

TOMCAT COMPUTER PRICE LIST  
March 31, 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
Portable with keyboard and screen.	Price to be announced.

K-BUS BASED PRODUCTS

TC9 TOMCAT	6809/Multi-I/O/Color Graphics (COCO4) (2nd 1/4)	\$299.95
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
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-OK	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 VSC W/PC Keyboard Interface (2nd 1/4)	

SOFTWARE PRODUCTS

OS9/68000	Includes Editor, Assembler, Debugger, Scrod	\$249.95
BOOT-ROM SET	Required for OS9	50.00
PC-DOS UTILITY	Utility to Read/Write/Format PC-DOS under OS9	99.95

FHL reserves the right to change prices and specifications without notice  
Delivery: Stock to 30 Days except where noted.

Terms: Payment with order in U.S. Funds Check, VISA, MC (AMEX & DINERS add 5%)  
Shipping and Handling: \$8.00 Per Order (UPS Ground), Foreign and Air Extra.

FRANK HOGG LABORATORY, Inc  
204 WINDEMERE ROAD  
SYRACUSE, NY 13205  
315/469-7364  
FAX 315/469-8537  
CIS 70310,317  
DELPHI FHOGG

If the Ten Commandments were to be published today, within 24 hours someone would undoubtedly challenge them as discriminating against sinners.



#: 2406 S15/Hot Topics  
30-Mar-90 18:54:45  
Sb: #Tomcat Computer  
Fm: Frank Hogg 70310,317  
To: All



Here is some more information about the TOMCAT computer.

I would like to request feedback from all of you about what we have done. I anticipate that you might have questions about the TOMCAT after reading the announcement in DL15 (TOMCAT.ANC and TOMCAT.LST). As the Rfest is about to be upon us and many of the questions you have will be the same as fest goers, your feedback will be very helpful.

This is the memory map of the TOMCAT computer.

Everything is in the \$FF00-FF40 area

FF00-FF07 Unused (This was one of the PIA's in the CC3)  
FF08-FF0F 8 Channel A to D Chip used is ADC0809  
FF10-FF17 Data address out  
FF18-FF1F PIA (68B21) Port A is D to A Chip used is DAC0808  
Port B is Parallel Data (printer port).  
FF20-FF27 Unused  
FF28-FF2F PC AT compatible keyboard port using a 68B50 ACIA  
FF30-FF37 6552 DUART Dual Serial Ports (Same as The Eliminator)  
FF38-FF40 Parallel Port Strobe Line

More information about this will be made available after the 'fest. Please post any questions to me here or email.

Don't be bashful.

Thanks  
Frank Hogg

Most of us are broad-minded enough to admit ther are two sides to every question - our own side, and the side that no intelligent, informed, sane, and self-respecting person could possibly have.

"Why did you leave your last job?" asked the manager.

"Illness," said the job applicant.

"What kind of illness?"

"I don't know," the man said. "They just said they were sick of me."

To err is human - but you better have a better excuse than that!

Never argue with anyone: remember, he too has a right to his own stupid opinion.



\* Island CoCo Club - Phone Roster: June/July, 1990 \*

(Area code is 516 unless otherwise noted)

NAME	PHONE	LOCATION	INTERESTS
Gerald Angus	935-3511	Levittown	Club Pres., CoCo3, OS9II
Chuck Adams		Ellenville	OFA Member
Roy Arnold Jr.	203-633-6662	Connecticut	OFA Member
Larry Bigel	795-3035	Massapequa	ML, Sounds, Graphics
Vince Buccellato	242-5240	Deer Park	Ham Radio
Joe Castelli	783-7506	Bellmore	Founder, J&R Micro Computer
Patrick Dwyer	282-2575	Upton	CoCo3, Pen Pal East
Mrs. Susan Eckers	368-0836	E. Northport	VIP, Graphics
Steve Gilbert	867-6096	Freeport	OS9II HD, OS9 CoSysop
Ira Goldwyn	482-3049	Great Neck	Graphics, BBS'n
Joel Greene	692-5242	Huntington	WP, Graphics, Adv
George Hand	271-1268	Huntington	Utilities
Ronald Hand	271-1268	Huntington	Utilities
Ryan Hushion	798-7119	Massapequa	Games, Adventures
Chris Kenna	654-8626	Patchoque	Games, Adventures
Helene LaBonville	603-472-3369	Bedford, NH	OFA Member
D.K. Lee	795-5874	Massapequa	PC BBS Sysop, Editor
Sandy Leibstein	536-0617	Oceanside	Programming, Games
Gabe Licciardello	289-6212	Patchoque	CoCo3
Richard Mazzoni	718-373-1627	Brooklyn	OFA Member, CoCo2
Thomas McArthur	225-9309	Lindenhurst	CoCo 3, Programming
James McDaniel	718-493-0950	Brooklyn	Club Sec, OS9II HD
Dave Myers	313-481-3283	Michigan	CoCoPRO! Pres
Dennis Neary	326-9021	Elmont	Games, Adventure
Bob Olsen	546-8288	Merrick	CoCo 3, Symphony
Irving Pereira	868-4696	Baldwin	Librarian, CoSysop
Pat Pereira	868-4696	Baldwin	Club Treasurer
Gian Polizzi	794-4906	E. Meadow	V. Pres. Music, Graphics
John Gordon Reid		Woodside	Utils, ADOS3
William Rosenfeld	621-2292	Roslyn Hts.	Graphics, CoCo3
Joe Scalia	694-2219	Farmingdale	CoCo 3
Leo Serber	586-1718	Deer Park	CoCo 3, Utilities
Dean Serpico	794-2156	East Meadow	Pascal
Terry Simons	515-279-2576	Des Moines	Mid-Iowa CoCo, PC BBS west
Richard Spreen	334-2273	Westbury	Utils
Ray Steger	488-7272	Floral Park	Programs
Robert Terrano	358-7525	New Hyde Park	Adventures, Games
Eric Tilenius	271-8456	Huntington	Color Venture Pres, CoCo3
Michael Trammell		N.Y.C.	CoCo 3, Graphics, Co-Sysop
Jim Woods	623-5696	N. Merrick	CoCo 3
Dennis Zobel	698-6197	Centereach	CoCo 3, RAT Viewer, Gms

