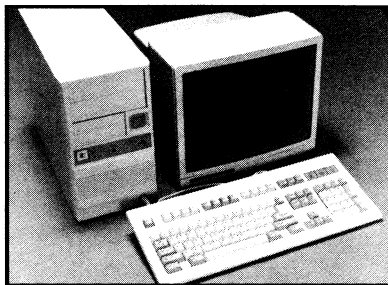# FHL Catalog '91

Why I think the Tomcat is the best choice for you?

I've been involved with OS9 and OS9 based computers since its inception in 1980. Ken Kaplan asked me to help support OS9. Back then OS9 was at Level I, actually this was version 1.0 because Level II didn't exist yet, so no reason to call it Level I. Anyway, Ken approached me at the Computer conference in Philadelphia in 1980 and did a pretty good job of selling me on the virtues of OS9. I've been hooked ever since! For 4 years after that we did software for OS9. In 1984 Mike Smith of Hazelwood Computers approached me with a new product that he and Dave Bridger had created, the UniQuad 68008 single board computer. Mike wanted me to use the UniQuad as the basis for a computer.

I took one look and decided to do it. We were very quick to bring it to market by using off the shelf cabinets and some very clever packaging. We introduced the QT and it was an immediate success. The QT was quickly followed by the QT Plus, the QT 20 and the QT 20x. All of these were based on single board computers that had limited expansion ability. That is why in 1987 I came up with the idea of doing a low cost bus based computer system. The K-Bus was born thanks to Mike and Daves engineering skills. When it came time to do a CoCo 4, it was obvious to me that making it work with the K-Bus would be the answer to future expansion into the 68000. Thus was born the Tomcat TC9.

The TC9 took far longer to finish than any previous computer I've done because of the complexity of marrying a 8 bit CoCo to a 16 bit 68000. We went thru 4 design stages. This work was done by Bob Puppo with the help of just about everybody in the CoCo community offering advise.

During this time I also worked with Mike and Dave to create the TC70 which also had an influence on the TC9. We ended up developing two computers at the same time! Well, to make a long story short they are both finished now and they offer the best in compatibility, performance, expandability, flexibility and low cost of any system on the market. By taking and packaging different combinations of boards and enclosures we can make just about any computer system needed. This flexibility allowed us to create the most inexpensive 68000 based computer yet, the Tiger. The Tiger marries a TC9 with a 68000 CPU thru the K-Bus to allow the 68000 to use the TC9s peripher-

als, thus lowering the cost. Of course it's expandable thru the K-Bus for even more power.

We couldn't put a 68000 in a CoCo because the CoCo does not have the design flexibility. However the TC9 was made for it because it has the K-Bus. With the Tiger you can begin to see the cost advantages of doing the Tomcat system. It costs a little more in the beginning because of the K-Bus support, but because it is there, adding a 68000 is very easy and cost effective. The Tomcat system is slick because it allows these and other possibilities for the future.

There is nothing like it in the world! Over the coming year we will be telling you more of the design capabilities of the Tomcat.

In this catalog we cover many of the design options for the Tomcat. Check it out, I think you'll like it.

Frank Hogg

Frank Hogg Laboratory
204 Windemere Road
Syracuse NY 13205

TC9 PRODUCT INFORMATION...
The CoCo 4 that Tandy *should* have made!

The **TC9 Tomcat** is the **ONLY** computer that will use your existing hardware AND software!

TC9 Tomcat is the affordable, logical upgrade path for your CoCo 3. And it is from a company which has a long and proven track record in the CoCo market -- Frank Hogg Laboratory, a leader in the Color Computer market since its inception. FHL has been in business since 1976 and has manufactured computers for more than six years. We have served many users since we started. Some of the more recognizable ones are: 3M, AT&T, ADP, AC, Air Canada, Allied, Autolite, Bell Aerospace, Bell & Howell, Boeing Airplane, Capitol Video Comm., Delco, Eastman Kodak, Fairchild Space Company, Fermilab, Firestone Tire & Rubber, Ford Aerospace, Ford Motor Co., GM, General Dynamics, GE, GMC, GTE, Hoffmann-La Roche, Honeywell, International Paper, McDonnell Douglas, Microware Systems, Monsanto, Motorola, NASA, Naval Weapons Center, Northern Telecom, NYS DOT, Okidata, Perkin-Elmer, Principal Group, RCA, Robertshaw, TRW., Texaco, Union Carbide, Unisys, US Info Agency, Pratt & Whitney-Canada, Western Electric, Wright Patton AFB, Universities of... Notre Dame, Nevada, So. Cal., Mo., NC, Montreal, Alberta, Ark., Calif., Kansas, Maryland, Mich., Pa., and Yale, to name just a few. **As an FHL customer, you are in very good company.**

This is the new Color Computer Tandy should have built!

And it is *your* computing answer for the 90's.

What the **TC9 Tomcat** is and why it should be your next computer.

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

The **TC9 Tomcat** is 100% compatible with all your present CoCo hardware AND software* with no modifications necessary.

The **TC9 Tomcat** supports 1 megabyte of on-board RAM!

The **TC9 Tomcat** has two real serial ports.

The **TC9 Tomcat** has one real parallel port.

The **TC9 Tomcat** has 33% better sound and joystick resolution.

The **TC9 Tomcat** has an internal speaker.

The **TC9 Tomcat** has a PC style power supply.

The **TC9 Tomcat** uses a 101 key detached AT keyboard.

The **TC9 Tomcat** comes in a stylish enclosure that will hold all your cartridges and drives, imagine, no more messy wires!

What is *significantly* important is that you can use all of your present software with the **Tomcat**! Right. You don't have a major expenditure for new software.

The Software Advantage

Your new **Tomcat** is compatible with Radio Shack DOS. It will run all of the programs you use every day. As an OS-9 machine as well, it will also work with all OS-9 software you either own now or plan to buy in the future. All of your CoCo cartridges like those from Disto and Burke & Burke and ROMpaks will work with your new **Tomcat** as well.

But there are even greater advantages to the **Tomcat** system -- and an affordable path to upgrade your CoCo without losing *any* of the value you have in your CoCo system today.

