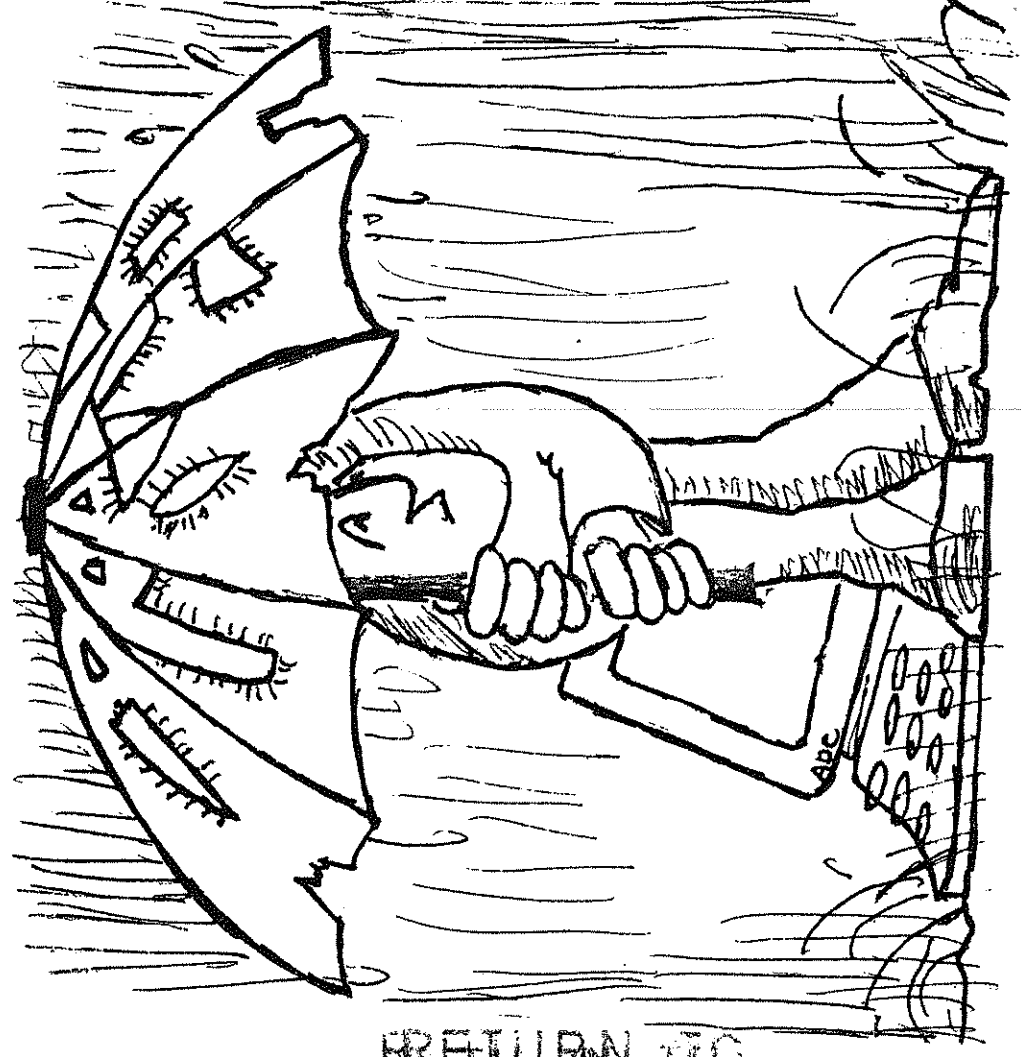


M.U.N.C.H.
C/O J. W. COX
905 EGDEBROOK DRIVE
BOYLSTON, MASS. 01505

NEXT MEETING: TUESDAY, APRIL 11th.

POSTMASTER: Forwarding and Address Correction Requested.

FIRST CLASS!!



