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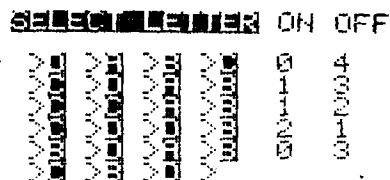
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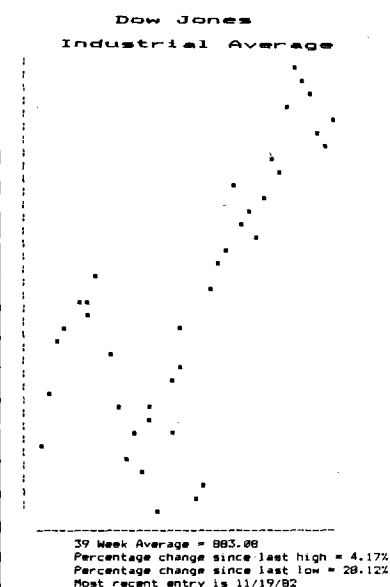
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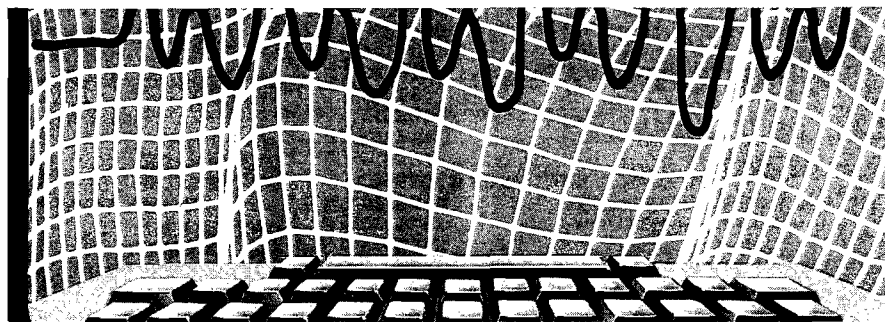
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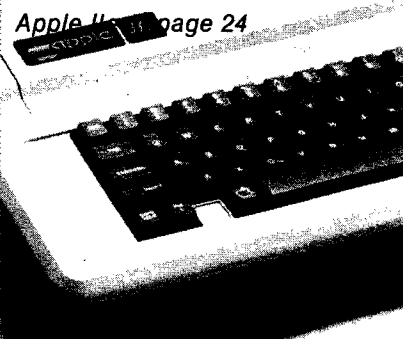
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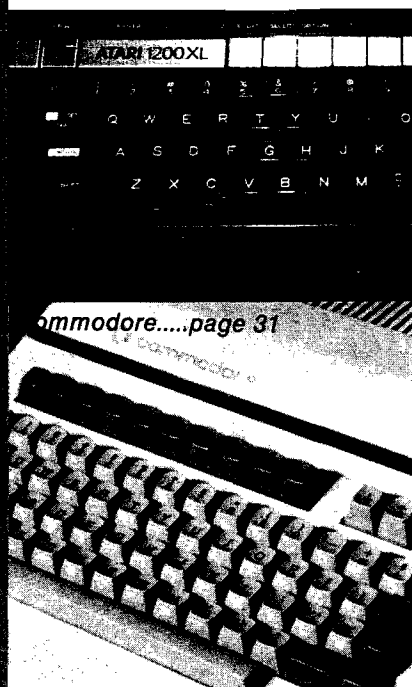
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BC12	38	F1	1	1	1	2	TERM
BC4A	651	C1	1	1	1	1	IOMAN
C29B	BBC	D1	1	1	1	1	RBF
CE57	41C	D1	1	1	1	8	SCF
D273	33A	E1	1	1	1		DC3
D5AD	2C	F1	1	1	1		DO
D5D9	2F	F1	1	1	1	1	H0
D608	36	F1	1	1	1	6	T1
D63E	216	E1	1	1	1	1	WD1000
D654	CA	C1	1	1	1	1	CLOCK
D91E	472	11	1	1	1	2	Shell
DD90	2E	11	1	1	1		Load
DBBE	48	11	1	1	1		Unlink
AC00	1DA	11	1	1	1	1	Mdir

