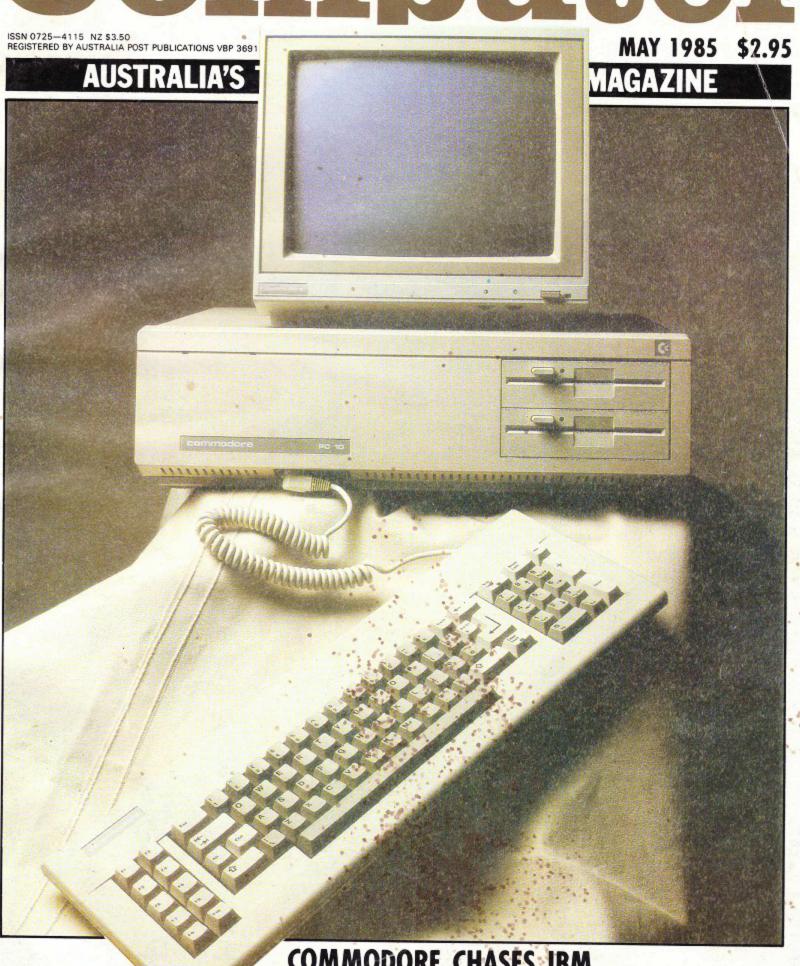
# Personal Communication Communi

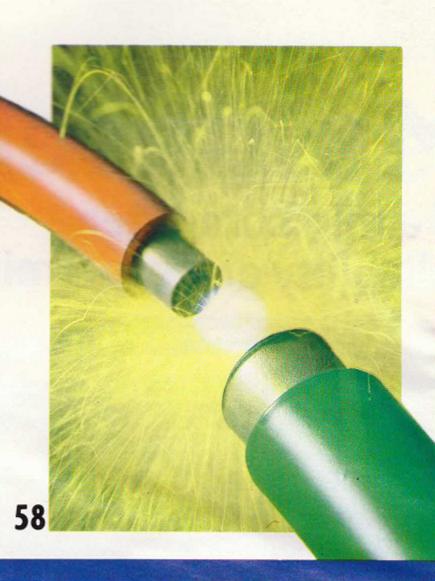


COMMODORE CHASES IBM
We take the wraps off Commodore's latest

Volume 6, Number 5, May 1985

Managing Editor Sean Howard; Consultant Editors Steve Withers, Ian Davies; Advertising Manager Mark Reiss; Sales Executive (NSW and Qld) Simon Tindall (02) 264 1266; Sales Executive (Vic, SA, WA and Tas) Sean Carnell (031) 531 8411; Graphics and Typesetting Graphic Heart Pty Ltd; Subscriptions Manager Valerie Meagher; Subscription rates: Australia \$35.00 per annum, Overseas A\$47.00 (surface), A\$130 (airmail). Printed by Quadricolor Industries Pty Ltd. Published by Computer Publications Pty Ltd, a subsidiary of Consolidated Press (Holdings) Ltd, 77 Glenhuntly Road, Elwood, Victoria 3184. Telephone (Editorial and Publishing): (03) 531 8411. Telex: AA 30333 AMJ. Distributors Network Distribution Co. 54 Park Street, Sydney 2000.