Tomcat is also compatible with the FHL K-Bus, which means you can interface it to a 68000 CPU, or even the 68030. While that sounds very technical, the truth is it is as easy as plugging in a couple of boards. You do NOT need to have a 68000 to use your **TC9 Tomcat,** but you CAN when and IF you want to. And once it is done, the **Tomcat** becomes just like two computers in one -- your own, reliable (but faster and more powerful) CoCo, and a 68000-based computer which will run OS-9 programs 30 times faster than before.

Most important to you, this is upgrading without throwing anything away! All of your present software will work. All of your cartridges, disk drives, printers will just connect into place. New horizons open with new software and new boards which will make your own CoCo continue to be your cost-effective, friendly helper and companion as computing moves into the 90's.

The **TC9 Tomcat,** designed for the future... built for today!

Tomcat

A — System A $549.95

The **A System** includes: The TC9 board set with 2 serial ports, 1 parallel port, D to A, A to D, Autoboot OS9 EPROM, Etc. Disk with OS9 software, 512K RAM, Mini Tower case, 200 watt power supply and all internal cables.

Only requires an AT style keyboard and a RGB or composite monitor, your floppy drive 0 system plus your OS9/Level II for operation.

B — System B Plus Floppy Drive 0 $779.95

The **B System** includes all of the A System plus a drives zero floppy system consisting of a Disto Super Controller II (No halt) and a Teac double sided 40 track drive.

Only requires an AT style keyboard and a RGB or composite monitor plus your OS9/Level II for operation.

C — System C Plus Floppy Drive 0 and 20 Meg Hard Drive $1169.95

The **C System** includes all of the B System plus the Disto SASI card and a 20 meg Segate SCSI hard drive mounted in the case. *(Also available with Burke & Burke or Eliminator interfaces, call for price)*
Only requires an AT style keyboard and a RGB or composite monitor plus your OS9/Level II for operation.

D — System D Plus Everything $1649.95

This **D System** adds to the C System the Magnavox 1CM135 RGB Color monitor, AT 101 key keyboard, and the 1 meg upgrade. Complete and ready to go.

Only requires your OS9/Level II for operation.

Options for Tomcat TC9

Keyboards/Mice for TC9/TC70	
AT 101 key keyboard	$69.95
Delux version	79.95
with serial Trackball	119.95
Serial Mouse	59.95
Monitor	
Magnavox 1CM135 RGB	298.00
Drive Systems for TC9	
Drive Zero System DS 40 Track	219.95
Drive Zero System w/Super II DS 40T	249.95
Drive 1 40 Track	99.95
Hard Drive Systems for TC9	
20 Meg add to Drive Zero	390.00
30 Meg add to Drive Zero	430.00
42 Meg add to Drive Zero	490.00
20 Meg B&B System (Req. Slot-Pak III)	340.00
30 Meg B&B System (Req. Slot-Pak III)	380.00
40 Meg B&B System (Req. Slot-Pak III)	440.00
Slot-Pak III	94.95

External Cables for TC9/TC70	
CM8 Cable adaptor	19.95
DB9 to DB25 Modem cable	19.95
DB9 to DB25 Terminal cable	19.95
Printer DB25 to Centronics	29.95
Case Options for TC9/TC70	
Mini Tower case with 200 Watt P/S	159.95
Big Tower case with 250 Watt P/S	299.95
TC9 Board only	
TC9 2 Board Set ZeroK w/OS9 Drivers	349.95
Memory for TC9	
512K (2 - 256X8 SIMMS)	59.95
1 Meg RAM (2 SIMM + DAT)	109.95
DAT Board only	59.95
K-Bus Options	
2 Slot Bus (for The Tiger)	39.95
6 Slot Bus (for Mini Tower)	149.95
16 Slot Bus (for Big Tower)	289.95
See Order Form For Other Options	

TC70 PRODUCT INFORMATION...

Frank Hogg Laboratory is pleased to announce the **TOM-CAT TC70**, the 68K computer of choice for Tomcat/Color Computer/68K users.

The TC70 is the latest in our line of K-Bus compatible products, providing the greatest flexibility and expansion for the OS9/OSK community.

The TC70 is a stand-alone system that can also be used with the TC9 Tomcat for complete OS-9 Level 2 compatibility. It is fully expandable via the K-Bus to 11.5 megabytes of RAM and 60+ ports and is the lowest cost of any system available. The TC70 in conjunction with the TC9 provides both CoCo compatibility as well as OS9/68K. The Tomcat is the most flexible and expandable of any computer system available today.

The TC70 has 50% more built in RAM, a better AT keyboard interface, is more cost effective, and is more standard with K-Bus compatibility than other 68070 based single board computers announced or on the market.

The Technical Specs ---------

Signetics 68070 CPU (Motorola 68000 compatible) at 15 MHz

1.5 MB RAM (1,536K)

Memory upgradeable to 11.5 MB via K-Bus

Graphics resolution from 320x200 to 720x540 (interlaced)

From 16 to 256 colors on-screen, depending on resolution mode

Two serial ports expandable to 60 via K-Bus

PC keyboard port for 101-key AT-style keyboard

RGB-Analog output for CM-8 Style monitor and RGB TTL for PC monitors

OS9/68K Professional Version with C, Basic, FBU, fu, and QCom included. Includes windows.

Direct Memory Access (DMA) floppy disk controller

DMA SCSI host adapter built in for hard drives and tape backup

K-Bus compatible

TC9 compatible (CoCo 3)

8-bit D to A port

8-bit port A to D (CoCo joystick)

1 parallel port for parallel printer expandable to 60 via K-Bus

Serial mouse port

Real-time clock

CPU -----------------------------

The Signetics 68070 is a Motorola compatible CPU running at 15 MHz

I/O Support ---------------------

The PC keyboard port is designed for standard AT-style keyboards. The AT-style keyboards are available in a better quality than XT keyboards and also provide bi-directional control of the keyboard LEDs from the computer. This way CAPS lock etc can be tied into each window.

Floppy disk controller is included at no extra charge. Supports both 3.5 and 5.25 drives 360k/720k/1.2/1.4 meg and ALL OS9-OSK disk formats including CoCo, Mizar, Atari, Motorola etc etc. Also supports our PC Utility for using PC DOS disks.

Our SCSI drivers, proven by over 6 years of use supports all SCSI hard drives, tape drives and most SASI/SCSI controllers including OMTI, Adaptec, Western Digital etc.

