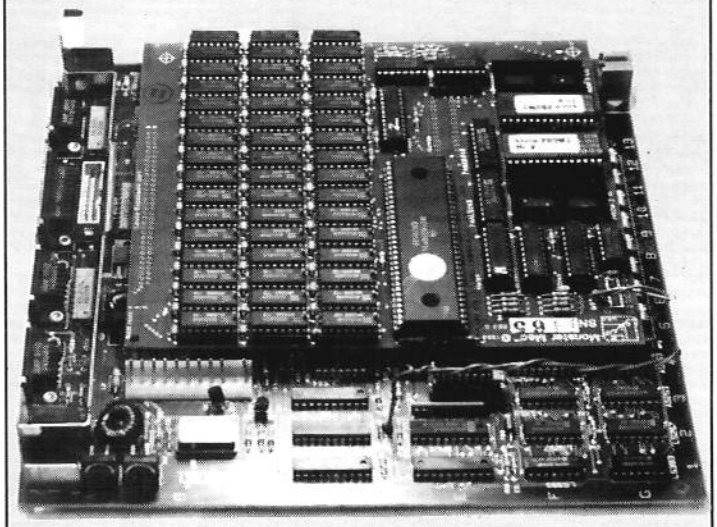
Spreadsheet

● Presenting balance sheets in visual form lightens a businessman's burden. Chris Burridge shows how. 29

Special Offers

● We offer two books this month that tell you all you want to know about communications – Hotline and The New Hacker's Handbook. 31

Macintosh



● Bill Allen's step-by-step account of the making of a Monster Mac. 16

ProDOS

● Graham Keeler concludes his two-part article by presenting Zap, a powerful program for probing ProDOS discs. 32

MicroLink

● The latest update from Britain's national electronic mail service. 42

Reviews

● Bill Allen supercharges his Apple II with Snapshot Shuttle and Cirtech Flipper. 43

● Geoff Wood hires Jeeves, the Apple II owner's answer to the Mac desktop facilities. 47

Classifieds

● Lots of bargain offers from your fellow Apple users. 50

Application

● Technical college students use 25 Apple IIs in a wide range of courses covering computers in commerce and industry. 53

Utility

● Lee Hammond offers a DOS amendment to display free sectors. 54

New Products

● All the latest ways to spend your money and enhance your Apple system. 56

Feedback

● You ask some questions, provide many answers in our letters pages. 58

Order form

● Order everything you need on this one handy form. 60

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apple user
Volume 6
Number 8
August 1986

News

● All the latest news in the ever-changing world of Apple computing. 5

Reviews

● Geoff Wood explores how to expand the IIe's capacity with MultiRam. 14

● Herbie Brennan reviews Fulltext, a New Zealand-derived word processor. 27

MicroLink

● The latest update from Britain's national electronic mail service. 18

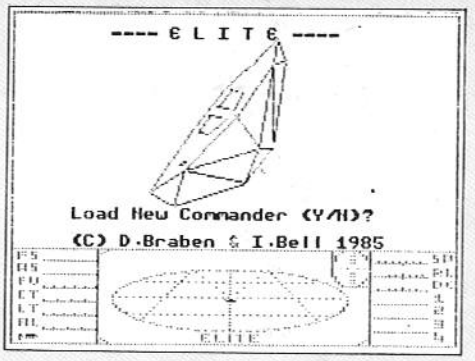
Utility

● Part 3 concludes Paul Sinnett's hi-res picture editor program. 19

Classifieds

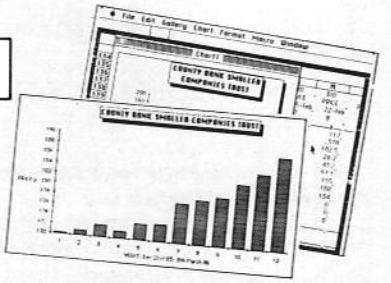
● Lots of bargain offers from your fellow Apple users, from cards to complete systems. 26

Fun & Games



● Play the classic Elite on your Apple. The choice of 2D or 3D with Psion's Chess. A chilling nuclear age challenge in Balance of Power. And Bard's Tale, a wizard one for fantasy lovers. 10

Spreadsheet



● Chris Burridge shows how to get wealthy in the second part of his portfolio sheet. 45

Pascal

● Get fully in the picture with D. Jones' dump for the Imagewriter. 50

● J.P. Lewis gets SET to grapple with Boolean logic. 64

Hardware

● Jaromir Smejc argues for American/European slot alignment and shows how to use UltraTerm more fully. 58

CP/M

● Automate Wordstar with Tan Tiong Poh's aid. Speed up your output by getting started faster. 65

Feedback

● You write on graphics and games discs, disc drives and RAM drives, Appleworks, Applewriter, Pascal pictures and Microsoft Basic. 66

● Order everything you need on this one handy form. 68

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apple user
Volume 6
Number 10
October 1986

News

● All the latest news in the ever-changing world of Apple computing. 5

Reviews

● MacroWorks utility for AppleWorks. Geoff Wood says it's ideal for experienced users. 10

● How spreadsheets can help keep down the cost of borrowing. Chris Burridge looks at a book that reveals all. 24

● LogiMac is a useful package for electronic engineers. Bill Allen finds out how. 50

