

MENU

Tomcat CPU

| | |
|---------------------|--------|
| TC9 (6809 (CoCo)) | 299.95 |
| TC00 (68000 10 Mhz) | 189.95 |
| TC00 (68000 12Mhz) | 229.95 |
| TC00 (68000 16Mhz) | 289.95 |
| TC10 (68010 16Mhz) | Call |
| TC30 (68030 16Mhz) | 799.95 |
| TCMath (68881) | 299.95 |

Tomcat Enclosures

(Includes mounting hardware)

| | |
|------------------|--------|
| Low Profile | 179.95 |
| Mini Tower | 199.95 |
| Desktop | 199.95 |
| Tower | 399.95 |
| 101 Key Keyboard | 69.95 |

**Tomcat K-Bus
(Backplanes)**

| | |
|------------------|--------|
| 4 Slot (LP case) | 59.95 |
| 8 Slot | Call |
| 12 Slot | 189.95 |
| 16 Slot (Tower) | 289.9 |

Frank Hogg Laboratory
204 Windemere Road
Syracuse New York 13205

Tomcat Modules

| | |
|---------------------------------|---------|
| 2 Meg RAM | 499.95 |
| 0K EPROM/RAM | 89.95 |
| 2 Port Serial | 149.95 |
| 4 Port Serial | 249.95 |
| 4 Port Parallel | 149.95 |
| Timer/RTC/RAM | 149.95 |
| DMA | 189.95 |
| Bus Monitor | 189.95 |
| Prototype | 59.95 |
| SCSI | 149.95 |
| Floppy | 149.95 |
| IBM PC Interface/ 8 slot bus | 299.95 |
| Hi-Res Graphocs | 2nd 1/4 |

Starter Systems

| | |
|------------------|--------|
| TC9 | 499.95 |
| Dual TC9/TC68000 | 699.95 |
| OS9/68000 | 249.95 |

PRICES AND SPECIFICATIONS SUBJECT TO
CHANGE WITHOUT NOTICE

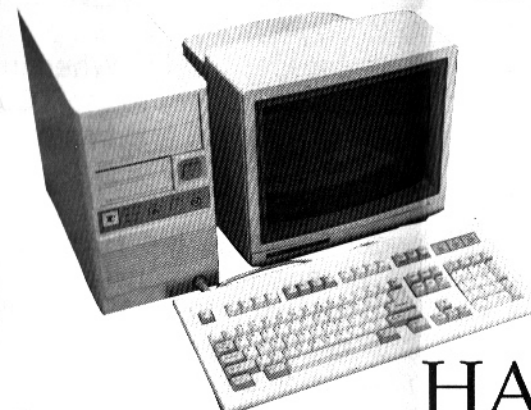
Coming...

CD-I Expansion Interface
68040 - 8 Meg RAM - MIDI-
Multi-Function

BULK RATE
U.S. POSTAGE
PAID
P.J. GREEN ADV.

P.J. GREEN ADV.
P.O. BOX 4026
UTICA, NEW YORK 13504

*Infinite
Expansion
Possibilities!*



from 6809 to
60030 and
beyond,
with your
**PRESENT
HARDWARE,**

at your own pace...

at Super Prices...

TomcatTM
**Frank Hogg
LABORATORY
INC.**

Tomcat™

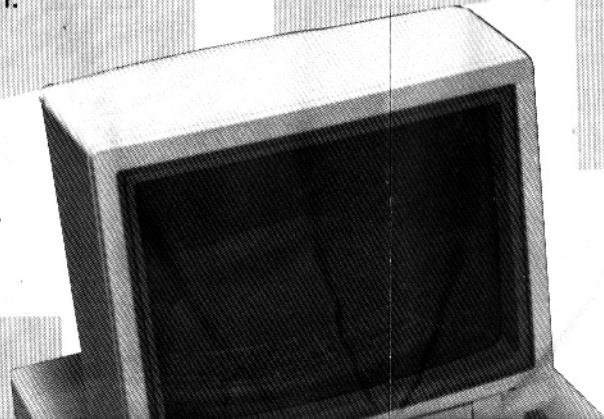
The **TC9 Tomcat** is a major improvement over the CoCo 3.