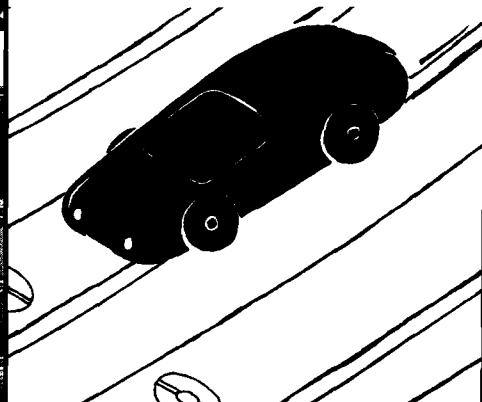
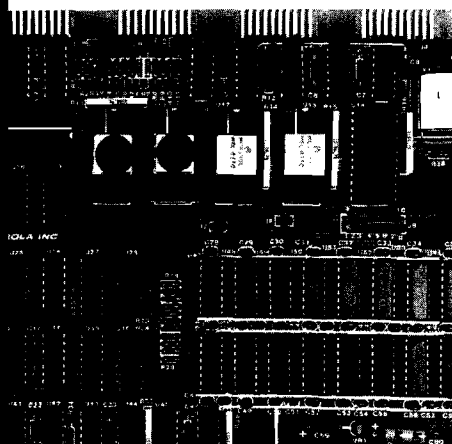
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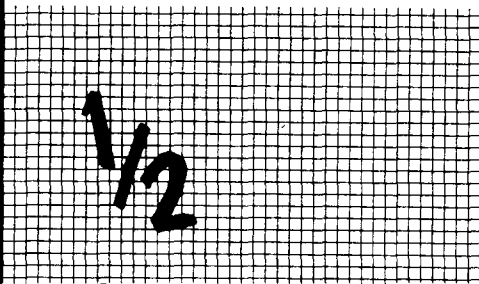
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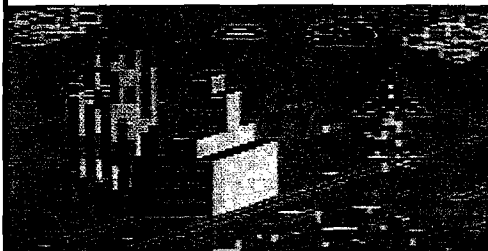
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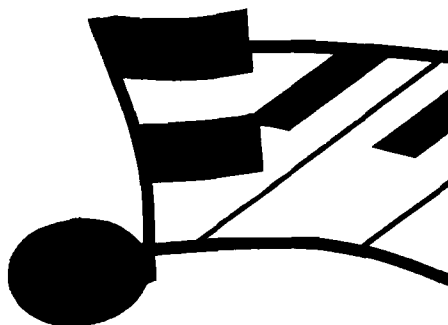
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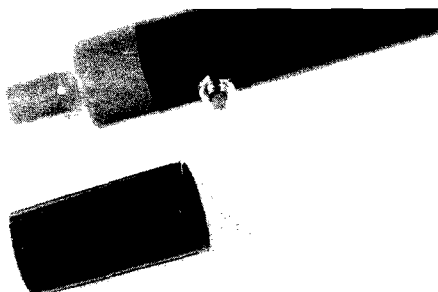
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7	8	9	/
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0	.	-	=

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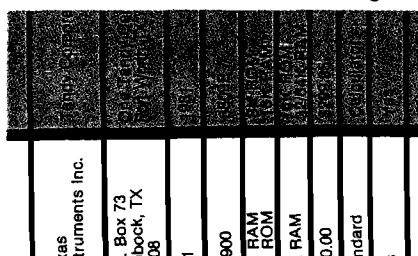
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### 26 Buyer's Guide: A Low-Cost System Comparison