Utility

● Martin Keeson on mousekeeping with Pascal. 21

● Printing ProDOS error messages. Chris Payne shows how. 33

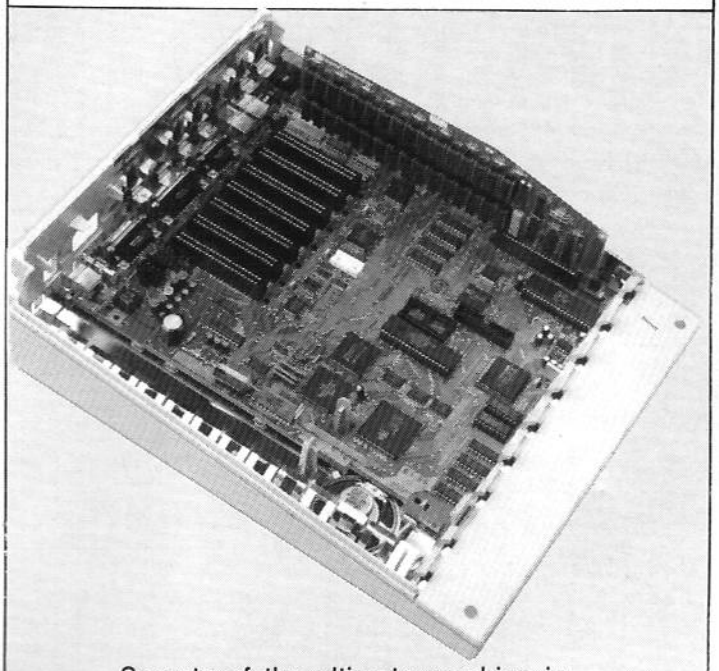
● Martin Kleucker has a program for date-stamping your DOS 3.3 files. 37

● Last word on leap years. Keep a date with Mike Street. 44

MicroLink

● The latest update from Britain's national electronic mail service. 23

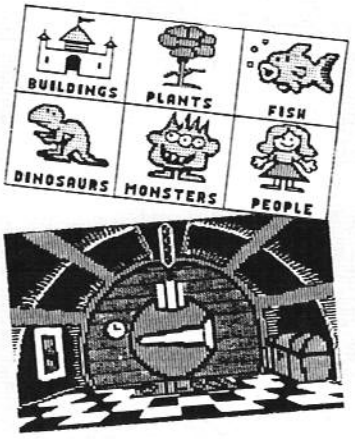
Debut



Secrets of the ultimate machine in the Apple II range, the GS, are revealed by Max Parrott and Malcolm Whapshott. 14

Fun & Games

● Adventure under the shadow of the Bomb. Trinity combines realism with sensitivity. The Hobbit finally makes it to the Apple. Nice, but not too challenging. Stickers to teach youngsters. And finally MacGolf, which made reviewer Mike Cook's day. 26



Hardware

● Installing enhanced and standard roms in an Apple II. J.R. Parkes goes through the procedure. 40

Classifieds

● Lots of bargain offers from your fellow Apple users, from cards to complete systems. 42

Game

● Space Cargo is a short, simple program for you to type in. It uses colour, but you can manage with a mono screen. 43

Business

● Geoff Wood demonstrates how to prepare that most important item, a cash flow budget. 54

Feedback

● You write on AppleWorks glitches, double hi-res, word processing packages, problems with paper and much more. 58

Order form

● Subscriptions, back issues, binders to keep them in. 60

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Apple User
Volume 6
Number 11
November 1986

News

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Pascal

● Apple UCSD Pascal 1.3 comes under Stuart Bell's critical eye. He finds it offers a lot – but at a price. 10

● Stuart Bell introduces his new tutorial series by taking the Unitary approach to program development. 46

Reviews

● Peanut's new external drive for the IIc is discussed by Cliff McKnight. It doesn't match the latest Apple colour scheme, but that's no drawback to an ingenious oriental offering. 13

● Link up your Macintosh with other computers via the telephone system then sample the delights of MacTel with Duncan Langford's help. He says it's one very good reason for buying a modem. 16

● If you have an UltraTerm, or indeed any slot 3 clash with the auxiliary slot, then check out what Jaromir Smejc has to say. 25

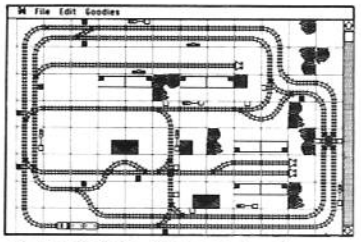
● The new enhanced roms for the IIe may cause problems. One case is the Switchback – but see what Jaromir Smejc found. 55

Desktop Publishing

Mike Cowley examines the growth of this electronic extension of Caxton's art. 32

Fun & Games

● Science Toolkit has much more to offer than the answers to loads of technical questions on light and heat. Out of the Toolkit pops a temperature probe, an interface box and a light meter.



● Develop the sort of train set you could never afford as a child with MacInooga Choo-Choo. Design your layout, arrange the scenery, then run your own train services.

● Leather Goddesses of Phobos is a super spoof of those early science fiction magazines. A clever, funny frolic from Infocom.