- The **TC9** is over 25% faster!
- The **TC9** uses a PC compatible keyboard.
- The **TC9** has two 'real' serial ports.
- The **TC9** supports a serial mouse.
- The **TC9** has a parallel printer port.
- The **TC9** has provision for 512K on board RAM or it can use a CoCo 3 512K memory upgrade.
- The **TC9** can be upgraded to 1 megabyte with the Disto 1 Meg upgrade with no soldering, just plug it in.
- The **TC9** has 8 bit D to A and A to D. 8 bit provides better sound and a higher resolution joystick, 256 verses 64.
- The **TC9** supports an internal speaker.
- The **TC9** has the standard CoCo bus so that CoCo cartridges can be used.

Expansion

Once a K-Bus backplane is added, (It is not required for **TC9** operation) the world of 68K is open to you. The logical first step is to add a 68000 CPU which will immediately speed up Level II operations by several factors and opens the door to running OSK. No other additions are needed to run OSK, as OSK will run in the **TC9** memory and use **TC9** I/O. For further performance increases additional boards, memory, I/O etc. can be added to the K-Bus. It is even possible to have several **TC9's** in the K-Bus for a multi-processing system! Memory limits are 16 Megabytes of which more than 14 Megabytes can be RAM! They are backplane sizes from 4 to 16 slots and a 20 slot bus is under consideration. The backplane itself is inexpensive so that if you outgrew your first bus you could transfer all your cards to a bigger backplane for little cost. Because of the bus concept upgrades to future CPUs only requires adding that CPU to accomplish it. For example, you could start with a 68000 and later replace that with a 68030 and still use ALL of your other cards. When new cards such as the 68040 become available, you could add those too. Even capabilities, not thought of today can be added by just adding a card!

This is upgrading without having to throw anything away. Even if you eventually switched over to 68K completely the **TC9** still functions as a multi-function graphics co-processor. Our Hi-Res graphics board, now in design, will have its own keyboard interface and video memory so that it can be used with the **TC9**. Several of either cards can be used in the same system, making for the first multi-processor, multi-user, multi-graphics system for OS9 and OSK! Because of the wide variety



The TC9 board can be powered by any PC power supply. This also allows installing the board in most PC clone cases.

- The **TC9** will work with most, if not all OS9 software.
- The **TC9** will have RSDOS compatibility thru 3rd party vendors.
- The **TC9** is K-Bus compatible.

K-Bus capability is important because it allows interfacing the **TC9** to the 68000 and even the 68030! By installing the **TC9** in a K-Bus 68K system the **Tomcat** becomes a dual-processing system! When in OS9 Level II mode the 68000 becomes a co-processor to the **TC9**, like an accelerator to Level II. We can expect a 2 or 3 fold improvement in performance!

When the 68000 is the master under OS9/68K, the **TC9** acts as a co-processor to 68K. Switching back and forth between systems will be easy and will allow a smooth transition from OS9 to OSK. It is not necessary to jump to OSK to get the benefits of the 68000, but it provides a smooth transition when and if you decide to make the move. You go at your own pace, upgrading as you desire, and at each point you get a significant improvement in performance, for a very slight cost.



of K-Bus boards available and those under development, the possibilities for the future are unlimited. The **TC9 Tomcat** truly is the CoCo 4 that Tandy should have made, for that matter it could well be the CoCo 5, 6, 7, 8.....

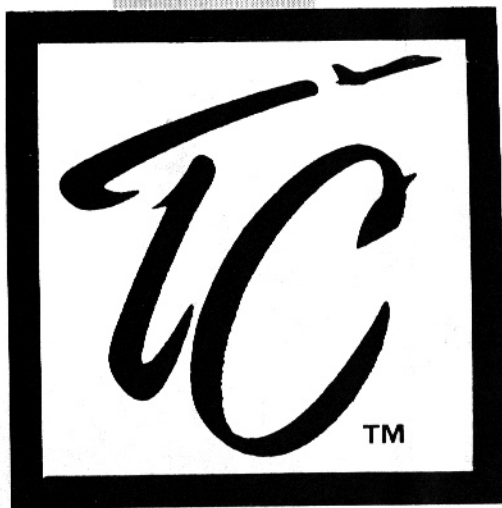
Should you get one?