What are your interests?? Tell us at: Club Roster/Island CoCo Club  
P.O. Box 426, Massapequa Park, New York 11762, and we'll put your  
interests next to your name.



## Do-it-Yourselfer

Well hello again it's been a while since my last article. I have good news since the last article and the last meeting in July, the ramdisk project is up and running 98%.

There have been a few changes in the schematic diagram that were needed for correct operation. I will try to bring new schematics to the meeting if I can update the file on the cad system.

The refresh timing circuit was changed to reflect faster clock rate. The timing was increased from 265 Q clocks to 16 Q clocks per refresh request cycles. The old time was good for 256k drams but too slow for the 1 and 4 megabyte drams.

The main time delay circuit was changed, the LS244 that was selected to generate a time delay thru prop delays proved unstable and the drams would not work properly. The part replacing the LS244 is a ttl delay line, a precision delay device that produces a 20 nano second delay between taps. The part has 14 pins (small package) 1 input (low true) and 5 outputs each 20 ns delay from the previous output for a total of 100 ns delay from input to last output.

All of the memory address bus driver ic's were changed from LS series (LS374 and LS244) to F series (74F244 and 74F374). The LS series had a average control to valid data out time of 20 ns, this was too slow for data setup and hold time requirements of the drams. In other words the data was just starting to come out on the bus during or after the rams latch time. The 74F series worst case propagation time delay of 10 ns allowed for a 10 ns setup time of valid address data on the bus before ras and cas clocks.

The 20L8 pal is currently at rev 5 for timing control programming with at least 1 more revision to come. The address decode circuit also changed, address lines A2,A3 and A7 now go straight into the pal for logic decoding this removed the LS32 ic totally from the circuit and removed the LS04 gate as well. I made this change only after the address decode circuit was understood by all the class members at the monthly meetings.

Also to further reduce the parts count of the board I swapped the a and b inputs of the LS157 multiplexer in the ras circuit and removed the LS04 gate. This allowed for a faster refresh select time period of about 7-15 ns.

With these changes and Curts driver the ramdisk is up and running with 2 megabytes on line. While testing the ramdisk hardware (and software) for bugs I had fun running different programs and yes GAMES out of the ramdisk. Just to tease you a little, Kings Quest 3 works fine out of the ramdisk. When the game needs a screen change it takes about 4-5 seconds to respond before the player is alive and in motion again, when I run the game out of my 80 track 6ms step rate flop it takes about 20 seconds.

At the October meeting the ramdisk will be up and running for all to see its speed and power. Also now that the project is a reality and dram prices have come down to around \$12 to \$13 each the cost of the ramdisk also came down to around \$130-150 for a 1 megabyte version. I want to start discussing parts ordering for those who want to build the board. The prototype board was purchased at Radio Shack for \$4.99 (not on sale), RS PT# 276-192. This pc board had to be modified to fit in the rom pack slot. The normal card-edge connector used in the Coco is a 40 pin .1" centers (20 pins per side), while the prototype board has 72 pins (36 a side), some modification must be made for the board to fit. The board can be modified with a coping saw or small band saw, I modified my board on a grinding wheel with a cutting disk on it, and in the past I have even used a fine blade hacksaw you just have to be careful and take your time. A mistake can be costly.