● Wage World War III in Theatre Europe. Thirty days of strategy and action as Nato and Warsaw Pact armies clash. 20

Graphics

● It's roses and chrysanthemums all the way with an elegant little program nutured by the trio of Zhang, Okeke and Mee. 27

MicroLink

● The latest update from Britain's national electronic mail service. 29

Utility

● At last, find that ProDOS system program with the aid of Peter Ibbotson's Boot finder. 37

● Shrink your hi-res pictures the easy way with Max Parrott's help. 48

Classifieds

● Lots of bargain offers from your fellow Apple users, from cards to complete systems. 40

CP/M

● Start of a new series which will lay bare all the secrets of CP/M on the Apple. 43

Game

● Duncan Morris offers another game, Dodge It for the Apple. This one is in hi-res. 53

Feedback

● You write on maths and screen dumps, spreadsheets and CP/M. 56

New products

● A small sample of the newest ways to spend your money. 59

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86-12

Features

5 News
All the latest news from the world of Apple computing.

11 Feedback
You write on sound sampling, AppleWorks on an Epson, Flipper and Wordstar, and much much more.

14 AppleWorld
Four page overview of Apple's prestigious exhibition and conference.

18 MicroLink
The latest update from Britain's national electronic mail service.

19 Education
Cliff McKnight reports from the AppleWorld education conference.

21 Desk Top Publishing
Mike Cowley takes a hard look at the latest DTP equipment on show at AppleWorld.

46 Fun & Games
Silent Service and Gato, two submarine simulations, Moonmist a new Infocom adventure, and Puzzle Master for the kiddies.

53 New products
A small sample of the latest ways to spend your money.

Reviews

29 Networking three Macs and two printers using software from MacServe.

Programming

33 Delve deeper into CP/M with Robert Neale and Colin Foster.

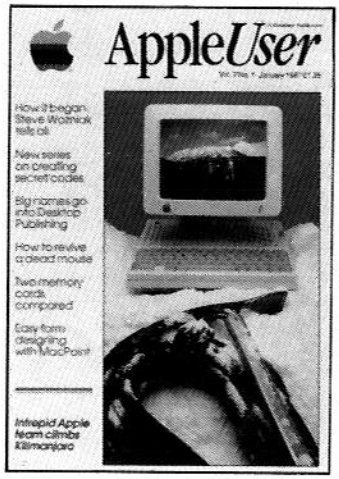
34 Part 2 of Stuart Bell's Pascal tutorial covering the unitary approach to program development.

Utilities

41 Keep an appointment with your Apple – Fred Wright offers a calendar routine.

54 Extra commands for your Apple with William Seabrook's routine.

87-1



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14 Fun & Games
Our reviewers look at The Toy Shop, Graphics Expander Volume 1, Arcticfox and Decision in the Desert.

19 Form making
Duncan Langford shows how to turn out neat ones with a Mac and MacPaint.

22 Kilimanjaro
How an Apple team got to the top in Tanzania.

27 Autoworks
Harvey Nyman takes a critical look.

28 Secrets
J.H. Brown starts a mini series on coding and decoding messages.

32 Planet suite
Stan Williams presents an electronic orrery.

40 Interview
Steve Wozniak talks of his formative years.

48 Desk Top Publishing
Bill Hill visits a Scottish stronghold of this revolutionary new field.

57 Feedback
You write on sound sampling, printer bugs, setup strings . . . and much more.

Reviews

10 Geoff Wood looks at Format-80 Scientific, a useful word processor.
43 Geoff Wood puts two memory cards to the test.

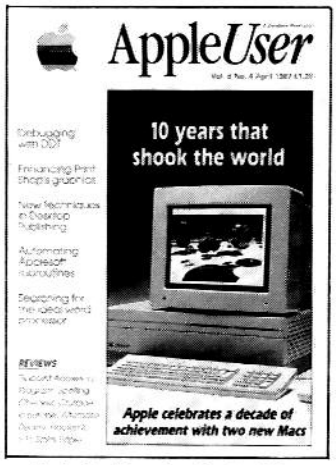
Programming

8 Robert Neale and Colin Foster expand your knowledge of CP/M.
36 Stuart Bell discloses more ways of controlling your system.

Utilities

46 Mike Cook resurrects a dead Mac mouse.

87-4



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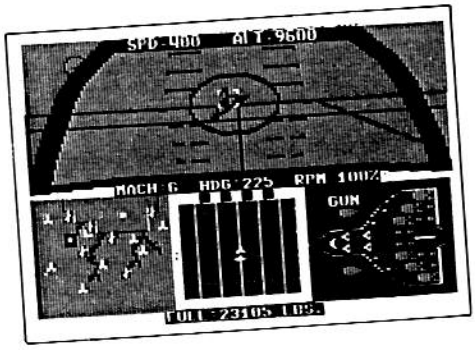
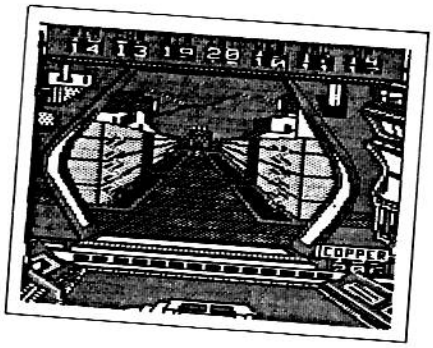
Features

5 News
Apple launches two new Macintosh's to celebrate its tenth birthday.

16 Fun & Games
Our reviewers look at F-15 Strike Eagle, Crusader in Europe, Alternate Reality: The City, Hacker II.





27 Desk Top Publishing
Roger Jones writes an idiot's guide to DTP; a book on Pagemaker techniques reviewed; Macs in the newspaper industry.