If you currently own a CoCo 3 and use it for both RSDOS and OS9 Level II the

TC9 Tomcat is your road to the future. It will run your current software faster and give you powerful new features and performance at modest cost. You get the ability to expand at your own pace, at low cost, the way you want to do it, for your future.

The future.

FHL, in business since 1976, has been manufacturing 680x0 based computers for over 6 years! The **Tomcat** is the computer for the 90's. We have put all of our knowledge and experience into the creation of the **Tomcat**. We believe it is the best choice for you and for us. We create computers because we like to use them, not because we like to sell them. Every computer we've made has been one we've wanted for ourselves. The **Tomcat** is the best we've done... so far.



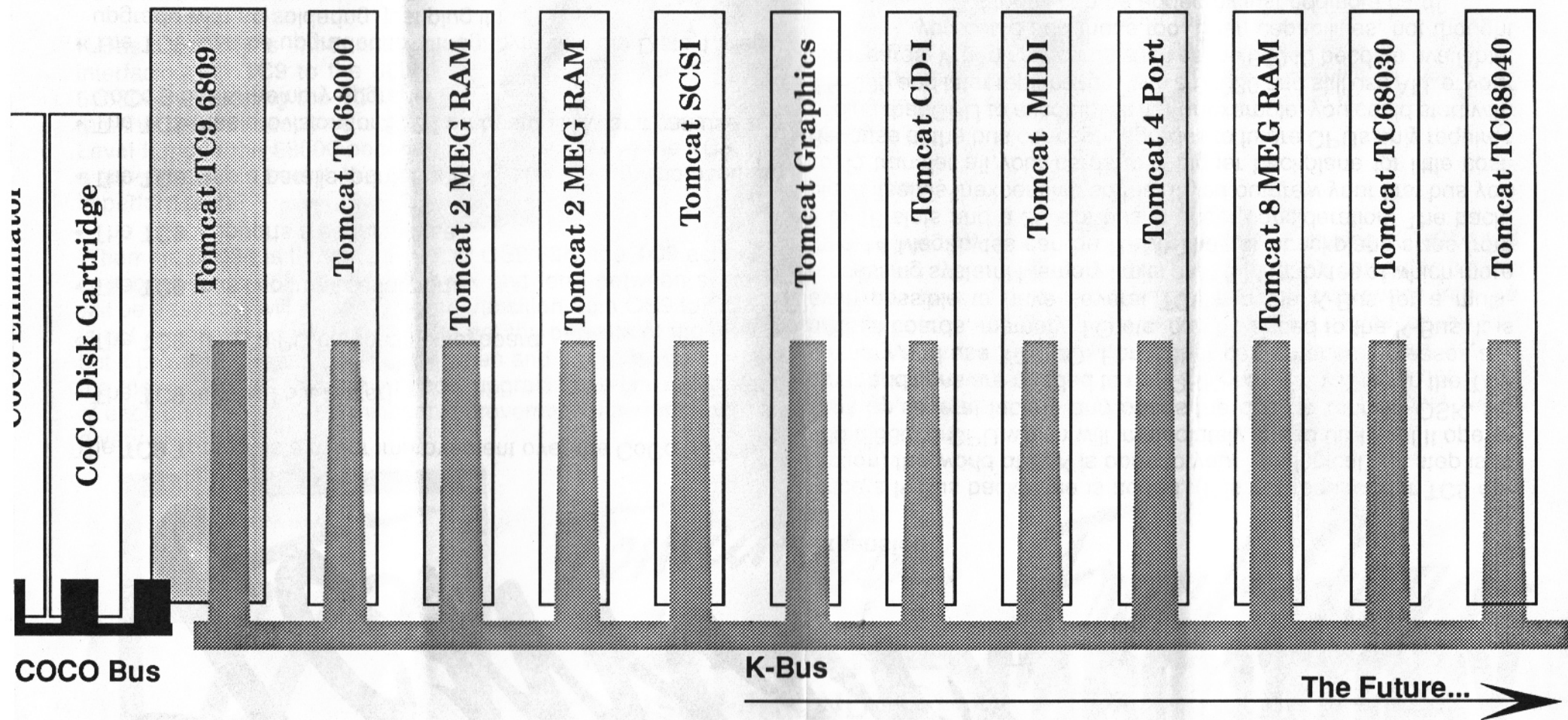
Tomcat™ by...