Software support -------------

Microwares OS9/68000 Professional version with C and BASIC is included. Our port of OS9/68K is a mature port with over 6 years of proven reliability. Additional utilities only available for the Tomcat system extend OS9/68K to the utmost. Also included is FBU, QCom, fu and a windowing enviroment.

Expansion -----------------------

The TC70 can be expanded with over 20 K-Bus cards.

Physical specs ------------------

The TC70 is 5.75 X 8.5 (The same size as a 5.25 disk drive) and has mounting holes that allow mounting to a 5.25 drive. This allows very flexible mounting. The TC70 will fit in and is an upgrade to the QT, QT Plus and QT 00x. The TC70 also mounts in the K-Bus and will work with the TC9 board and other K-Bus cards.

Availability -----------------------

The TC70 is available NOW! Stock to 3 weeks.

ORDER YOURS TODAY!!

Tomcat

E — System E — $1499.95

The E System includes: The TC70 board with 2 serial ports, 1 parallel port, D to A, A to D, Autoboot OS9 EPROM, Etc. 3.5" dual density disk drivewith Professional OS9/68000 with Basic and C plus other software, 1536K RAM, Mini Tower case, 101 Key AT keyboard, 200 watt power supply and all internal cables. Plus more.

Only requires an RGB monitor for operation.

F — System F Plus 40 Meg Hard Drive — $1999.95

The F System includes all of the E System plus a 40 Meg Hi-Speed hard drive with 12 MS step. Includes over 10 Meg PD software on the disk!

Only requires an RGB monitor for operation.

G — System G Plus 100 Meg Hard Drive — $2249.95

The G System exchanges the F System 40 Meg hard drive with a 100 Meg hi-speed drive

Only requires an RGB monitor for operation.

H — System H Plus 100 Meg Hard Drive and RGB Monitor — $2549.95

This H System adds to the G System the Magnavox 1CM135 RGB Color monitor

Complete and ready to go.

Options for Tomcat TC70

Keyboards/Mice for TC9/TC70

AT 101 key keyboard	69.95
Delux version	89.95
with serial Trackball	119.95
Serial Mouse	59.95

Monitor

Magnavox 1CM135 RGB	298.00

Floppy Drives for TC70

80 Track 720K/1.4 Meg 3.5" drive	89.95
80 Track 720K/1.2 Meg 5" drive	99.95
40 Track 360K	99.95

Hard Drive Systems for TC70

40 Meg Hi-Speed 12MS	500.00
100 Meg Hi-Speed 12MS	750.00

Case Options for TC9/TC70

Mini Tower case with 200 Watt P/S	159.95
Big Tower case with 250 Watt P/S	299.95

External Cables for TC9/TC70

CM8 Cable adaptor	19.95
DB9 to DB25 Modem cable	19.95
DB9 to DB25 Terminal cable	19.95
Printer DB25 to Centronics	29.95

TC70 Board only

TC70 Board w/OSK/Prof., C, Basic etc.	1099.95

Memory for TC70

2 meg 0K	149.95
2 Meg populated	299.95

K-Bus Options

|	
6 Slot Bus (for Mini Tower)	149.95
16 Slot Bus (for Big Tower)	289.95

See Order Form For Other Options
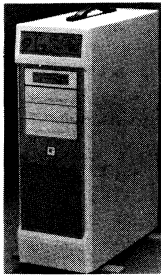
Tomcat Tower Case

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. $299.95

Tomcat Mini Tower Case

This case has provisions for 4 1/2 height drives (2 5.25 and 2 3.5 inch PLUS 1 3" Hard Drive) and includes a 220 Watt Power supply. Front panel LEDs and switches using a special protected reset switch. Holds the 6 slot K-Bus. $159.95 (7" wide X 14" deep X 16" High aprox)
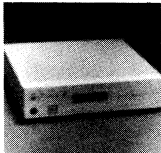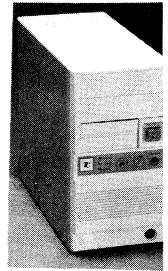
Tomcat Low Profile Case

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. $179.95

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. $179.95
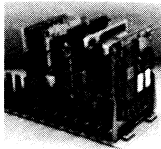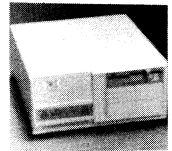
Tomcat 12 Slot K-Bus

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. $189.95

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. $799.95
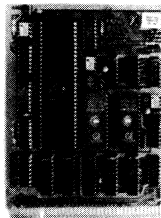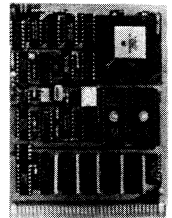
68000 10-16Mhz CPU

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. $189.95 - 289.95

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. $189.95
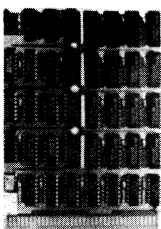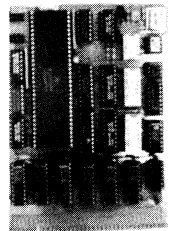
2 Megabyte DRAM

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. $299.95 (149.95 Zero K)

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. $89.95 Zero K
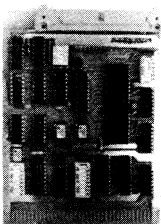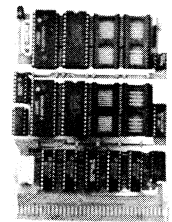
SCSI for Hard Disk & Tape

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. $149.95

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 interrupt. $149.95
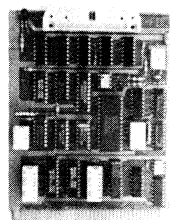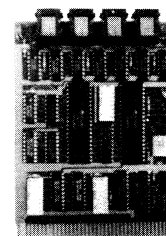
Timer, Clock, RAM, Port
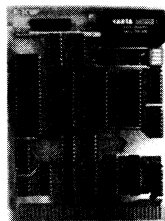
This card has a timer, a real time clock, 4K of CMOS battery backed RAM (expand to 64K) and a buffered PC style parallel printer port. The CMOS RAM can be used for OSK modules. $149.95
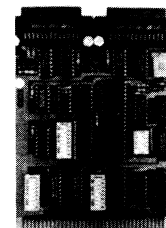
4 Port Serial Card

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. $249.95

4 Port Parallel Card
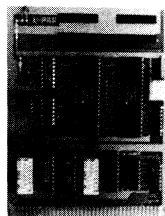
4 parallel ports with pinout that is compatible with IBM PC Centronics printers. Selectable interrupt levels. $149.95