*Phil Daley and Loren Wright*

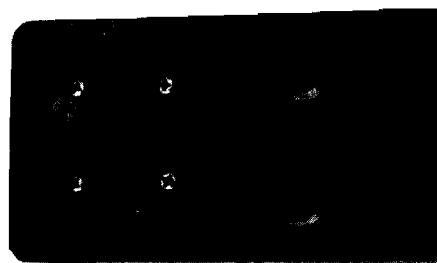


A look at the features offered by the most popular low-cost microcomputers

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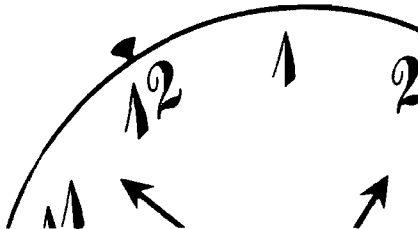
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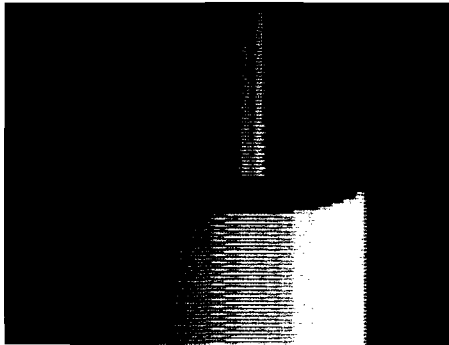
Diagrams and sample software drivers demonstrate this interface



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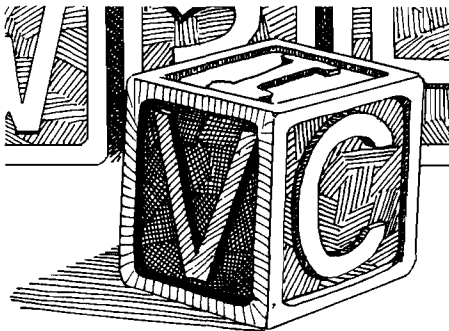
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A simple drawing program that lets you use nine colors

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*Loren Wright and Phil Daley*

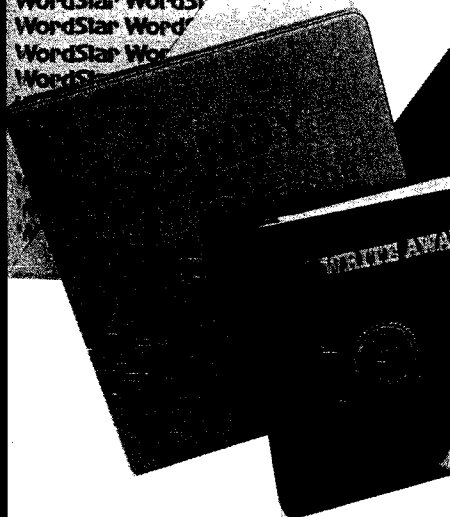
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WordStar WordStar



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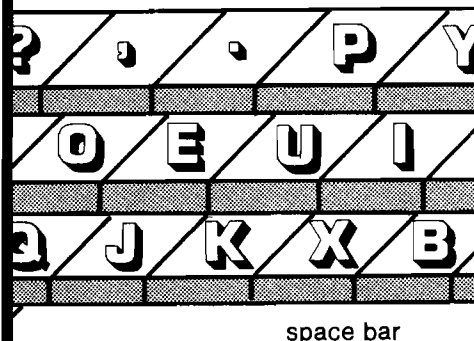
*Richard I. Marmon and  
Donna M. Marmon*