USER-FRIENDLY
SERVICE SINCE 1976!

Frank Hogg
LABORATORY
INC.

Imagine

Expanding without sacrificing your present hardware!



Like a bridge, the Tomcat gives us all an easy path from the present, to the future.

FRANK HOGG LABORATORY, Inc.

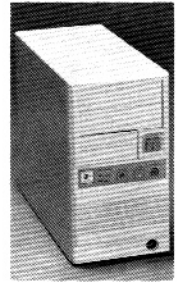


Tomcat Tower Case

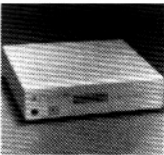
This case has provisions for 8 1/2 height drives and includes a 250 Watt Power supply. Front panel LEDs and switches using a special protected reset switch. Holds the 16 slot K-Bus and is perfect for the 68030.

Tomcat Mini Tower Case

This case has provisions for 4 1/2 height drives (2 5.25 and 2 3.5 inch) and includes a 220 Watt Power supply. Front panel LEDs and switches using a special protected reset switch. Holds the 8 slot K-Bus.

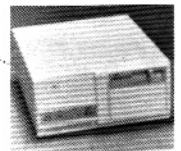


Tomcat Low Profile Case



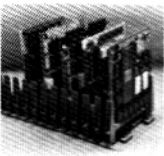
This case has provisions for 4 1/2 height drives (2 5.25 and 2 3.5 inch) and includes a 220 Watt Power supply. Front panel LEDs and switches using a special protected reset switch. Holds the 4 slot K-Bus and is the perfect starter for the TC9 Tomcat system.

Tomcat Desktop Case



This case has provisions for 4 1/2 height drives (3 5.25 and 1 3.5 inch) and includes a 200 Watt Power supply. Front panel LEDs and switches using a special protected reset switch. Holds the 12 slot K-Bus.

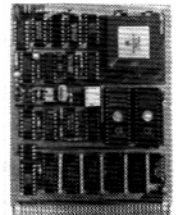
Tomcat 12 Slot K-Bus



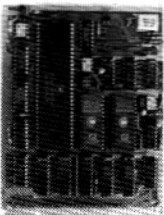
The K-BUS is a 16 Mhz, ZERO wait state bus based on 80 pin card edge connector with built in card guides and uses PC style power supplies. It has 3 modes of DMA. All lines are buffered on all boards. All boards have a select LED.

68030 16Mhz CPU

Supports the full range of 68000 bus cycle modes including 6800 VPA as well as DTACK. It has interrupt priority encoding and full buffering on all bus signals and supports the complete functions of DMA. ZERO wait states. LED turns on with select.



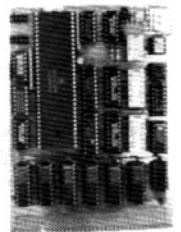
68000 10-16Mhz CPU



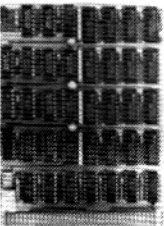
Supports the full range of 68000 bus cycle modes including 6800 VPA as well as DTACK. It has interrupt priority encoding and full buffering on all bus signals and supports the complete functions of DMA. ZERO wait states. LED turns on with select.

K-DMA

2 channel 8Mhz DMA using the MC68440. Includes provision for more than 1 DMA card on the bus. produces twofold speed increase for disk I/O. Selectable interrupt levels. LED turns on with select.



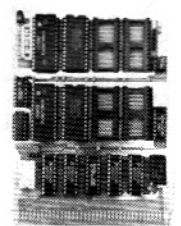
2 Megabyte DRAM



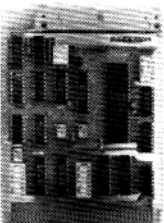
Selectable wait states. Refreshes when not selected for greater performance. The more processes, the less likely the need for refresh. Series termination on all memory address and control lines. Maximum of 7 (14 Meg DRAM) in system.

EPROM/STATIC RAM

Static RAM or EPROM - 256Kx8. (8 32Kx8 chips) 27256 EPROM style only. LED on select. The board can be populated in 64K chunks. Documentation included shows how a small board modification allows mixing RAM and EPROM on the same board in 64K chunks. Great for dedicated projects.