Material contained within Australian Personal Computer is protected under the Commonwealth Copyright Act 1968. No material may be reproduced in part or whole without written consent from the copyright holders. Produced under licence from Computing Publications and VNU Business Publications B.V.



# REGULARS

# 5 NEWSPRINT

APC's independent view of activities in the micro market.

# 11 YANKEE DOODLES

# 52 LETTERS

Fingers, arms and brains — readers explore the alien anatomy.

# 107 TJ'S WORKSHOP

Hints and tips to help you make the most of your micro.

# 142 SCREENPLAY

Battered, bruised but not bewildered. Tony Hetherington brings you the best games. This month's selection includes an economic simulation with a sense of humour, a hybrid graphics adventure and 3D maze, and the best car racing game so far.

# 145 PROGRAM FILE

The pick of readers programs for the MicroBee, BBC, Amstrad and VIC-20.

# 165 SUBSET

Machine code made easy.

# 173 NETWORKS

Steve Withers brings you all the latest news on bulletin boards around Australia and the world.

# 179 MICROCHESS

News of the big one: the World Microcomputer Chess Championship.

# 180 NUMBER COUNT

Mike Mudge makes his return. If you can understand him you're a better man than I . . .

# 193 DIARY DATA

# 195 WRITING FOR APC

# 195 LAZING AROUND

JJ Clessa pitches another brain basher.

# 196 SUBSCRIPTIONS

We need your cash, so we'll give you a free binder when you subscribe.

# 200 ADVERTISERS INDEX

Who's where in this issue.





# **FEATURES**

## 14 DO YOU NEED A MULTI-USER SYSTEM

A computer which can work for two or more people simultaneously may be just what the business needs. Jim McCartney offers some help with the figures.

# 36 IN THE KNOW

Information is at your fingertips with online information services. Stephen Farr and Steve Withers dial up the databases.

# 46 RECORD STORAGE

Computer applications are on the way for compact disks, providing the kind of memory of which dreams are made.

# 58 PC-MAINFRAME LINKS

This definitive article covers PC to mainframe links — from strategy decisions down to individual product assessment. Part 2 will be next issue.

# 100 THE NEW DOS

Martin Banks looks beyond the launch of Digital Research's Concurrent DOS 286, to ask whether IBM will follow this

# 113 COLLECTIVE C

Data handling the C way as Les Hampson takes this Teach Yourself series a stage further.

# 131 APL FOR All

The title of richest and most complex computer language is often claimed for APL. Anthony Camacho finds out if it's deserved.

# **BENCHTESTS & REVIEWS**

## 20 COMMODORE PC

The home computer king retries the business market. But has this bog standard IBM PC-compatible got what it takes?

# 28 YAMAHA CX5

An MSX micro and music synthesiser in one: something different from the boringly similar MSX brigade.

# 83 ENABLE

Integrated packages are a dime a dozen (and all-the-rage). Ron Dunn weighs up Enable against the established packages.

# 91 SMART

The integration of four programs — a word processor, database, spreadsheet and graphics — into one suite. Robert Piper found it an impressive and flexible product.

# 104 WATCH THIS!

The computer on your wrist: a micro, micro, microcomputer from Seiko. In this miniaturisation gone mad?