Add sophisticated printout controls

### 38 Dvorak Keyboard for Your Computer

*John R. Raines*

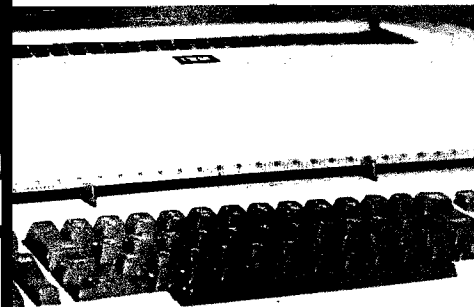
A faster keyboard for touch typists

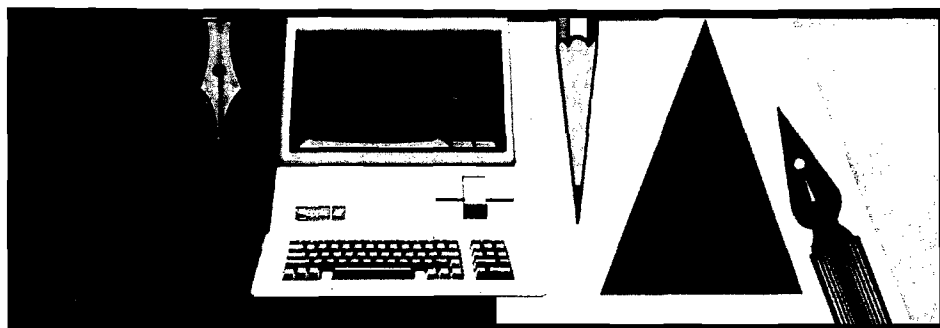


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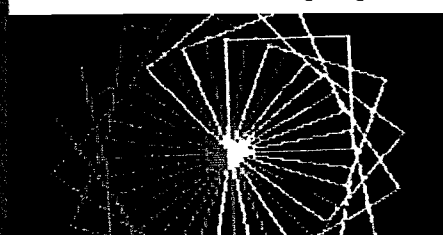
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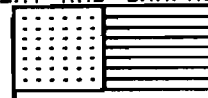
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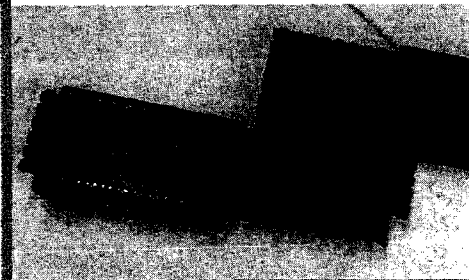
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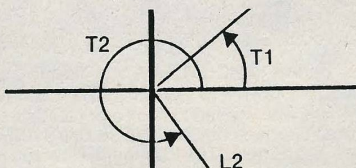
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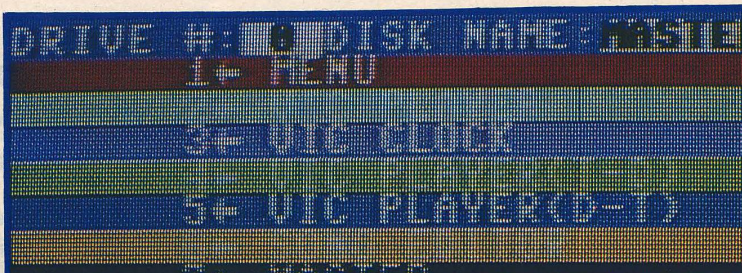
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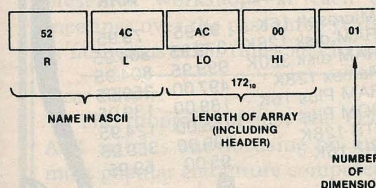
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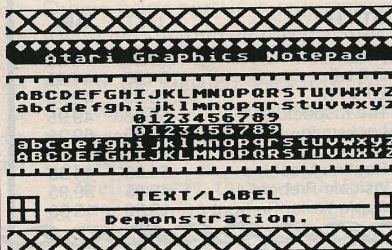
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# MICRO

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Ralph Tenny

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<b>15 SuperText Professional</b>	The most recent version of this powerful Apple word processor.
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<b>17 Super-Text Professional Word Processor</b>	A simple business-powered processor for the Atari.
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<b>17 G.A.L.E.</b>	An Applesoft Line Editor with the most complete set of commands.
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<b>17 LOGO</b>	A fairly extensive implementation of the language for Commodore 64.
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<b>18 Advanced X-tended Editor</b>	An Applesoft line editor for BASIC program development.
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<b>18 The Oddsmaker</b>	An "Electronic Bookie" for the Apple or Commodore.
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*Alfred J. Bruey*

A "new" key arrangement is gaining acceptance, increasing typing speed and productivity enormously.

### **15 A Comparison of 6809 and 68000**

*Mike Rosing*

The checkbook offers a simple, effective way to compare these two microprocessors.

### **19 Flight Simulator II: Microcomputer Simulation At Its Best**

*Chris Williams*

By analyzing this design masterpiece, programmers may discover the elements needed to make their own software great.

### **22 Graphic Print for C-64**

*Michael J. Keryan*

Create a full-page graphic printout from a Commodore 64 high resolution display.

### **30 Interface Clinic: Communication Between Different Computers**

*Ralph Tenny*

Merge several computers into one efficient system, sharing a single printer.