53 Encoding
Continuing the listing of Colin Davies' Ultra cypher system program.

57 Feedback
You write on assembly language, updating old systems, drive controllers, computer clubs . . .

Reviews

21 Geoff Wood looks at a spelling aid for AppleWorks users.

9 Jaromir Smejic, seeking the ideal word processor, looks at Gutenberg.

Programming

35 Stuart Bell's tutorial series: The Printer Control Unit in action.

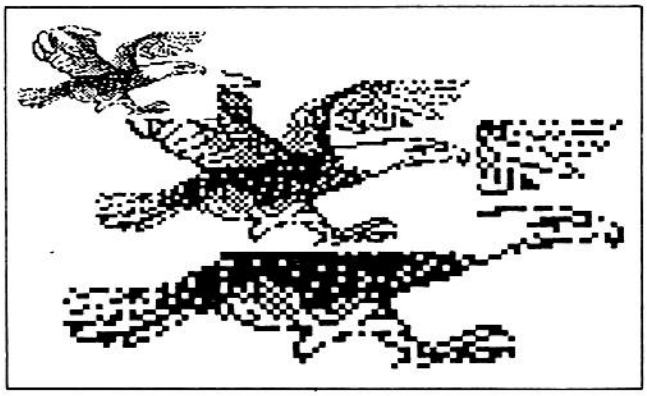
46 Dynamic debugging using DDT. Colin Foster and Robert Neale consider the technique.

Utilities

25 Geoff Wood tests a Pinpoint's Ram Enhancement Kit.

38 Image analysis techniques examined by P.A. Marshall.

40 Making more of Print Shop's graphics. Den James makes a few revisions.



48 Making Macroworks more friendly.

Vol. 8 No. 10 October 1987

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87-10

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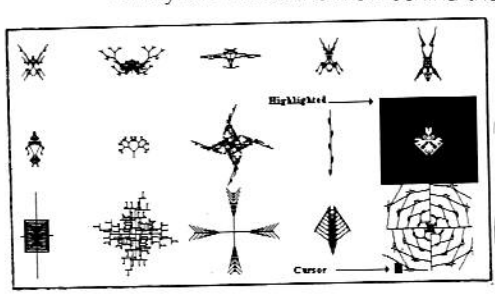
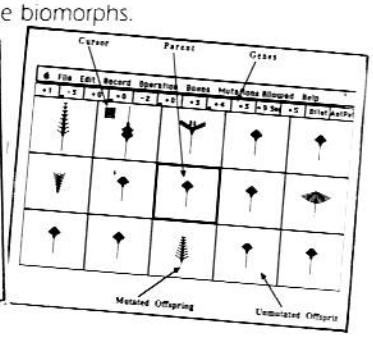
Duncan Langford with all you ever wanted to know about ram discs.

15 Micro mutants
Ian Byfield meets the man behind the biomorphs.





17 Competition
Your chance to win more than £1,000 worth of Apple software.

27 No blues for Apple
Henry Budgett considers the direction the DTP market is taking.

28 One edition ahead
Tony Leah on Apple's plans for the Desktop Publishing Show.

32 AppleWorks extras
A close look at the potential of Infomerge, Labels-234, AppleWorks Companions and Slalom.

38 Creative tools for creative people
Jaromir Smejc on font editors: First of a new series.

41 Scanning the horizon
Mark O'Donovan puts scanners into perspective.

48 Fun and Games
We assess King's Quest III, Fokker Triplane, Aliens, The Lurking Horror and Certificate Maker.

55 Feedback
On data transfer, foreign fonts and printing from Mousepaint.

61 Problem Page
Tony Hasemer on honorware payments, eye strain and SCSI addresses.

Programming

24 Pascal: Stuart Bell with the final part of the Apple User Control Unit.

41 Snail Trail: David Taylor presents a game with a difference.

Utilities

57 Len Hewitt creates bar-controlled menus using Apple Pascal.

59 Glyn Jones uses a Toolkit Shaper to produce professional hi-res graphics

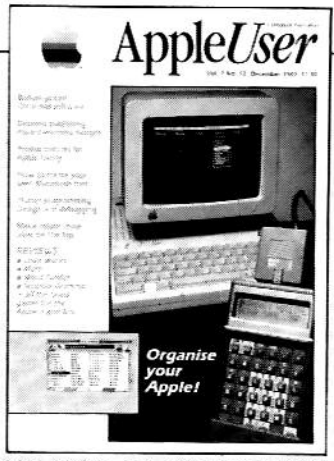
Reviews

12 WordPerfect: Geoff Wood tests a new word processor against AppleWorks and Apple Writer.

21 PaintWorks: Geoff Wood finds a MacPaint work-alike for the Apple II.

44 GS CP/M card: Max Parrott tries Cirtech's implementation of CP/M 3.

53 Prolink: Cliff McKnight and Max Parrott transfer data between Apple II and Mac.



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Features

87-12

5 News
All the latest news from the world of Apple computing.

11 Glasgow belongs to me
Conrad Gempf tries his hand at font design.

20 Portable peripheral
David Stevens gets organised with Psion.

27 User-friendly
Pam Turnbull talks to MGA MicroSystems.

31 Fun and Games
We assess Keypunch budget games, Chemlab, Ski Crazed, Portal and Beyond Zork.

38 Plotter practice
Part 2 of Geoffrey Jago's programming guide.

44 Apple Writer made easier
Geoff Wood offers more tried and tested tips.

45 Creative tools for creative people
Jaromir Smejc makes sure we're all speaking the same language.

50 Desktop publishing
Ian Byfield looks at winning entries for the 1987 DTP Awards.

53 Brave new world revisited
Denise McKnight ventures deeper into World Builder.

55 Problem Page
Tony Hasemer answers queries on Mac software and pricing.

57 Online help
Steve Jackson translates comms terminology into plainspeak.

61 Feedback
On Pascal, pokes, stocks and shares, and AppleWorks.

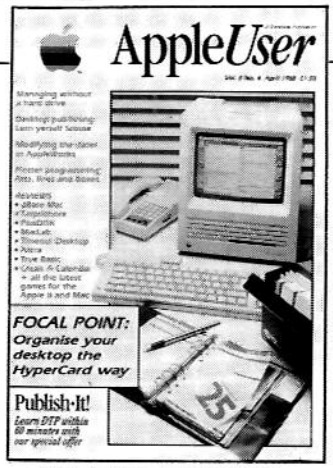
Programming

9 Lee Hammond restores your faith in Basic's NEW command.
13 Phil King with a scrolling bar menu.
29 Max Parrott brings ZAP up to date.