To all who are coming to the October meeting bring your schematics so we can finish with the circuit and talk about the PAL equations. I will not print any PAL equations in the newsletter, so come to the meeting, learn the operational (real) timing of the working ramdisk. See you at Hardees.

- Bill Peters

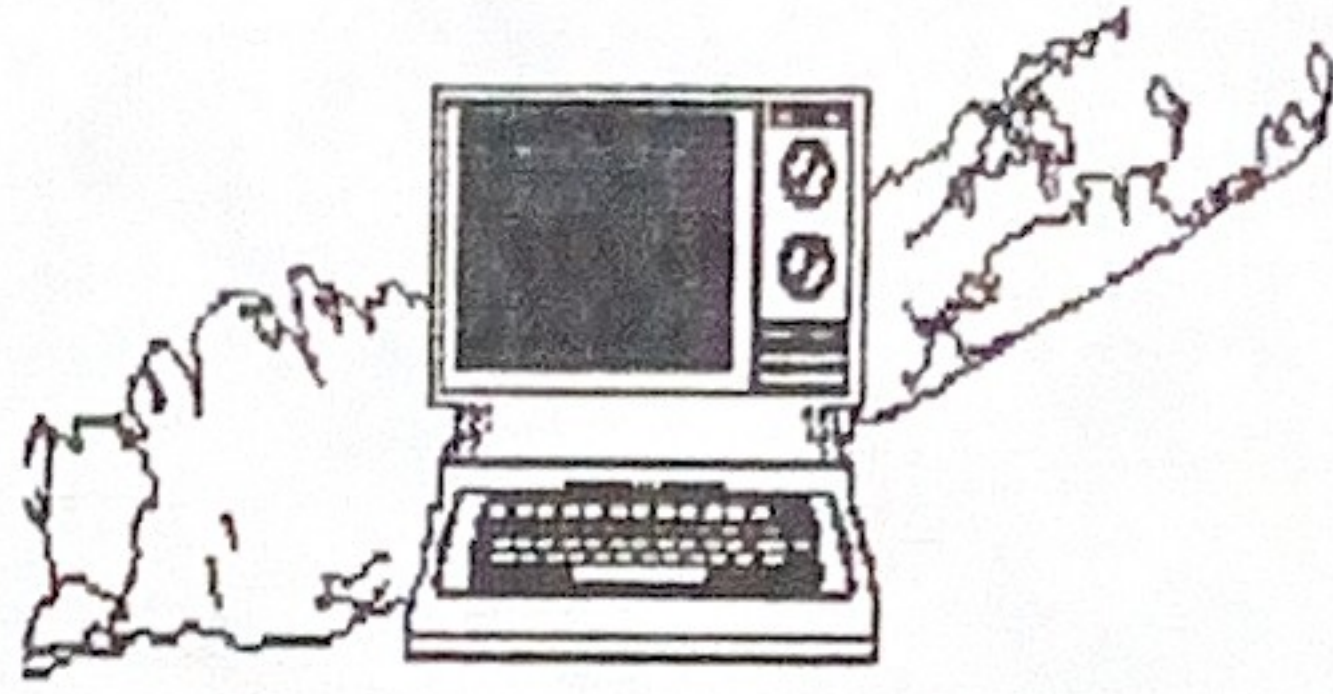




# \* ATTENTION \*

If you live on Long Island, this is the User's Group for you !!!

- \* Monthly meetings in Central Long Island
- \* Meet other Color Computer User's in your Area
- \* Large Library of Public Domain CoCo Programs
- \* Large Newsletter, Discounts on Merchandise, Helpful Members



## The Island CoCo Club

Become part of the Club TODAY!!

### \*\* Membership Form \*\*

YES! I wish to join The Island CoCo Club - Long Island's User's Group for the TRS-80 Color Computer. I have read and signed the statement below and am enclosing dues as follows:

- ( ) New Member \$35.00/yr    ( ) Renewal Member \$20.00/yr    ( ) OFA Member \$15.00/yr  
( ) New Family \$45.00/yr    ( ) Renewal Family \$25.00/yr    ( ) OFA Renewal \$7.50/yr

Family Membership covers everyone in your Family with ONE VOTE & ONE Newsletter.

OFA (Out of Area) is for CoCo Users out of the L.I. Area as well Users that can never make a meeting, with Newsletter mailing and no Voting (Public Domain Library list is available).

MAKE CHECK payable to: Pat Pereira, Club Treasurer. Mail this form, along with payment to; The Island CoCo Club P.O. Box 426 Massapequa Park, New York 11762 or bring this form with you to a meeting!