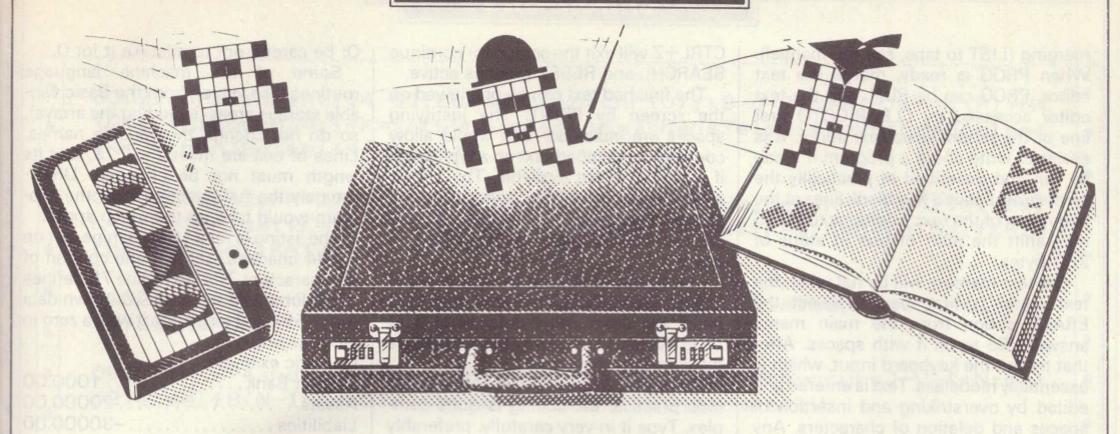
# 125 OFFICE PRACTICE

Desktop organisers that remove the clutter of diaries, address books and calculators from your desk are the latest trend in integrated packages. Mike Liardet tidies up.

# 137 OMNI-READER

Optical character recognition at a price serious personal computer users can afford. Is this peripheral too good to be true?

# **PROGRAMS**



Nick Walker and associates select the best of readers' programs — for details on submitting your own, see the end of this section.

Heading up this month's listings is an unusual text editor for the MicroBee which can accommodate a number of separate columns of text. It also has the option to enter formatted values which are then automatically summed. The program's author, P Lukes, is a previous contributor to *Programs* (May 1984) and co-authored the book *Getting Started on your MicroBee*.

Micro Type is another text editor — this time for the VZ-200 and is in response to a plea for more VZ programs from S Hobson in the February issue.

BBC owners writing serious applications will appreciate the screen designer and input validation programs, which will make user-friendly input screens easy to incorporate into programs. Also, there should be quite a following for 'G', a compiler for converting graphics programs into super-fast machine code.

There's always a gap between a micro coming on sale and some decent software becoming available for it; this is true of both commercial and user programs. For the Amstrad, this is the first issue in which we've been able to publish substantial programs.

See PC for the Amstrad is a disassembler that will allow you to delve more deeply into this machine's well-written operating system, as well as aid in machine code subroutine design.

Other programs this month include a pre-processor for dBase II users, a user-defined keys listing for the 16k VIC-20 and a darts program for the Tandy Color.



Games



Scientific/mathematic



Business



Toolkit/utilities



Educational/Computer Aided Learning



# Split MicroBee by P Lukes

This is a text editor which can operate on a number of separate columns and has an option to enter formatted numbers and sum them. Up to 250 separate columns could be defined, but the program is set up for a maximum of 55, to allow them to be identified by the letters of the alphabet and some special characters (variable U in line 78). Several screens can be used to display the columns; up to 14 screens can be used (initial value of V in line 78). Each column must be fully contained within a screen, and can be between four and 63 or 79 characters wide (for 64 or 80 character screen width respectively).

MicroBees with the 13.5MHz crystal can be set up to display 80 character (or slightly longer) lines. This is done by assigning the screen width to the vari-

able V (last part of line 78), and calling a ROM routine to reset the CRT registers. As well, the screen is set up to display 18 lines by the POKE 216,18. It is likely that the display will need to be repositioned by the ESC,A/S/W/Z keys. The program is rather slow with the 12MHz crystal and 2MHz clock, and upgrading to the higher speed would be worthwhile.

The text is stored in reserved memory, starting about 1k above the end of the program. The reserved memory is set up automatically in line 77. The machine language routines take up the last 495 bytes of available memory, and are fully relocatable. The top of text memory is set by the value in N in line 77. The program is set up for 16k; for 32k, delete the "/2".

Since the text is stored in reserved

memory, it is possible to BREAK or RESET and modify the program without losing the text. After the first run, when the machine language is POKEd into high memory, it is possible to delete most of the DATA lines and free up about 1.7k of text memory (make sure to SAVE a complete copy before deleting). The program takes care of any changes in the variable values after deletion; the only value which must not be changed after deletion is the value in the variable N.

The program could be used for writing documentation for another program of moderate length (called, say, PROG). Shorten the text editor by deleting the numeric routines (lines 36 to 46) and the jumps to them in line 22, and renumber, starting with a line number higher than the last line of PROG. Prepare a copy for