2 Port Serial Card

Full modem handshaking on all ports using the MC68681 DUART. Connectors are the popular DB-25. $149.95

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. Available by special order only. **Prototype** card is for wire wrap prototypes with power and ground lines. $59.95 (Stock) Cards not yet available...
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. **Hi-Res Graphics** will use its own RAM and includes a PC keyboard interface. The following cards are being considered for manufacture. **CD-I Interface, 68040 CPU, MIDI/MUSIC, 10 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

The Eliminator	119.95	WD1002_05 Controller	299.95
Real Time Clock chip	30.00	Floppy Cable Int & Ext	25.00
Serial cable set (2 DB25)	30.00	Parallel cable (Centronics)	30.00
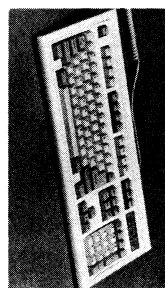
This is the well know Chicony keyboard with key-click and 101 keys. It is FCC approved and one of the nicest feels of any keyboard I've used. It will work with either the new TC9 Tomcat or Bob Puppo's Keyboard adaptor for the CoCo 1, 2, or 3. **$69.95**

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. **$94.95**

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

Multi-tasking, Multi-user OS-9/68000 for Macintosh Computers

Permits an otherwise single-tasking Macintosh to become a *Macintosh system*, supporting concurrent multiple tasks, multiple devices, and multiple users. The Macintosh operating system and the OS-9 operating system interact smoothly to provide the best of both worlds.

Apple's Macintosh operating system represents state-of-the-art perfection for the graphical user interface. Microware's real-time, multi-tasking, multi-user operating systems. UltraScience married them to create a Macintosh system with the power and features so much in demand. The two operating systems are fully intact, run concurrently, and interact smoothly. OS-9 has access to Macintosh devices, files, Toolbox commands, Quick-Draw commands, and Apple-Talk.

Enhanced with OS-9, Macintosh displays can be made up of hundreds of truly multi-tasking, interrupt-driven processes, which use no system time until their function is required - ideal for applications that sense and control. A single Macintosh computer can support many OS-9 users or devices, while the Macintosh display runs Macintosh applications - the perfect mix for small to intermediate scale installations. The possibilities are incredible!

OS-9 has advanced features not provided by the Macintosh operating system or the Apple UNIX environment. It has a dense core that operates in less than 150K of RAM with exceptional functionality; hardware independence; reentrant, position - independent memory module design; preemptive task switching with time-share option, a "crash proof" file system, and much more. Languages for OS-9 include: ADA, C, BASIC, FORTH, FORTRAN, MODULA-2, MUMPS, and PASCAL. OS-9 databases range from specialized varieties to popular 4GL-SQL, general purpose products. An extensive collection of UNIX tools and utilities makes it easy to convert UNIX software to take advantage of the greater speed, efficiency, and portability of OS-9. Excellent universal automation and productivity software is designed with intuitive menus and on-line help. The selection of ready-to-go applications and productivity software is diverse and continues to expand rapidly.

If you are an OS-9 or Compact Disk Interactive developer, you will enjoy working in an OS-9 Macintosh environment. By using multiple windows on the Macintosh display, you can edit several different source and definition files while you are compiling and running your code. Debugging is easier, because you can have multiple disassembly and dump windows open at once. When it comes time to write manuals, you can run the application you are documenting, grab screens, compare texts, and write in different windows.

To get started, all you need is a Macintosh. OS-9 software installation is essentially automatic and usually requires under 15 minutes. As soon as the software is installed, you will have access to both OS-9 and the Macintosh operating system from your monitor.

As you expand, you can use the serial ports on your Macintosh, including expansion ports, to connect video display terminals, other personal computers, bar-code readers, cash registers, business machines, robots, laboratory instruments, printers etc. Data can be shared by multiple programs, and different ports can share the same copy of a program or run entirely independent programs. OS-9 is designed to excel in complex operating environments.

A Macintosh loaded with OS-9 packs plenty of punch for the majority of small to intermediate scale installations.

Support is always an important issue. The presence of OS-9 will not alter your existing Macintosh warranty or support.

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Combining the power of Motorola's immensely successful 68K processor chips with Microware's world-renowned multi-user, multi-tasking, real-time OS-9 operating system has made it possible to create robust, high-performance computers which rank among the most successful ever produced. The PC68K1 is an excellent example of this technology. Full-featured and equipped with a bi-directional parallel port and up to 12 serial ports, it is a quality, highly-efficient Motorola 68K computer which will enhance any PC, XT or AT (286, 386 or 486) IBM-style computer (even lap-tops) to become a multi-user system running OS-9 side by side and concurrent with DOS. OS-9 and DOS can share the personal computer's drives, monitor, and ports. OS-9 can access DOS files and DOS can access OS-9 files. OS-9 can spawn DOS programs, and DOS and OS-9 programs can communicate with one another.

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DynaStar OS-9/68k $200.00
DynaStar OS-9 CoCo III $100.00

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

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

Wiz CoCo OS9 Level II $59.95

The WIZ COMMUNICATION

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

Super Sleuth - OS9 $50 - OSK $100

SUPER SLEUTH

Super Sleuth is a collection of programs which enable the user to examine and/or modify binary program files on disk or in memory on OS-9 systems. Programs may be disassembled into source code format and the source may be displayed, printed or saved on disk. Labels produced by Sleuth can be changed globally to labels of the user's preference.Cross - reference listings of labels in any Motorola assembler - formatted source file may be produced to aid in debugging or modifying the program. Programs in ROM may be altered with the revised program being saved on disk; the resultant program could then be used to program a new ROM.

IMS - OS9 $169.95 OSK $399.95

Information Management System

IMS is a powerful and flexible database and application development system for OS-9. Programs can be developed in 20-30% of the time required by languages such as C or BASIC. IMS was designed to make it easy to create business applications and manipulate large volumes of data. IMS is excellent for accounting programs, mailing lists, inventory /invoicing - any application that depends on efficient data storage.

The IMS development system includes everything you need to start developing applications. You get the executive menu, run-time interpreter, program compiler, database generator, report generator, interactive environment, text editor and utilities. The non-technical user can quickly create databases, screen forms, and reports without programming by utilizing the built-in program generators. Also included is a complete tutorial to get you up to speed in as short a time as possible.