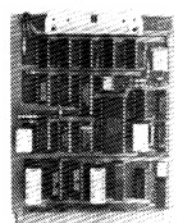
SCSI for Hard Disk & Tape



The SCSI board is full SCSI using the NCR controller that is used by Macintosh and others. It can be used without the DMA board for small systems. The DMA board can be added later to improve performance.

Floppy Disk Controller

K-FDC is a floppy disk controller for up to 4 drives of 720K using the WD1772. LED on select. Auto vector only. Fully addressable, 16 DIP switches at \$F-----. 4 switches for 0 to 15 wait states. Choose whether data request is done on DMA A, DMA B, or vectored inter-



FRANK HOGG LABORATORY, Inc.

Timer, Clock, RAM, Port



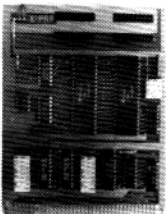
This card has a timer, a real time clock, 4K of CMOS battery backed RAM (expand to 64K) and a buffered PC style parallel printer port. The CMOS RAM can be used for OSK modules.

4 Port Serial Card



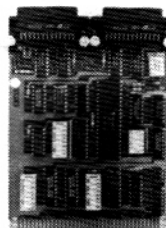
Full modem handshaking on all ports using the MC68681 DUART. Connectors are the popular modular 8 pin RJ-45. Just like a phone connector but with 8 pins rather than 4.

4 Port Parallel Card



4 parallel ports with pinout that is compatible with IBM PC Centronics printers. Selectable interrupt levels.

2 Port Serial Card



Full modem handshaking on all ports using the MC68681 DUART. Connectors are the popular DB-25.

K-Bus cards
not
pictured

IBM Interface and 8 slot PC bus plugs into the K-Bus and interfaces up to 8 PC style I/O cards. It has the ability to handle 8 devices with the same address. Does not allow PC RAM cards. **Prototype** card is for wire wrap prototypes with power and ground lines. (Both stock to 30 days)

Bus Monitor is a card with 64 LED's that show the state of the bus address and data. It includes a single stepping switch for the ultimate in debugging, teaching and learning the 68000. Available 2nd quarter 1990. **Hi-Res Graphics** uses its own RAM and includes a PC keyboard interface. Available 2nd quarter 1990. The following cards are being considered for manufacture. **CD-I Interface, 68040 CPU, MIDI/MUSIC, 8 Meg RAM..**

The Eliminator™ Features; fastest system available, 1 megabyte transfer in only 37 seconds!! More than twice as fast as other systems! Supports 4 floppy and 3 hard drives, type ahead (No halt) for both floppy and hard disk, autoboot OS9 L1 or L2 from hard or floppy disk, 2 serial ports, 1 parallel port and Real Time Clock socket. OS9 software for LI and LII with source. Will work with the Tomcat.

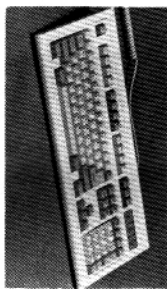
The Eliminator
Real Time Clock chip
Serial cable set (2 DB25)

159.95
30.00
30.00

WD1002_05 Controller
Floppy Cable Int & Ext
Parallel cable (Centronics)

199.95
25.00
30.00

The
Eliminator



This is the well know Chicony keyboard with key-click and 101 keys. It is FCC approved and one of the nicest feels of any keyboard I've used. It will work with either the new TC9 Tomcat or Bob Puppo's Keyboard adaptor for the CoCo 1, 2, or 3. **\$69.95**

The **keyboard adaptor** is actually a small 6802 based computer that translates the PC keyboard codes into ones the CoCo can understand. It simply plugs in where the CoCo keyboard goes and connects via alligator clips to power, ground and reset. Installation is minutes. Neat. The kit version is for experienced technicians only. **\$99.95**

Burke & Burke

B&B XT Interface 69.95
B&B XT RTC Interface 99.95
Controllers from 65.00
B&B Real Time Clock 30.00
B&B XT ROM Auto Boot 19.95
B&B Hyper I/O DECB 29.95
B&B Hyper III Ramdisk/spooler 19.95

SPECIFICATIONS: size 16" deep, 5.5" high, 7" wide. 60 Watt power supply with 3 drive type power connectors, quiet 12 volt DC fan, LED power indicator, color matches CoCo. Holds 2 1/2 height hard or floppy drives and has card guided space for a PCB the size of a drive (like the WD1002-05 controller) **\$89.95**

Hard Drive
Case

FRANK HOGG LABORATORY, Inc.