RETURN TO
RA BISHOP

* * *	#	*	+	+	%%	*
**	#	*	++	+	%	*
**	#	*	+	+	%	*
**	#	*	+	+	%	*
**	#	*	+	+	%	*
**	#	*	+	+	%	*
**	#	*	++	+	%	*
**	#	*	+	+	%%	*

Mass Users of the Ninety-nine and Computer Hobbyists
APRIL 1995 Monthly Newsletter Version 14.04
WE'RE STILL ALIVE IN '95

NEXT MEETING TUESDAY, APRIL 11, 1995 7:00 PM. Happy Spring!

MUNCH OFFICERS AND NUMBERS (all in 508 area unless noted)

PRESIDENT	W. C. Wyman	865-1213		
VICE-PRESIDENT	Open		MUNCH DUES:	
TREAS./EDITOR/CLK.	Jim Cox	869-2704	New Membership	\$25.00
DEMO LEADER	Jack Sughrue	476-7630	Renewal	\$15.00
Asst. Demo Leader	Lou Holmes	617-965-3584	Newsletter Sub.	\$13.00
LIBRARIAN	Walt Nowak	413-436-7675		
Advanced Programmer	Dan Rogers	248-5502		

MARCH MEETING. The March meeting had eleven members in attendance. We demoed two games which Jack brought with him. They will be next month's DOM. We also had some trouble with Walt's RAM disk as it seems the battery had died. Chris won the raffle. We discussed our putting on a Fair in October, see the article in this issue for more information.

APRIL MEETING. It's pot luck for this month. Walt is on his annual south seas vacation so I'm not sure if we will have a system at this month's meeting. We can discuss the Fair and possibly changing our meeting place, among other items.

RAFFLE. Every month we have a raffle to help defer the rental cost of our meeting hall. A typical raffle will have programs, blank disks, books, bumper stickers and all sorts of odds and ends of interest to the T.I. user. This month we have some Tandy Model 4 computers.

REPRINTS. Reprints are permitted as long as credit is given to M.U.N.C.H.

ARTICLES. I am always looking for articles for this newsletter, anything which interest you will probably interest other members of the T.I. community, so please share your ideas and opinions with all of us.

DISK LIBRARY. The disk library is at all meetings. We have copies of all disks in the library and they are available to members for just \$1.00 for each disk unless otherwise specified. You can order them through the mail, please add \$1.00 for the first disk and \$.40 for each additional disk ordered to cover postage and handling.

DISK OF THE MONTH. This month's DOM #142 is Mail List Manager, which is high lighted in this newsletter. I have tried it and it seems to be a good program. This is a shareware item.

ADVENTURE II. This is our fund-raiser for 1994/95. The cost to members is \$4.00 add \$2.00 for first class postage. The regular price is \$6.95 plus postage. This is a two DSSD disk set, archived. There is also a special on The Adventure Compendium and Adventure II for members it is \$8.00 plus \$3.00 for first class postage.

FOR SALE. Former member Dennis Lavoie has two complete systems and lots of cartridges and software for sale. He wants to sell everything together. If you are interested contact Jim Cox at the number above and he will give you more information.

WELCOME NEW MEMBER. Gary Fitzgerald of Milford, Conn.

SHOULD WE PUT ON A FAIR?

by Jim Cox

I think we should. Ben Parada was nice enough to suggest the Emmanuel Lutheran Church, where he does some part time work. They have a Fellowship Hall which is perfect for our needs. There are plenty of tables and chairs, a complete kitchen and even a stage. There are black-boards along the walls for messages and to aid in demos. Ben is checking with the "powers that be" to see if either Saturday October 14th or October 21st is available.

What we have to do is come up with a plan to get everything done. We have to have people to set up the hall and more importantly to help in cleaning up after the Fair. We can not expect Ben to do everything himself. The set-up would entail putting the tables and chairs in place and getting electricity to those who need it. Setting up a demo area and a refreshment area. As for refreshments we can do this ourselves or try to get someone to come in to do it. Possibly some group from the church. This would be a fund-raiser for whatever group that does it.