Facets Descriptions

S/R CRON - $50.00
Similar to the UNIX V at program, S/R CRON permits you to set up a list of functions to be performed automatically by the system at the time(s) you specify. You may set functions to execute once, or periodically, at a particular time-of-day, day-of-week, or month-of-year. There is no limit to the number of operations you can queue up, and they can be established for as long as a year into the future.

S/R CURSES - $50.00
S/R CURSES is a windowing terminal interface which provides a superset of UNIX V curses for OS-9. S/R CURSES takes most of the drudgery out of writing programs with extensive screen enhancements. It also provides the terminal independence so important to marketing software products into mixed terminal environments. S/R CURSES terminfo modules contain parameters for different types of terminals. An option for permits developers to make use of pop-down menus and desktop accessories from within their applications.

S/R FILTER - $150.00
Translates the input and output data between an application and terminals, using an unlimited number of translation tables. S/R FILTER "fixes" pre-S/R CURSES applications so that function keys and screens can operate with terminals other than those for which the application was originally written. It can be used to enhance or customize the operation of an application; function keys can be added or re-arranged and screen display enhancements can be altered. Translation tables are easily created and modified with any editor.

S/R MENU - $100.00
MENU is the quickest way to establish a friendly interface between yourself and the OS-9 system. Easily edited script files permit: nesting of sub-menus, titling, bordering, choice of prompt test, positioning and display enhancement (including color) of menu items, selection of "escape" key, selection of menu trigger keys (more than one can be used for each item; i.e., number of item or first letter of text), programs to be run, etc.

S/R SHELL - $450.00
The Bourne Shell is largely responsible for the current success of UNIX. It is a well established, command processing language; complete with wildcarding, variables, pipelines, redirection, tests, structured conditionals, operators, backticks, etc. Ultrascience adapted the Bourne Shell for OS-9. Powerful and easily learned, S/R SHELL should be a part of every OS-9 system.

S/R WINDOWS - $175.00
WINDOWS greatly enhances multi-tasking on a single terminal. Multiple tasks can be started in foreground from a single keyboard (new tasks can be started at any time). A "Hot key" and unique window menu, which lists all active windows and displays a sample of the activity at each window's cursor, make S/R WINDOWS the most practical and easily mastered windowing software for OS-9. S/R WINDOWS is the perfect way to take advantage of OS-9's powerful multi-tasking capabilities in an office or development environment.

S/R XDIR - $225.00
Provides an interactive graphic display of your files and directories. It displays multiple files and directories; you can walk along any directory path and get an instant view of the files in the directory. S/R XDIR will optionally display file attributes such as size, owner, date, e/r/w flags, etc. Searches for files based on a wild-card, "regular" expression can be made recursively and/or within selected directories. Files and directories can be marked and then used as input to any OS-9 shell command. A special mode of S/R XDIR makes it behave like the UNIX find, so that filename matches can be used as standard input in a pipeline command.

**S/R FACETS GROUP PRICE
(Includes all the above) $950.00**

S/R Utilities Descriptions

S/R CPIO - $175
Cpio converts OS-9 files to and from CPIO format.

S/R FAR - $220
Supports 5 compression and decompression programs: S/Rarc, SEAarc, PKzip, LHarc and Stuffit. The S/Rarc algorithm, optional OS-9 optimization enabled, yields an average compression of 54%. S/R FAR can be run from the command line or convenient menus with on-line help. The user can encrypt text with a user-defined password, and compression can be disabled for special circumstances. S/R FAR will archive directories as well as files. Files can be listed, added, moved or deleted from the archive. Archives can also be written to decompress and install themselves when "run".

S/R FILEFIX - $175
Removes the bad block(s) from a file and "splices" in new, good block(s), allowing the data beyond the bad blocks to be accessed. New blocks are filled with nulls. The location of any spliced block(s) is provided by S/R FILEFIX.

S/R HASHER - $50
Creates a unique hash code for a file. There are versions of S/R HASHER for OS-9, DOS, and MAC, so that files can be verified on a given system and as they are moved between systems.

S/R MACTERM - $200
MACTERM is MAC software which permits a Macintosh personal computer to be "hot keyed" back and forth between a MAC screen and OS-9 terminal emulation. Hardware connection is established through the modem or printer port. S/R MACTERM permits the transfer of files between the OS-9 system and the MAC system.

S/R PCTERM - $200
PCTERM is DOS software which permits an IBM-style personal computer to be "hot keyed" back and forth between a DOS screen and OS-9 terminal emulation. Hardware connection is established through a serial COM port. S/R PCTERM permits the transfer of files between the OS-9 system and the DOS system.

S/R SPOOL - $250
SPOOL utilizes convenient menus to provide exceptionally flexible control of printing tasks for the most demanding multi-user environments. The user can kill, pause, resume, or restart any job on the spooler queue display menu, which is continually updated with file size, percentage completed, current line and page number, printing status, file owner, form type, and job title. Print options include: detailed header pages, notification of completion by S/R E-Mail, forms control, number of copies, printing priority, lines per page, page range, file deletion after printing, etc.

S/R TAR - $175
TAR converts OS-9 files to and from TAR format

S/R TRANSLATE - $175
TRANSLATE facilitates the translation of data, using easily edited input and output translation tables. ASCII and EBCDIC tables are provided.

S/R UTILITY GROUP PRICE (Does not include PCTERM or MACTERM) $885.00

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TOMCAT
Questions and Answers.
Updated 4/17/91

TC9 INFORMATION

Q: Would I be able to plug the Multi-pak from my CoCo 3, with Disto II floppy controller, Burke & Burke HD interface & RS232 pak and just plug the works into the TOMCAT?

A: Yes, because the TC9 has the same CoCo Bus everything will work. You may not want the RS-232 pak anymore because the TC9 has 2 RS232 style ports on it. You could just use the Y-Cable for the Disto and B&B interface.

Q: What kind of video resolution does the TC9 have?

A: The TC9 is exactly the same as the CoCo 3 because it uses the GIME chip. The TC70 uses the VSC chip which has up to 720 X 540 with up to 256 colors

Q: Does the TC9 have a built in mouse interface?

A: Yes, that's why we included two serial ports, one can be used for a serial mouse which is much better than the Tandy style mouse, smooth as a PC or Mac mouse, unlike the jittery operation of the Tandy mouse.