Reviews

16 Sensible Grammar: Geoff Wood weighs his words carefully.
24 Casting spells: Gordon Allison compares three Mac spell checkers.
42 More: Ian Smith finds an ideas processor with a difference.

48 816/Paint: Max Parrott tests his artistic ability.
59 LogicWorks: Tony Hasemer tries a new designer tool.



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88-4

Features

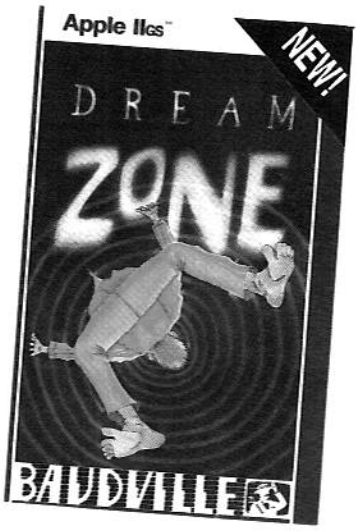
5 News
All the latest news from the world of Apple computing.

20 Creative tools for creative people
Jaromir Smejc concludes his glossary of computerspeak.

22 Opening up the Mac
Duncan Langford ventures deeper into the world of HyperCard.

28 Flying first class
Andrew Troup continues to get by without a hard drive.

41 Talkin Proper
Tony Jackson visits Fritz Spiegl, the man behind Scouse Press.



47 Fun and Games
We assess Street Sports Basketball, Where in the World is Carmen Sandiego?, Dream Zone and Bard's Tale II.

69 Feedback
On Tracer, Apple II/Mac transfer, Prodos 1.1.1, and CP/M comms.

Programming

38 Plotters: Geoffrey Jago continues his step-by-step guide.

43 Game: David Halliwell gets his letters in a twist.

45 Applesoft: P.O. Follair puts pi under pressure.

52 AppleWorks: David Grigg modifies the date display.

Reviews

8 dBase Mac: Peter Gorry weighs up Ashton-Tate's latest release.

15 Terpsichore: Denise McKnight conducts a musical tour.

16 Focal Point: Chris Payne gets himself organised on the Mac.

31 PlusDISK: Geoff Wood adds to his Apple's memory.

33 True Basic: Mike Cook tries out a "new" language.

36 MacLab: Max Parrott measures up in the laboratory.

56 Timeout DeskTop: Max Parrott looks at AppleWorks utilities.

60 Astra: Ian Smith weighs a complete accounting package in the balance.

71 Create A Calendar: Denise McKnight looks at the years ahead.

August 1982
Games review (Bandits, Suicide, Swashbuckler, Fly Wars) – Instruction file editor – Teach yourself Morse, Part I – VisiCalc section – Pastext II review – Asynchronous data transfer, Part II – Omnis review – A melody from your micro – Summary of 10 utilities – Make your own user port, Part II – Mah Jong – Number sorting – Elements of the Apple, Part V – Guidelines for buying a school Apple – Educational programs reviewed – PLUS four pages of Compucopia and two Appletips.

October 1982
Games reviews Knight of Diamonds (the second wizardry scenario) and Pig Pen – Think Tank (with listings) – Med-res graphics, Part II (filling in shapes) – Lisa assembler language review – Magic of VisiCalc – VisiCalc Business Forecasting Model review – Cross reference listing program – Apple-vox speech synthesiser review – Morse Code, Part III – Computerised flash card for schools – French Verb program review. PLUS four pages of Compucopia and seven Appletips.

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February 1983
Think Tank – Interactive editor-assembler, Part III – Development of Scrabble on the Apple – Visicalc's storage command DIF – Games reviews (Escape from Rungistan, County Fair, Snake Byte, Snack Attack) – Software reviews (Structured Basic, GraForth, Visischeduler and Lisa and the IIe – Pascal Pointers – Network analysis – Handling interrupts – Makeweight grading system – Date-stamping DOS – Educational game (listing) – Formatted Applesoft. PLUS four pages of Compucopia and seven Appletips.

March 1983
Darts game listing – Think Tank – Beginner's look at System Master – Games reviews (Blade of Blackpoole), Banner Magic, Free Fall, Computer Scrabble) – Lower case displays in Basic – Buying a financial spreadsheet – Reviews of Multiplan; Applewriter III; Geometry and Measurement, Drill and Practice; CLIP – News about Lisa and the IIe – Applesoft error handling – Interactive editor-assembler, Part IV – Apple on a pig farm – Fickle Finger proofing, Part I. PLUS four pages of Compucopia and four Appletips.

April 1983
Games reviews (Type Attack, Microwave, Tubeway) – Word Processing (Supertext, Executive Secretary, Wordstar, Word Handler) – economics of using electronic worksheets – Fishing (game listing) – Apples in the pet foods and film slides industries – Anatomy of the IIe – Beginner's programming – Reviews (Omnis, Strobe 100 Plotter, Hilderbay Bookkeeper, Turnkey CP/M) – Programming for the classroom – Fickle Finger Proofing Part II. PLUS four pages of Compucopia and six Appletips.