I propose user groups and vendors pay \$15.00 for one table and \$5.00 for a second one, depending on availability. Admission and parking will be free. Refreshments will be priced by whoever does them. We will try to advertise through free media like coming events guides and we will do some mailings. We will also do a Fair Guide with an ad from each exhibitor and a map of the layout of the hall. The costs for this and the hall rental will come from the table fees.

I would also like to suggest moving our monthly meeting to this venue. They have classrooms which are just what we need for a meeting place. The big plus would be we could leave our system there and not have to carry it in and out every meeting. Therefore we would always have a system available and we would have some storage for our disk and book libraries. Ben will talk to those "powers that be" about this also. This church is located less than five miles west of where we now meet and should not be a problem for anyone who attends the meetings.

Let's talk about this at the April meeting.

PROGRAM OF THE MONTH

By Bob August

The program this month is a bumper sticker.

It is a short program so key it in and find out what it is.

the program is written in Extended Basic.

Hope you enjoy.

```
100 ! LOVE IN EXTENDED BASIC
110 ! BY R.W. AUGUST
120 DISPLAY AT(12,11)ERASE ALL:"WORKING"
130 CALL CHAR(49,"0000070F1F3F7FFF"):: CALL CHAR(50,"000OEOF0F8FCFEFF")
140 CALL CHAR(51,"FF7F3F1FOF070301"):: CALL CHAR(52,"FFF EFCF8FOEOCO80")
150 CALL CHAR(53,"FF7F3F1FOF070301"):: CALL CHAR(54,"FFF EFCF8FOEOCO80"):: CALL CHAR(55,"FFFFFFFFFFFFFFFF")
160 CALL CHAR(97,"00001F1F01010101"):: CALL CHAR(98,"000OF8F880808080"):: CALL CHAR(99,"0101010101011F1F")
170 CALL CHAR(100,"808080808080F8F8"):: CALL CHAR(101,"0101010101010101"):: CALL CHAR(102,"8080808080808080")
180 CALL CHAR(103,"000030180C070301"):: CALL CHAR(104,"0000C1830EOCO80"):: CALL CHAR(105,"3030303030303030")
190 CALL CHAR(106,"OCOCOCOCOCOCOC"):: CALL CHAR(107,"00003C3C36333131"):: CALL CHAR(108,"00001C3C6CCC8C8C")
200 CALL SCREEN(16):: CALL COLOR(3,7,1)
210 DISPLAY AT(10,9):"1212":TAB(6);"ab 7777 klgh abab":TAB(6);"cd 3774 ijef efcd":TAB(10);"56"
220 CALL HCHAR(7,5,55,23):: CALL VCHAR(7,27,55,10):: CALL HCHAR(16,5,55,23):: CALL VCHAR(7,5,55,10)
```

230 CALL KEY(O,K,S):: IF S=0 THEN 230
240 CALL CLEAR



Radically different advice

The computer industry has changed completely! Companies that had good reputations a few months ago are now dirt. Before you blow money on a computer, read this shocking exposé. It will save your sanity.

We've updated our advice about Apple, IBM, Compaq, Packard Bell, Gateway, Dell, AST, Tandy, Comp-USA, Zeos, Midwest Micro, Quantex, VTech, and Acer. We've expanded our buyer's guide so now it also analyzes Micron, EPS, and the Los Angeles gang (Comtrade, Cornell, Zenon, Royal, ABS, Mitra, Altus, Professional Technologies, and Bit).

We compare the newest **ink-jet printers** (from Hewlett-Packard, Canon, and Epson), **laser printers** (from Hewlett-Packard, Brother, Panasonic, and IBM Lexmark), **quad-speed CD-ROM drives** (from Plextor, Toshiba, and Mitsumi), and **humongous hard drives**.