### **34 HILISTER — A Study and Teaching Aid**

*J. Morris Prosser*

Move easily within your programs and highlight parts of text or listings for emphasis, drama, clarity.

### **38 Super Simple Numeric Sort**

*Robert L. Martin*

Arrange a list in numerical order without the need for a user supplied sorting program.

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*Ian R. Humphreys*

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*Paul Garrison*

Save time and mathematical aggregation with a compilation of defined functions.

## 55 Commodore-To-Apple Cassette File Loader

*Art Matheny*

Transfer cassette files written on VIC-20 or C64 to an Apple disk for interfacing, etc.

## 65 BASIC Hex Loader

*Robert M. Tripp*

Handy BASIC utility to load Machine Language code in Hex.

## 66 Circles for the Commodore 64

*Lester Cain*

An interesting mathematical way to plot circles on the C64.

## Product Reviews

### 11 Paint Magic

Easy to use graphics with joystick and keyboard.

### 11 Promenade Model C1 EPROM Programmer

Add-on programmer which handles 12 models of EPROM and at least 8 of EEPROM.

### 11 TimeTrax

Time management system for personal or business life, including printed schedules.

### 12 Spell Perfect

Machine language spelling checker for Letter Perfect or any standard text files.

### 12 The Complete Graphics System

2 and 3 dimensional graphics including 108 colors.

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### 15 Relocatable Step/Trace

*Chester H. Page*

Step and Trace program can be moved easily to any part of the program.

### 19 Constructing Truly 3-D Mazes

*Dr. Alan Stankiewicz*

Get a rat's-eye view of the maze corridors as you "walk" through them.

### 28 Graphic Print for C-64, Part 2

*Michael J. Keryan*

Interface with major commercial packages to create a full-page graphic printouts.

### 32 Alter Track and Sector

*Edwin L. King*

Rewrite any sector on a disk without loss of data.

### 36 The UCSD p-System: DeFacto Standard 68000 Operating System?

*Paul Lamar & Richard Finder*

A careful, lucid explanation of p-System and a comparison of six 68000-based computers.

### 41 Atari/Epson Custom Characters

*Mike Bassman*

Create and transfer almost unlimited customized alphabets to paper — accurately.

### 47 Extended Precision Arithmetic in BASIC

*Rolf B. Johannesen*

Greater mathematical precision and a way to calculate the Jewish Lunar Calendar.

## 52 HILISTER — A Study and Teaching Aid

*J. Morris Prosser*

Move easily within your programs and highlight parts of text or listings for emphasis, drama, clarity.

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Save time and mathematical aggravation with a compilation of defined functions.

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*Ralph Tenney*

Design a major hardware interface - a receiver board for the 32K CoCo.

## Product Reviews

11 <b>When I'm 64</b>	Sophisticated music synthesizer with vocal parts and animated face.	12 <b>Advanced System Editor</b>	An extended Pascal System Editor with many enhancements and special features.
11 <b>BASIC Building Blocks</b>	Over 60 sample programs describe all facets of beginning programming.	13 <b>Total Health</b>	A personal health monitor to keep track of nutrition on a daily basis.
11 <b>Write Now!</b>	Professional word processor with 80 column display, compatible with most printers.	13 <b>Commodore 64 Music Master</b>	Over 50 BASIC music programs to enjoy and learn with.
12 <b>Songwriter</b>	Songs are recorded in a piano-roll style, making song composing fun and easy.	14 <b>Magic Memory</b>	Address-book type of data-base system for the Apple.
12 <b>Clone Master</b>	A disk utility designed to create backup copies of all or parts of user-owned disks.	14 <b>64 Doctor</b>	Total diagnostic program for the C64.
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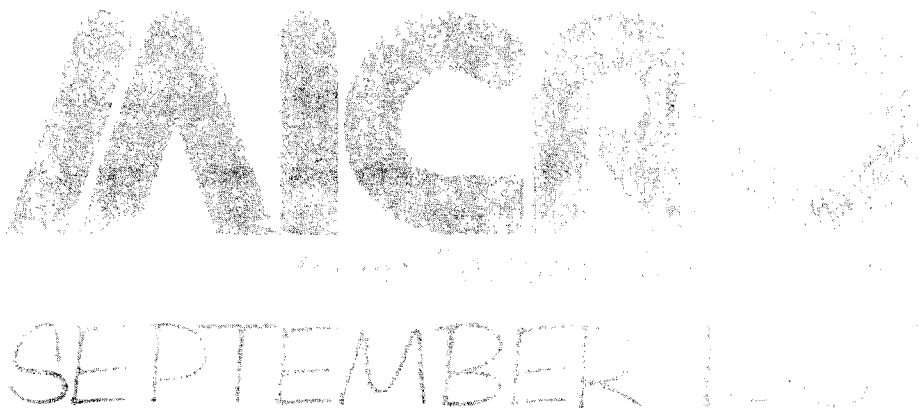
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**15 Introduction to FORTH**