Q: Will ROM Paks work on the TC9?

A: Yes they should because of the Virtual Machine in the TC9.

Q: Will my CoCo 3 512K upgrade work in the TC9?

A: No, we changed the design to allow a full megabyte (1024K) on the TC9 via the use of SIMM memory modules, the same as used in PC's and Macs. Plug in two 256X8 or 2 256X9 SIMM modules for 512K or four SIMMs for 1 megabyte. To use one meg you need the DAT board too. It's neat, reliable and cost very little.

Q: How is the 1 meg upgrade installed in the TC9?

A: Just plug the DAT board in, no soldering required. We provided the header on the TC9 that you would have to solder in the CoCo 3. Add 2 - 256X8 or 256X9 SIMMs 120ns or faster and you have it.

Q: I have a PC keyboard, can I use it with the TC9?

A: Yes, if it's a AT compatible keyboard. Some have a switch for XT/AT use, others auto sense. Either will work with the TC9 or TC70.

Q: Can I program the function keys and the other special keys from the keyboard in the TC9?

A: Yes, all of the keys are controlled by software in the computer. All can be easily reprogrammed.

Q: Can I use my (CM8, Magnavox) monitor with the TC9?

A: Yes any that worked with the CC3 will work.

Q: Can the TOMCAT TC9 be configured as a multi-user machine?

A: Yes, with 2 serial and 1 parallel port you have most of what you need to run a three user system with a parallel printer. The TC70 is more expandable because of the K-Bus.

Q: Can the TC9 use IBM style disk drives and monitors?

A: Yes.

Q: Is the TC9 or the TC70 IBM compatible?

A: Yes in that you can read the IBM disks, just like on the CoCo3. Otherwise no, you cannot run IBM programs on the Tomcat.

Q: Can the TC9 use more than 1 CoCo cartridge at a time?

A: The CoCo bus on the TC9 is just like the CoCo with the same restrictions. You can use 2 with a Y cable like the CoCo and you can use one of the multi-pak like devices such as the Slot-Pak III.

Q: How is the power on the CoCo bus of the TC9 vs the CoCo 3's bus.

A: Because we have the power of the 200 Watt power supply we are able to power more thru the TC9's CoCo bus than the CoCo 3's bus. Also we have 12 volts on the bus which is needed for some cartridges such as the Burke & Burke interface. This allows Y cabling these things that were not possible with the CoCo 3. The amount of power available at the bus is about 2 amps. Six times that of the CoCo3.

Q: Can the TC9 use the host adaptor for the A-Bus?

A: Should be no problem, however I haven't tried it.

Q: Can the TC9 use RAM on one of the K-Bus cards?

A: The TC9 can instruct the 68000 to move memory from the K-Bus to the TC9 memory for some interesting effects but it cannot use it directly.

Q: Can the TC9 hot key thru windows like the CoCo 3?

A: Yes.

Q: How will FHL supply the patches to OS9/LII for the TC9?

A: A disk will be included. If you send in a copy of your system disk we will return a patched version of OS9 for the TC9 to you.

Q: How about no-halt disk operations, under OS9, without a 68000 board?

A: It is the same as the CoCo.

Q: Can the TC9 handle IO for the TC68K under OS9/68K?

A: Yes it can.

TC70 INFORMATION

Q: Do I need OS9/68K to make use of the 68000 with the TC9?

A: No, the 68000 CPU is used by OS9/LII as a speed up device besides being used for OSK You can get faster LII without OSK by just having the 68000 CPU.

Q: Will the TC70 run OS9/LI software?

A: No, no 68K computer can run LII software unless it has been recompiled under either C or BASIC on the 68K machine. New versions of software will have to be ported to 68K to work. A task best left to the original author.

Q: Will windowing software like Multi-Vue be available for the TC70 and your other 68K CPUs?

A: Yes, it is being worked on now and should be ready when the computer ships.

Q: You mentioned that under OSK, with the 68000 board as main CPU, the TC9 would be "a multi-function graphics co-processor". You didn't mention anything about the graphics board I have heard about here Does the TC9 have increased res. over the CoCo III?

A: No, but you can have many TC9's giving multiple graphics. Also the TC70 has color graphics which will also work with the TC9 in the system. Also multiple graphics cards can be run in the system with any of the 68K CPU's.

Q: How about streaming tape backup?

A: Yes, we have that on the 68K side of the TOMCAT thru the SCSI interface.

Q: Does the TC68K include drivers and software to handle IO processing for the TC9?

A: Yes, it will.

TECHNICAL INFORMATION

Q: I want to do software development in C for OS99/68000. Can I do this with just a floppy drive if I have enough memory to use a RAM disk? In that case how much memory would be needed? How much of the 1.5 Meg in

the TC70 is available for the system and how much is required for the graphics? Can you give me some advise on this?

A: Extremely good question, many things to consider here. Of course if money was no object etc etc. No one that I know falls into that category so here goes. To do really fast development you need enough memory to load all of the C compiler and commands you want to use in memory. Along with OS9 itself. 3/4 of a meg is good to have. You would use the RAM disk for C's libraries and temporary files, figure 1/4 to 1/2 meg there. The video takes up about 1/2 meg so you could just do it on the TC70's 1.5 Meg. 3/4 for system and C + 1/2 for video + 1/4 for user RAM = 1.5 Meg. We have worked in a non-video system (QT00x) with 1 meg OK. I also worked with a 2 meg non-video system (QT20) some years ago and I recall having 3/4 meg free most of the time. 1.5 would be 'just' enough to do it without loading and unlinking stuff all the time.

Q: How much faster is a 68030 over a 68000 or a 68070 in the TC70?

A: A 68030 at 16 Mhz is about 8 times faster than the 68000 or 68070. However there is more to system speed than MHz. Using DMA doubles the speed of any system and a fast hard disk really does a job. You can get very fast hard drives at just a little more than slow ones. Call me for the latest best choice to buy. At this writing the Quantum series is my favorite and is just a few dollars more than slower Segates or Miniscribes. They also have a 2 year warranty. They are very quiet too.

Q: If I have a hard drive on the TC9 will the tape backup system for 68K back it up?

A: Yes, in theory at least. You would need to have OS9/68K running on the TOMCAT but it could work. Software would have to be done for this to work. Ahhh a new challenge.