Super software

Most companies are switching to the fanciest word-processing program: **Microsoft Word 6**. We explain how to use all its popular buttons, Ctrl & Alt commands, and tricks so you become an instant pro at word processing and desktop publishing.

We explain the cheapest way to telecommunicate (**Windows Terminal**) and include a list of the most popular **free general-purpose bulletin boards**.

We've kept and augmented our list of hot tricks for editing your **CONFIG.SYS** and **AUTOEXEC.BAT** files. Our tricks will give you about 620K of conventional RAM free (plus many megs of upper & extended RAM) *without* buying a memory manager and *without* spending money on more chips! Your Windows, business software, games, and CD-ROM software will run smooth as silk. Our advice differs from the baloney dished out by Microsoft. We explain how good **CONFIG.SYS & AUTOEXEC.BAT** files let a 386 outperform a 486 — and a 486 outperform a Pentium!

Surpasses the classics

This chart shows which fancy topics are in which editions:

	15th edition	16th edition	17th edition	18th edition	19th edition	20th edition
DOS 4 & 5		✓	✓	✓	✓	✓
DOS 6				✓	✓	✓
advanced DOS 6 & 6.2				✓	✓	✓
Windows	✓	✓	✓	✓	✓	✓
Mac System 7			✓	✓	✓	✓
advanced WordPerfect	✓	✓	✓	✓	✓	✓
Ami Pro	✓	✓	✓	✓	✓	✓
Microsoft Word 6						✓
Quattro Pro		✓	✓	✓	✓	✓
modern Excel			✓	✓	✓	✓
newest discounters						✓

The 20th edition covers *all* those topics. The 14th covers none.

Ten reasons

Here are ten reasons to buy the 20th edition:

1. It's funny.
2. It's easy to read.
3. It contains tricks you can't find anywhere else.
4. It saves you big bucks when you buy hardware and software.
5. It brings you up-to-date and fills in the holes in your background.
6. It saves you from the frustration of calling ugly tech-support staffs.
7. Its groovy anecdotes will make you the hit of computer cocktail parties.
8. It makes you talk smart, so you'll get a raise, better job, or sex.
9. You'll get our BEST phone help if you say, "I have the 20th edition."
10. If you buy several copies, you get an obscenely huge discount.

Discounts

Though the 20th edition is gigantic, it lists for just \$15. To pay even less, join your friends and place a group order:

- You get a 20% discount for 2 copies, so you pay \$12 per copy.
- You get a 40% discount for 4 copies, so you pay \$9 per copy.
- You get a 60% discount for 60 copies, so you pay \$6 per copy.
- You get a 67% discount for 666 copies, so you pay \$4.95 per copy.

Use your past If you got a discount on an old edition (because you bought many copies), you get the same discount on the 20th. On your order, write "discount because of old edition purchases" and your phone number.

Disks

Instead of books printed on paper, you can request books printed on disks. For example, if you're ordering 4 books, you can include a note saying "Send 3 on paper and 1 on disks." Say which format you want: choose either ASCII or Word Perfect 5.1.

We'll send 1.44M disks (unless you request 1.2M, 720K, or 360K instead). The disks include 62 files totaling over 3 megs.

If you get books on disks, get at least one book on paper since the disks do *not* contain headlines, graphics, special symbols, and printer drivers.

Free reprints

You may copy this book free. Publish it yourself without paying us royalties! Just phone us first, send us one copy of your reprint, and begin your reprint with an acknowledgment paragraph copied from page 9 of the Guide.

Famous classics

For bargain hunters, **we've reprinted previous editions and offer them at new, low prices**. Now you get the 18th edition for just \$5 and the 11th edition for 80¢. Their unique charms have made reviews call them "famous classics". Though their essential info has been copied into the 20th edition, they remain popular because they contain hundreds of tidbits not in the 20th edition, reveal extra secrets about older computers, and cost you nearly nothing.

11th edition The 11th edition is a 2-volume set, now yours for just 40¢ per volume or 80¢ total.