NAME: \_\_\_\_\_

STREET: \_\_\_\_\_

TOWN, STATE, ZIP: \_\_\_\_\_

PHONE NUMBER: (    ) \_\_\_\_\_

Your CoCo Setup: CoCo 1 ( ), CoCo 2 ( ), CoCo 3 ( ), 64K ( ), 128K ( ), 512K ( )

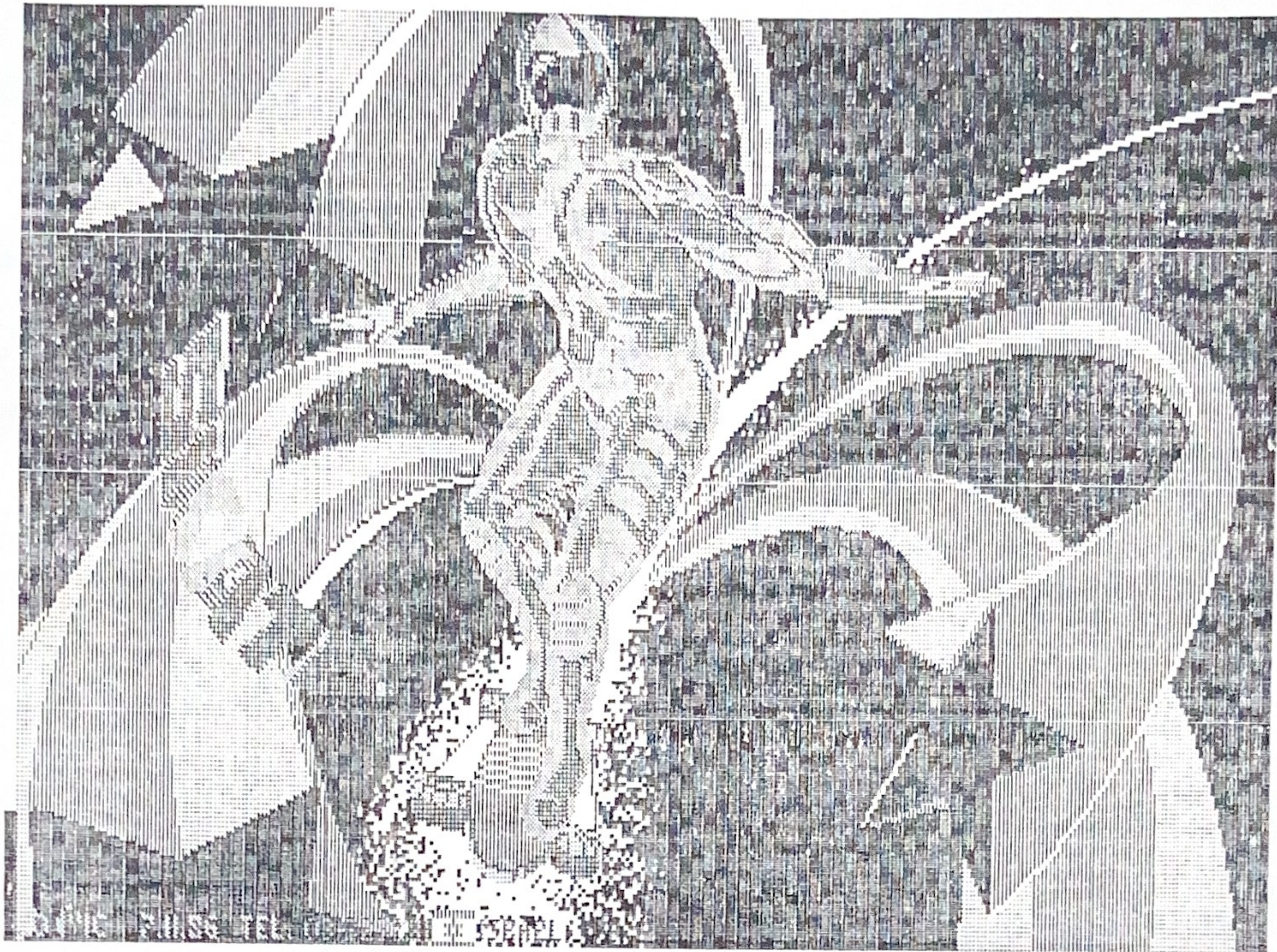
Monitor ( ), TV ( ), Modem ( ), Disk Drives ( ), OS9 ( ), Printer ( )—specify \_\_\_\_\_

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SIGNATURE: \_\_\_\_\_

DATE: \_\_\_\_\_





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From: The Island CoCo Club  
P.O. Box 426  
Massapequa Park, N.Y. 11762

Meetings:

- Sept. 28, Fri.
- Oct. 23, Tues.
- Nov. 14, Wed.
- Dec. 20, Thurs.

talk to Copying Center in Lynbrook about  
CoCo newsletter

Picnic coming up, Sat. Aug. 18

Go in entrance, in parking lot, left side of playground