Q: Would it be better to run my hard drive under 68K or under OS9/LII?

A: Tough one, depends on the level of software support under 68K. At some point in time when the software is completely done under 68K that would be the fastest way to go. Either way would work with 68K being faster than the 6809.

Q: Can I use K-Bus cards without a 680x0 CPU card, in other words will the TC9 work on the K-Bus without a CPU on the bus and if not why not?

A: No it will not. The TC9's 6809 CPU cannot directly access anything on the K-Bus. It has to ask the 68000 to do its work for it. The TC9's memory (CoCo memory) is the only thing that the 68000 sees. They use a simple but elegant interrupt protocol to talk to each other.

Q: What is the data bus size of the K-bus?

A: The K-Bus has a 16 bit data and 16 meg memory map. The 68000 series of CPUs are also 16 bit so this is a perfect size.

Q: You stated that the TC9 could use a 68000 as a co-processor. Would that be in some ways automatic, or is it up to us to make our programs take advantage of this?

A: OS9/LII will be modified to have the 68000 do things like memory moves, graphics etc. User software could be changed to take better advantage of the 68000 but would not be necessary to get a benefit from it.

Q: Similarly, What configurations are possible? TC9 and TWO 68000 boards?

A: No, many TC9's but only 1 680x0 CPU. The TC9 looks like just a memory board to the 680x0 and because they are addressed in 1 meg increments you 'could' have 14 TC9's on the bus.

Q: Would a TC9 and a 68030 be better than TC9 +68000?

A: Yes.

Q: Since a 68000 can use a TC9 as a slave board, can a 68030 use a 68000 board?

A: No, only one 680x0 on the bus at a time.

Q: Is there any way to get 640 by XXX joystick res WITHOUT using a hi-res interface? Will it be possible to use a logitech, or optical, "digital" mouse, under OS9? (since it will have "real" serial ports now)

A: YES, and that is the way we think everyone will want to go. Trackballs and serial joysticks are also available.

Q: Can I use the 68881 math co-processor from LII?

A: In order to use the 68881 from LII you would have to have a 680x0 CPU in the system. The procedure would be to pass the request to the 680x0 and then let it communicate with the 68881. The 680x0 would then

return the answer to LII. In the case of a graphics speed up in a situation like this the 680x0 would also be used to do the graphics for LII.

Q: How is the 68881 math co-processor used with 68K?

A: In OS9/68K there is a module called 'math'. If your system did not have a math co-processor then the 'math' module would do the math with software. If you installed a co-processor in the system then by simply changing the 'math' module to one that used the co-processor is all that is required.

Q: I don't have a hard drive now, would it be better for me to get a hard drive that is SCSI compatible for future use with 68K?

A: Yes, although all hard drive systems for the CoCo will work with the TC9 and thru that 68K, a SCSI hard drive would work better with 68K

Q: How is multi-user done?

A: Multi-user is done by connecting terminals to serial ports on the TOMCAT. The TC9 can handle 2 while the 68K TOMCAT can have as many as 60. Memory and CPU power affect the number of users as well as the type of users. Users doing extensive C development beat up on the system much more than users doing data entry or word processing. As an example in an office environment 2-4 users could be supported by the TC9, up to 8 or so on a 68000, with a max of about 40 or so on a 68030. Using a fast hard drive and DMA is a great help as the hard drive is usually the bottleneck of any multi-user system.

Q: How does the TC9 and a 680x0 interact?

A: Thru the TC9 (CoCo) memory. The TC9 looks like a memory board to the 680x0. A simple interrupt process allows the two CPUs to communicate. ie: The 6809 puts something at the right place in memory and generates the proper interrupt, the 680x0 gets the interrupt and looks to see what the 6809 wants done. The same thing happens in reverse. Because the TC9 is addressable in 1 meg increments up to 14 'could' be put on the bus and act as co-processors to 68K.

Q: How will the 6809 module (TC9) be interfaced as a graphics co-processor?

A: When the system is run as a 68K system the TC9, would be used as a graphics terminal for

OSK.

Q: Will OSK be able to interface with and utilize devices connected to the 6809 module thru the CoCo Bus?

A: Sure, the 680x0 would instruct the 6809 to do whatever it wanted to do.

Q: Will additional drivers be necessary?

A: The TOMCAT concept is so flexible that the answer is yes, no, and maybe. You could use OS9s drivers or have stand alone ones. Because the TC9 memory is 68K memory a lot of options are available.

Q: Does OSK include similar graphics and windowing as the CoCo 3 under Level II?

A: Yes, actually a superset is being done by Kevin Darling that will have much more than the CoCo has when it is fully functional.

Q: Will the Tomcat power supply handle non-US power systems like 230 volt?

A: The TOMCATs all come in a case that has a power supply that switches between 110 and 220 volts. If your needs are other than this I suggest that you get the board only and obtain a power supply/case locally that will work with a PC clone and use that for your TOMCAT.

Q: The parallel port and memory expansion capability seems straightforward until one considers the K-Bus and a 680x0 co-processor and the claim for zero wait states. Does not the speed of the memory chips affect the ability to achieve zero wait states?

A: Yes, you are correct. In order to achieve zero wait states for the 680x0 you have to use 80ns chips or faster. Most CoCo 3 memory expansion boards use 120ns chips. However that is not the main problem. The GIMI controls the speed of the TC9 and the CoCo 3 at 1.789MHz. When a 680x0 CPU accesses the TC9 it slows down to that speed. This is roughly equivalent to running the 680x0 at 8MHz during those accesses. When the 680x0 is working with other K-Bus memory it speeds up to as much as 16MHz. It would seem that using a 680x0 CPU any faster would not be of much use but this is not true. Even when the 680x0 is going slow to work with the TC9 is would still be faster internally so using a 12MHz or 16Mhz CPU would be a benefit.

Q: If that is the case how does

using A 680x0 speed up the TC9 2 or 3 times?

A: Good question. The 680x0 is a much more powerful CPU than the 6809. It can access all of the TC9's memory as one block while the 6809 can only look at 64K at a time. The 680x0 also has powerful block move capability and other features that make manipulating the TC9's memory much faster than the 6809 could do. The 680x0 could run as much as 4 times faster than the 6809. This would be like having a 8MHz CoCo. We only claim as much as 2-3 times faster until we can test the production versions of the TC9 for exact speed increases. We will publish this later. In any case the TC9 with a 680x0 CPU will be a heck of a lot faster which will make graphics, scrolling and other things a pleasure to use.