May 1983
Think Tank (Visicalc Magic, Appledarts sound, hi-res routines) – Games reviews (Spy's Demise, Teleport, Beer Run, Prism, Bug Attack) – Moans about manuals – To copy or not to copy – The outdoor Apple – Reviews (Wildword, Apple Circuit, Personal Data Analysis) – Date conversion – Understand the Epson Part I – Visicalc Review of Vergecourt 128k RAMcard and Cdex Visicalc training course – Graphics (generating bar indicators with listing) – Standing Wave Plotter. PLUS Five pages of Compucopia and seven Apple tips.

June 1983
Think Tank – Games reviews (Pie Man, Asteroid Field, Star Thief, Cyclotron, Star Blaster, Warp Destroyer) – Security with Data Encryption – Product reviews (Routine Machine, List Handler, Apple III CP/M Softcard, Savvy, Apple Project Manager and Micronet) – Apple '83 preview – Screen editing for beginners – Understanding the Epson Part II – Book review (Create Word Puzzles with Your Micro) – More Apple Pilot facilities. PLUS five pages of Compucopia and eight Apple tips.

September 1983
Games reviews (Evolution, Wayout, Aztec, Crisis Mountain) – First impressions of Lisa – Think Tank – Reviews (Apple Interactive Data Analysis, FileFax, Storyboard) – Replicating with Visicalc – Printers Daisywheel v. dot matrix, maintenance contracts, stationery, Pipeline printer buffer and Fingerprint reviewed, new products, printer jargon, A-Z guide to printers, plotters and intelligent interfaces) – Apples and youth training – PLUS three and a half pages of Compucopia and 11 Appletips.

October 1983
Games reviews (Ultima II, Pot O'Gold Plus, Sherwood Forest, Juggler) – Think Tank – In-Circuit Emulation Part One – Lisa (emergency planning with the N.W. Health Authority, developing Busifile) – reviews (Basicode 2, Metacraft's Forth) – Graphics (Digisolve Vector Graphics board and Apple Business Graphics) – Visicalc v. Beebcalc – Training (DIY course selection, what is training, computer-based training) – Package Deal game listing – improving life for the disabled. PLUS Compucopia and Appletips.

November 1983
Think Tank (Pascal Blockwrite/read, fast data-logging, input validity checking, date verifying) – Games reviews (The Alien, New World, Crime Wave) – Neat Pascal listings – Interactive Video at American Express – Reviews (CP/M Card, Disc-o-doc, The Graphics Magician) – In-circuit Emulation Part 2 (Rovino ICE II card) – Graphics (Super resolution, hi-res text strings) – Graphs from Visicalc – Lisa's Cullinet mainframe link – Logo Part 1 – schools' software library. PLUS Compucopia, News, Letters and Appletips.

December 1983
Think Tank (memory dump in Forth; shape filling) – Games Reviews (Dark Crystal; Dawn Patrol; Minit Man; Flip Out; Snooper Troops 1 and 2; Dragon's Keep; Troll's Tale) – Reviews (Word Juggler; Koala Pad Touch Tablet; Wildcard Plus) – How to choose software for your business – Talking to dolphins – Write your own adventure games – Estate Agency with a network of Apples – Lander Game Listing – Visicalc cash flow projections – Drawing with Logo. PLUS News, Letters and Appletips, Compucopia.

January 1984
Hi-res text generator – Game listing (Patience) – Games reviews (Apple Cider Spider; Theseus and the Minotaur; Thunderbombs; Buzzard Bait) – Lisa Workshop – Logo in the US – Pascal Tutorial Part I – Pascal PEEKing and POKEing – Reviews (Bit Stik version 2; CIA utility; Nano 6502 Assembler; Aviette FDD 820 disc drive; KGP-40 printer; AK-GC joysticks; Praxis 35 typewriter/printer; Visicalc Advanced) – Applewriter word counting. PLUS News, New Products, Letters and Appletips.

April 1984
Reviews (TK! Solver, Rapid Reader, Homeword, Pen-Pal, Cache 16/64 printer cards) – Macintosh software flashes – Build your own graphics package part III (Shape Tables) – Developing ProDOS programs – Pascal Tutorial Part IV – 16-page guide to Apple extras – from typist to Apple User – Games reviews (Wizardry III, The War of the Samurai, The Spy Strikes Back) – Encoding routine – Book reviews (Visicalc for the Apple II Plus, The Elementary Apple) – PLUS News, New Products, and Letters.

May 1984
Special report on the Apple IIc micro – Preview of Appleworks – Lisa mapping – Using DOS within Basic – Who should buy Multiplan? – Grandad gets his Apple – Graphics Package Part IV – Games reviews (The Missing Ring, Color Me, Black Death) – Game Listing: Apple Raid – Pascal Tutorial Part V – Macintosh: the Sand Project – Semi-standard letters with Applewriter's WPL – Reviews (PaperGraphics, Transitions, Mem/DOS, Ultraterm). PLUS News, New Products, Letters and Appletips.

June 1984
The Steve Jobs interview – Pascal Tutorial Part VI – Arbitrary byte patterns in memory – Graphics package Part V – Spreadsheet: Visicalc's @LOOKUP function – Compile and solve crosswords with Applewriter's WPL – British games reviewed (Derby, Soccer Manager, Election, Necromancer, Mekbula) – Modems, micros and bulletin boards – Program for marking schoolwork – Reviews (Pixy plotter, TG Track Ball, C/WP colour modulator) – Logo round-up. PLUS News, New Products and letters.