*Kenneth Butterfield*

The basic Why's and Wherefore's about the FORTH language.

**18 Multi-Tasking in FORTH**

*Kenneth Butterfield*

A Technique and Program for Running Multiple Tasks Under FORTH.

**24 Structure Trees in FORTH**

*Michael Dougherty*

A FORTH Utility that Prints the Structure of a FORTH Word.

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*N. D. Greene*

Now reading, writing, and editing textfiles is easy.

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**52 Transferring dBase II Files For Use With Wordstar/Mailmerge***Robert R. Carroll*

Alter your dBase II files and use them to produce personalized letter forms.

**55 Stepper***Chester H. Page*

Step-Trace facility that allows you to bypass monitor routines.

**61 Time-Series Forecasting***Brian Flynn*

A Program to Predict the Future - That Runs on the Apple, Atari, C64 or CoCo.

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A game utilizing the C64's capabilities to the maximum — that even lets the player create his own material.

**14 Stocker1**

For the serious stock market investor, a program for predicting performance that can interact with a time-shared data base.

**13 Person-to-Person**

A feature packed communication package for the Apple, that includes a mailing list capability.

**14 MMP-1000C Modem**

A full-feature communications package for any Atari, including all required hardware and software.

**13 Mail Now!**

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*Luther K. Branting*

Binary Trees are an interesting form of mathematical graph. Here is a program to generate and display them.

### 12 **Fast Bit Map Plotting for the Commodore 64**

*Loren W. Wright*

Part 1 of a series of assembly level routines to support fast hi-resolution bit map plotting on the Commodore 64.

### 18 **Machine Language Loops**

*Chris Williams*

Machine language loops are explored — and some common misconceptions about them exposed.

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*Mike Dougherty*

FORTH screens are presented that make your application programs easier to use.

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*Sanjiva K. Nath*

A detailed discussion of the important features to look for in selecting a database management package.

### 30 **BASIC/ML Data Transfer**

*Mark 'Jay' Johanson*

Four techniques are explored and implemented to exchange data between BASIC and machine level programs.

### 38 **Rational Joystick Interfacing**

*Charles Engelsher*

A "build-it-yourself" project that develops an Analog/Digital capability for the Apple while exploring A/D techniques.

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<b>45</b>	<b>68000 p-System BASIC</b> <i>Paul Lamar &amp; Charmaine Lindsay</i>	An examination of major features of p-System BASIC, including detailed instructions for converting to p-System from Microsoft BASIC.
<b>50</b>	<b>Exec File Utilities</b> <i>N. D. Greene</i>	A collection of eight useful exec utilities for the Apple that make life a little easier.
<b>53</b>	<b>Expanding the Commodore 1541 Disk Drive Part 1</b> <i>Michael G. Peltier</i>	Part 1 of a series showing how to expand the capabilities of the 1541 disk drive used with the Commodore 64 and VIC-20.
<b>55</b>	<b>A Very Moving Message</b> <i>Ian Adam</i>	Split screen, fine scrolling and interrupt techniques are combined in a useful utility for the Commodore 64.
<b>60</b>	<b>Interface Clinic A Mystery !</b> <i>Ralph Tenny</i>	Problems encountered in using a Voltage-to-Frequency Converter on a Commodore 64 are investigated.
<b>65</b>	<b>Quick Cipher Routine</b> <i>Art Matheny</i>	A method and program to protect your 'public data' using an random number based encryption scheme that will work on any micro.

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