Q: If the TC9/68K combo is so fast why would I ever want to move to OS9/68K?

A: I think that with this speed increase you will not want to as soon as you would otherwise. However 68K will still be faster and each process can use bigger chunks of memory so there will still be an advantage to going to 68K. The real test will be when capable and cost effective software is available for 68K. This is not the case at present but it is changing. (Developers take note: an opportunity is opening up) I think it will take a year or two for good enough software to be available. The Tomcat puts you in position to take advantage of it whenever it happens. Remember you can run both OS's on a dual Tomcat, something NO other computer can do!

Q: Will adding a 680x0 aggravate memory management problems under LII?

A: It would relieve it because some of the code in LII would be removed as the 680x0 would handle some of LII's tasks. (memory move etc) The extra drivers required for the TC9 are smaller and replace similar but larger ones in LII. The hardware we use is better and therefore requires smaller drivers than those required by the CoCo 3. We have real D to A and A to D and real serial and parallel ports. The AT keyboard port is a serial port too. All of these are much easier to code than the CoCo 3.

FIN

TOMCAT TC9 ORDER FORM

TC9 System Packages
✓ *Check all that apply*

❑ System **A**	549.95
❑ System **B**	779.95
❑ System **C**	1169.95
❑ System **D**	1649.95
❑ **TC9** Board Set 0K	349.95

Call for Dual System information

Floppy Drive Systems for TC9

❑ Drive Zero System 40 Track	219.95
❑ Drive Zero System w/Super II	249.95
❑ Drive 1 40 Track	99.95

Hard Drive Systems for TC9

❑ 20 Meg add to Drive Zero	390.00
❑ 30 Meg add to Drive Zero	430.00
❑ 42 Meg add to Drive Zero	490.00
❑ 20 Meg B&B *	340.00
❑ 30 Meg B&B *	380.00
❑ 40 Meg B&B *	440.00
* (Req. Slot-Pak III)	
❑ Slot-Pak III	94.95

Keyboards/Mice for TC9/TC70

❑ AT 101 key keyboard	69.95
❑ Delux version	79.95
❑ with serial Trackball	119.95
❑ Serial Mouse	59.95

External Cables for TC9

❑ CM8 Cable adaptor	19.95
❑ DB9 to DB25 Modem cable	19.95
❑ DB9 to DB25 Terminal cable	19.95
❑ Printer DB25 to Centronics	29.95

Case Options for TC9/TC70

❑ Mini Tower case w/200 W P/S	159.95
❑ Big Tower case w/250 W P/S	299.95

Memory for TC9

❑ 512K (2 - 256X8 SIMMS)	59.95
❑ 1 Meg RAM (2 SIMM + DAT)	109.95
❑ DAT Board only	59.95

K-Bus Options

❑ 6 Slot Bus (for Mini Tower)	149.95
❑ 16 Slot Bus (for Big Tower)	289.95

Internal Cables
(Included in Systems)

❑ Dual serial/DB9	20.00
❑ Parallel to DB25	15.00
❑ Keyboard 5 to DIN 5 female	15.00
❑ RGB/Composit asbly.	30.00
❑ A/D D/A asbly.	30.00
❑ CoCo Bus cable	15.00
❑ CoCo Bus Y-cable (2 slot)	20.00

❑ Shipping add 5% US, call for non-US

❑ The Tiger (68000 for TC9)	129.95
❑ 2 Slot Bus (for The Tiger)	39.95

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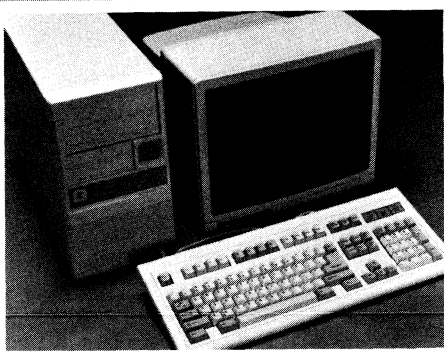#_____
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TOMCAT TC70 ORDER FORM

TC70 System Packages
✓ *Check all that apply*

❑ System **E**   1499.95
❑ System **F**   1999.95
❑ System **G**   2249.95   _____
❑ System **H**   2549.95
❑ **TC70** Board w/sft   1099.95

Call for Dual System information

Floppy Drives for TC70

❑ 80T 720K/1.4 Meg 3.5" drive   89.95   _____
❑ 80T 720K/1.2 Meg 5" drive   99.95   _____
❑ 40 Track 360K   99.95   _____

Hard Drives for TC70

❑ 40 Meg Hi-Speed 12MS   500.00
❑ 100 Meg Hi-Speed 12MS   750.00   _____
❑ 170 Meg Hi-Speed 12MS   1100.00

Keyboards/Mice for TC9/TC70

❑ AT 101 key keyboard   69.95
❑ Delux version   79.95   _____
❑ with serial Trackball   119.95
❑ Serial Mouse   59.95   _____

RGB Monitors

❑ Magnavox 1CM135 RGB   298.00   _____

External Cables for TC9/TC70
❑ CM8 Cable adaptor   19.95   _____
❑ DB9 to DB25 Modem cable   19.95   _____
❑ DB9 to DB25 Terminal cable   19.95   _____
❑ Printer DB25 to Centronics   29.95   _____

Case Options for TC9/TC70
❑ Mini Tower case w/200 W P/S   159.95   _____
❑ Big Tower case w/250 W P/S   299.95

Memory for TC70
❑ 2 Meg 0K   149.95   _____
❑ 2 Meg populated   299.95
   Call for other K-Bus cards

K-Bus Options
❑ 6 Slot Bus (for Mini Tower)   149.95   _____
❑ 16 Slot Bus (for Big Tower)   289.95

Internal Cables
(Included in Systems)   _____
❑ Serial/DB9 (2 reg)   15.00   _____
❑ Parallel to DB25   15.00   _____
❑ Keyboard 5 to DIN 5 female   15.00   _____
❑ RGB DB9   20.00
❑ A/D D/A asbly.   30.00   _____
❑ SCSI cable   20.00   _____
❑ Floppy cable   20.00   _____

❑ Shipping add 5% US, call for non-US   _____

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