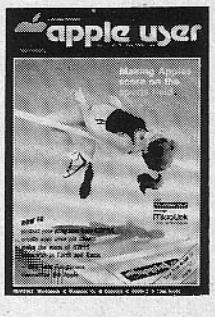
July 1984
Capitol CAD package – Automating CP/M with Pseudo disc drive – Wordstar on Epson printer – Relational Databases – Games (Lode Runner, Coveted Mirror, Crypt of Medea, Queen of Hearts, Quiz Listing) – Screensplicer – IIe super-res graphics – Pascal tutorial part VII (defining procedures) – Volume control for Apple II – Appleworks review – Lisa helping visually handicapped – Calculating mortgage repayments with Visicalc – PLUS News (including report on Apple '84), New Products and Letters.

August 1984
Communications – Apple in a haulage company – Book Review (Apple Basic Data File Programming) – Reviews (Scribe 3D CAD package, Sage CP/M Database, Codewriter IIe, Ramdrive IIe, ShortCuts) – Games (Plasmania, Bouncing Kamungas, Pinball Construction Set) – Graphics package part VI (text handling by machine code) – Lisa organising meetings – Pascal Assembler – Speech input via Voice Input Module – Multiplan helps with cricket scores PLUS News, New Products, Letters and Appletips.

November 1984
Apple in a primary school – Games (Flight Simulator II, Drol, BC's Quest for Tires) – Graphics Part IX (including review of Cat Graphics) – Pascal Tutorial: Introduction to Pascal Operating System – Macintosh languages: MacForth, MacBasic, MBasic & Instant Pascal – Two Macintosh books reviewed – Communications Part III: Software – Loading DOS Toolkit assembler onto language card – Software reviews (Digisolve's Pixel Paint, Hilderbay's Payroll) PLUS Letters, News and New Products.

December 1984
Games (Spare Change and Gumball) – Desert Island Discs with Pam Fisher – Pascal Tutorial (final look at the Operating System) – Spreadsheet (VisiCalc command table) – Lisa 7/7 Software – Macintosh games (Pensate and Frogger) – How Macintosh helps an actress – The world of the 6809 Pt. I: the Rehaflex board – Escher game listing – Graphics DIY Part X (including review of Sweet-P plotter) – Hilderbay SSP software review – Communications – PLUS News, New products and letters.

January 1985
John Sculley's View of 1985 – Games (Gelfling Adventure, Story Maker, Stellar 7) – Application: Apples down on the Farm – Cloze Technique (Plus review of Clozemaster) – World of the 6809 Part II: Flex Operating System – Apple II v ITT 2020 – Reviews (Ormbeta Compact Accounting System, CGL Half-Height Drive) – Apple IIe and IIc compatibility – Handling Interrupts and large arrays in Pascal – Reporter's view of Macintosh – PLUS News, New Products, Appletips and Letters.



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Steve Wozniak talks about Apple II developments – Quicksort algorithm in Forth and Basic – Games (Deadline, Witness, Planetfall, Enchanter, Scorcerer, Expedition Amazon) – Graphics DIY part XI – Targeting with a spreadsheet – Apple to Apple file transfer – Miners' strike resolved by computer? – Chemical formulae on Lisa – two Macintosh books reviewed – World of the 6809 Part III – Software reviews (Sales Edge and Management Edge) – Application: book publishing – Split screen techniques – PLUS News, new products and letters.

March 1985
Circle drawing algorithms – Super Pilot System Log – Summarising data with VisiCalc – Competitive estimating with Multiplan – Graphics DIY part XII – Ampersand editing – Macintosh (MacTerminal, Mouse Stampede, optical mouse, plus Mac book) – Reviews (Merl modem, Intec hard drive, Vision 128/256 card, the Editor, plus three educational packages) – Fun and Games (Xyphus, Fighter Command, Picture Writer) – PLUS News, New products, letters and Appletips.

April 1985
Apples in the dental surgery – Adding graphics commands to Applesoft – Using the VBLANK signal – Getting to grips with software – Reviews (Spee-Demon card, PFS File/Report for Macintosh, W-P-LAB) – Weather forecasting with Mac – Pascal Filer's D command – Fun and Games (La Triviata, Design Your Own Home: Architecture, Interiors, Landscape) – Books (Appleworks, VisiCalc, Machine level programming) – Index to Windfall Vols. 1 and 2. PLUS News, New products, Letters and Appletips.

May 1985
Sports Day runs smoothly with Apples – Graphics DIY Part XIII (pie charts) – Reviews (The Workbench, Macputer IIc, Copytext, Omnis 2 on Macintosh, seven Logo books) – The RWTS explained and demonstrated with a disc verify routine – protecting programs from Copya – Pascal (directory access from within programs) – Binsearch in Forth and Basic – Reaction Timer – Apples in Hungary – Fun & Games (Smart Shopper, Plantin' Pal, Micro Cookbook) – PLUS News, New products, Letters and Appletips.

June 1985
Apples keep track of music companies and Macintosh designs record sleeves – Fun and Games (Music Construction Set, Song Writer, Music Readiness) – Pascal Tutorial: start of a new series looks at records – Reviews (Tick-Tack translation package for Apple II+/IIe, Musicworks for Macintosh) – Graphics (three books reviewed) – Mugraph: light dependent resistors making sounds – Ampersound: routines for making music and sounds from Basic – PLUS all the latest News, New Products and Readers' Letters.