DynaStar OS-9/68k \$400.00
DynaStar OS-9 CoCo III \$150.00

DynaStar is a powerful, menu-driven screen editor equally suited to the tasks of program preparation and word processing. DynaStar features no-nonsense "what you see is what you get" editing. To edit, simply move the cursor where you want it, and type. Any printable character you type is entered directly into your text, and any non-printable control character is interpreted as an editing command and is executed immediately. It's that simple! Single keystroke commands move the cursor in any direction, by character, word, tab, line or screen full, and delete characters, words, or a whole line.

For programmers, there is an auto-indent mode. DynaStar permits editing of files larger than memory.

DynaStar has an optional help facility that you can turn on or off at will. When on, help menus are displayed at the top of the screen giving you a brief meaning for each command.

DynaStar includes a unique macro facility to let you define more powerful commands by converting any control character to a command/text string of your choice. You can use this feature to completely remap your keyboard if you don't like the way we did it, and you can provide a special "startup string" which is processed every time you enter the editor to customize the editor to your own taste.

DynaForm provides all the standard features including pagination, headers and footers, single, double, and multiple spacing, boldface, double-strike, and underline. DynaForm has its own macro facility with string variables, nested include files, FULL MERGE/PRINT facilities, and automatic generation of Index and Table of Contents.

DynaStar Wordprocessor

DynaSpell OS-9/CoCo \$59.95 (Includes 102K Dictionary)
\$20.00 when purchased with DynaStar

DynaSpell is simple to use and easy to understand. DynaSpell finds your spelling errors fast and lets you check your text several ways. DynaSpell works by checking your text against its three separate dictionaries comprising over 22,000 words: the main dictionary, the dictionary unique to your profession and the common word dictionary. It then tells you the exact number of words it has found which do not appear in any of the three dictionaries and then asks you what you would like to do. Your selection can be made by simply typing a one letter response corresponding to the function you would like to use.

DynaSpell Spelling Checker

The WIZ
COMMUNICATION

Wiz CoCo OS9 Level II \$79.95

Wiz is a communication program. It makes extensive use of the windowing capability of the OS9. Wiz features: Interrupt Driven - Wiz operates at up to 19.2k baud, Print Through, Conference Mode, Retro Print, Retro Snap, Autologging, Disk Upload, on-line Help, Xmodem, X-on/X-off, Macros, Usage Log keeps track of your on-line time for each host, VT52 Emulation.

Wiz will upload and download files to the host, as well as normal interactive terminal operation. A line of nearly any length can be received without loss of characters. Disk lines may be 255 characters long on download and upload. Longer lines can be downloaded using the Wiz snapshot capability.

Fbu OS-9/68k ~~\$150.00~~ \$50.00
Fbu OS-9 CoCo ~~\$150.00~~ \$35.00

Fbu is a high performance floppy backup system. Fbu is optimized for backing up from a hard disk to floppy disks. at maximum speed using a minimum number of floppies.

Fbu automatically combines all the files you tell it to backup into one large "stream." This "stream" not only contains the data from the files, but also the file names and directories, the original attributes, owner, and date information, and a CRC check to verify that the file is restored properly. Fbu uses as many floppy disks as required and prompts you to insert new disks, and allows you to format a disk.

FBU
Fast Hard Disk backup

PC Utility

PC Utility OS-9/68k \$99.95

The PC Utility lets you copy files between OS-9 /68K and MS-DOS/IBM PC and clones. It permits standard 5 1/4" or 3.5" floppy disks to be used to transfer data either from OS-9 to PC DOS or from PC DOS to OS-9. The PC Utility reads, writes and formats IBM style disks in 360K or 720K. It can read, write, and delete files on a PC-DOS disk, make and delete subdirectories, list directory contents, and format disks. All file names and operation directives are entered via the OS-9 command line. File input and output may be directed from and to the standard input and output files of OS-9, easing its use in command line pipe sequences.