November 1982
A beginner's guide to PEEKs and POKEs, Part I – Games review (Galactic Wars, Night Mission Pinball, Raster Blaster, David's Midnight Magic and three Quick Spins) – Think Tank (with listings) – Three 80 column cards evaluated – Visicalc: Brush up your algebra – Bit Stik graphic system reviewed – Pitfalls in producing educational software – Treasure Islands educational game reviewed – Med-res graphics, Part III (Ampersand routine). PLUS four pages of Compucopia and six Appletips.

January 1983
Think Tank – Book reviews (Apple Graphics and Arcade Game Design) – Games reviews (Wizard and Princess, Transylvania) – Six-page guide to memory storage (guide to disc drives, new bubble memory, 128k RAM cards, disc back-up, mini-Winchester drives, new Apple drives) – Walt Disney's TRON – Graphmagic review – Installing Wordstar – Business cash flow with Visicalc – Pilot review – Interactive editor-assembler, Part II. PLUS four pages of Compucopia and eight Appletips.

July 1983
Apple '83 review – Think Tank – Games reviews (Zork I,II and III, Hitch-hiker's Guide to the Galaxy, Wavy Navy, Shuffleboard) – Using a printer with DOS – Reviews (Micro Planner and The Spreadsheet) – Visicalc potpourri – Beginners' PEEKs, POKEs and CALLs – Creating a turnkey system – Atomic research Apples – File organisation methods – Insurance broking with an Apple – Pilot Animation – Tip for using both sides of a disc. PLUS five pages of Compucopia and seven Appletips.

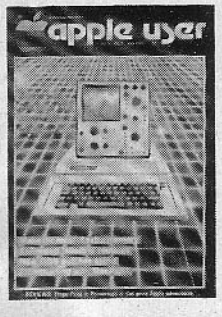
August 1983
Think Tank – Reviews (The Accelerator Board – tripling the speed of an Apple II; Microplanner Part II; The Ramview 80 and Vision 80 80 column cards for the IIe; SuperPilot – does it set a CAL standard?) – Games reviews (Kabul Spy, Super Taxman 2, Succession, Jaw breaker, Spectre) – III or IIe? the Apple III's place in the market – Use indices for What If? analysis with Visicalc – Basic editing for beginners – Pascal Disc Directory – PLUS five pages of Compucopia and six Appletips.

February 1984
Macintosh Revealed – Apple in the clothing industry – Book Review – Reviews (ProDOS, Apple's new operating system; Bank Street Writer; Keystar for Wordstar; Word Weaver III) – Logo: manipulating human language – Lisa Workshop Part II – Build your own graphics package – Games (The Quest, Story Machine, Repton, Sammy Lightfoot) – Date Manipulation – Voice Darts – Pascal Tutorial Part II – Pascal Animation – Visicalc cashflow models. PLUS News, New Products, Letters and Appletips.

March 1984
Games listings (Noughts and Crosses; Twenty Questions) – Pop music Apple – Reviews (Studentdata, Sidevise) – Games reviews (Facemaker, Police Artist, Microbe, Adventures in Flesh, Dungeon!) – Pascal Tutorial Part III – Lisa (Launch of Lisa 2 series; SunAccount ledger system) – Graphics pages in memory, plus two histogram routines – Indexing Forth discs – Critical Path Analyses with Visicalc. PLUS News (More after Macintosh; multiplying mice; Lisa wins Rita), New Products, Letters and Appletips.

September 1984
How an Apple helps police hero – Updating Apple graphics and arcade design – Serial data transfer – Games (Early Games Music, Learning with Leeper, Fuzzywomp, Hallowe'en) – and DIY Graphics Part VII (including review of Doublestuff) – Macintosh (journalist's view of Mac Write, Software Development, Translyvania, Linking Lisa to ICL mainframe) – Pascal Tutorial – Pilot Interpreter – Spreadsheet (including bug in VAV) – Reviews of Graphpak and Format-80 Enhanced – News, New Products and Letters.

October 1984
Appletips (drive-cleaning, DOS, REMs and Lists) – Apples in a clothing factory – Book reviews (games programming, Pilot, Apple IIc) – Games (Gruds in Space, Cherryspin, Aquatron) – Graphics Part VIII (including review of Spectragram colour card) – Mac software reviews (MacForth, Click Art and Mac the Knife) – Simulation of radioactive decay and Einstein solids – Pascal tutorial – Flashcalc – Reviews of Blackboard printer card and CW/P drive – PLUS Letters, News and New Products.



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Apples at the heart of Papworth Hospital – Fun & Games (Secret of Arendarvon Castle, Antagonists, Fahrenheit 451, Rendezvous with Rama, Amazon, Shadowkeep, Adventure Writer) – Pascal Tutorial: using files of records – Binary file load utility – Using extended 80 column card memory – Macintosh (Flowcharting, Preview of Guide) – Book reviews (Business Basic, Epson printers) – Reviews (FingerPrint and Printerrupt) – Graphics DIY Part XIV – DOS patches – PLUS News, New Products, Letters and Appletips.

August 1985
Spreadsheet secrets shared – Apple IIIs provide power behind computer bureau – Graphics DIY Part XV – Wordstar scrolling problems solved – Descartes data processing program generator – Fun & Games (Winnie the Pooh, Mickey's Space Adventure, Print Shop, Hitchhiker's Guide to the Galaxy) – Mac at the centre of a publishing revolution – Pascal Tutorial: random access files – Review of Micro Planner for Macintosh – Restore to any Data line – PLUS News, New Products, Letters and Appletips.

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