FRANK HOGG LABORATORY, Inc.

COMPUTER PRICE LIST

March 1, 1990

ENCLOSURES

| | |
|--|----------|
| Low Profile for TC9 - 4" high holds 2 5.25 and 2 3.5 drives, 220W PS | \$179.95 |
| Mini Tower for 8 slot K-Bus, 2 5.25 and 2 3.5 drives, 220W PS | 199.95 |
| Desktop for 12 slot K-Bus, 3 5.25 and 1 3.5 drive, 200W PS | 199.95 |
| Big Tower for 16 slot K-Bus, 8 1/2 drives, 250W PS | 399.95 |
| System installation charge from | 200.00 |

QT BASED PRODUCTS

| | |
|---|-----------|
| QT 20x 68020 Single Board Computer, Professional OS9/68020, BASIC | \$2199.95 |
| 2M4P 2 MegaByte RAM, 4 Serial Ports (for QT 20x) | 799.95 |
| UIO 4 Port Serial, 4 Port Parallel (for QT 20x) | 189.95 |
| XAB2 Adaptor to allow use of QT 00x I/O devices on QT 20x | 89.95 |
| QT 00x 68000 Single Board Computer, Professional OS9/68000, BASIC | 1329.95 |
| QT MemExp 512 KByte RAM (for QT 00X) | 299.95 |
| CLK Real Time Clock Module with battery (for QT 00X) | 59.95 |
| EPROM Programmer (for QT 00X) | 299.95 |

K-BUS BASED PRODUCTS

| | | |
|--------------|--|------------------|
| K-BUS | 4 SLOT BUS | \$59.95 |
| K-BUS | 8 SLOT BUS (Under Development) | |
| K-BUS | 12 SLOT BUS | 189.95 |
| K-BUS | 16 SLOT BUS | 289.95 |
| K-CPU-030 | 68030 CPU 16MHZ | 799.95 |
| K-CPU-68K/10 | 10 MHZ 68000 CPU Board | 189.95 |
| K-CPU-68K/12 | 12 MHZ 68000 CPU Board | 219.95 |
| K-CPU-68K/16 | 16 MHZ 68000 CPU Board | 269.95 |
| TC9 TOMCAT | 6809/Multi-I/O/Color Graphics | 299.95 (2nd 1/4) |
| K-MATH-0 | MATH CoProcessor less chip | 89.95 |
| K-MATH-81 | MATH CoProcessor with 68881 installed | 299.95 |
| K-DRAM-0 | 2 MegaByte Dynamic Memory (no memory chips) | 299.95 |
| K-DRAM-2M | 2 MegaByte Dynamic Memory 80NS Chips | 499.95 |
| K-MEM-0K | 256K Static RAM or 27256 Type EPROM (64K Blocks) | 89.95 |
| K-TIMER | Timer, Battery RTC/RAM, Parallel Printer Port | 149.95 |
| K-DMA | 2 Channel DMA (68440) | 189.95 |
| K-SCSI | SCSI Controller (5380) | 149.95 |
| K-FDC | Floppy Disk Controller (1772) 4 drives | 149.95 |
| K-ACI | 2 Port Async Serial (68681) | 149.95 |
| K-ACI4 | 4 Port Async Serial (68681) | 249.95 |
| K-PAR | 4 Port Parallel Interface (6821) | 149.95 |
| K-BUSMON | Bus Monitor with LED's and Single Step Switch | 189.95 |
| K-PROTO | General Purpose Wirewrap | 59.95 |
| K-GRAPHICS | Hi-Res Color Graphics with PC Keyboard Interface | (2nd 1/4) |

SOFTWARE PRODUCTS

| | | |
|----------------|--|----------|
| OS9/68000 | Includes Editor, Assembler, Debugger, Scred | \$249.95 |
| BOOT-ROM SET | Required for OS9 | 50.00 |
| PC-DOS UTILITY | Utility to Read/Write/Form:at PC-DOS under OS9 | 99.95 |

FHL reserves the right to change prices and specifications without notice

Delivery: Stock to 30 Days

Terms: Payment with order in U.S. Funds Check, VISA, MC (AMEX & DINERS add 5%)

Shipping/Handling: \$8.00 Per Order (UPS Ground), Foreign and Air Extra