Volume 1, "The Main Secrets", contains 351 pages explaining hardware concepts, the wildest applications, and BASIC's essentials. We've sold thousands of copies at its list price of \$14 or \$14.95, but now it's all yours for 40¢! By charging just 40¢ and not charging for postage, we lose money on every book we sell; but that's *fine*, since we're computer missionaries who don't look for profit.

Volume 2, "Deep Secrets", digs even deeper. Its 399 pages explain BASIC's advanced tricks, PASCAL, FORTRAN, COBOL, and exotic languages — for just 40¢!

We'll send you the 11th edition's special "Birkhauser version". It includes Russy-poo's devilish photo. (Heh, heh!)

18th edition The 18th edition contains 607 pages. Just a few months ago, we were selling it for its list price of \$15, but now you can get it for \$5! Unlike the 11th edition, the 18th edition includes MS-DOS, Windows, Macs, word processing, databases, spreadsheets, C, modern assembler, and the newest generation of hardware and discounters.

How to order To order those classic editions, use ~~the~~ coupon on the back page of this brochure. —

CALL 617-666-2666

MEMO from Russy-poo & computer missionaries

As you requested, here's the hot news about **The Secret Guide to Computers**, the **top-rated computer tutorial** published by computer missionaries. We happily announce: **the Secret Guide's 20th edition has come off the press!** This 20th anniversary edition is the amazing historic milestone we've longed for. **To get your copy of this new, hot edition, use coupon on the back page.**





The Secret Guide and our other services have been **rated "best"**. They've been praised on the front page of *The Wall Street Journal*. They've also been praised and used by *CBS News*, *USA Today*, *The New York Times*, *PC Magazine*, *PC World*, *Infoworld*, *Byte*, *Mac User*, *The Australian*, and dozens of other publications around the world.

This 20th edition contains more than 1,000 improvements over the 19th edition. It contains **totally new secrets about which computers to buy** (and which computer companies to avoid!), reveals **which ink-jet printer best matches YOUR personality**, and tutors you in the best tricks for using the hottest new word-processing program: **Microsoft Word 6!** It slices & dices even the toughest topics: how to **telecommunicate**, run the **BIOS CMOS setup program**, solve **Windows headaches**, and more!

It sets a new world's record in computer publishing for being up-to-date, detailed, comprehensive, frank, and easy to read. **Kids love its easy English; adults love its ruthless truths.**

It's massive! Its 639 *big* pages cover everything important about computers. **We've managed to squeeze even more secrets onto each page**, so this 20th edition teaches you more than its predecessors. But since we're computer missionaries, we still charge a list price of just \$15, give quantity discounts of 20%, 40%, 60%, and 67% (letting you get the book for as little as \$4.95 per copy), provide free shipping to all countries, and dispense free computer help (on our Computer Samaritan 24-hour hotline).

Like the previous edition, the 20th edition is neatly organized into **8 sections**, which in turn are divided into 53 chapters:

<u>Buyer's guide</u>	<u>Operating systems</u>	<u>Wild applications</u>	<u>Programming</u>	<u>Endnotes</u>
Chips	MS-DOS	Graphics	BASIC	Repairs
Disks	Mac system	Desktop publishing	DBASE	Our past
Screens	Windows	Sound	PASCAL	Your future
Printers		Multimedia	"C"	Numerical analysis
Other hardware		Communication	LOGO	Index
Software	<u>Word processing</u>	Accounting	FORTRAN	Coupons
IBM-compatibles	Ami Pro	Personal programs	COBOL	
Apple	Microsoft Word	Games	Strange tongues	
Alternative computers	Q&A Write	Artificial intelligence	Assembler	
	<u>Databases</u>			
	Q&A File			
	Advanced databases			
	<u>Spreadsheets</u>			
	Excel			
	1-2-3 & Quattro			

Each section also begins with an intro chapter called "Background", and the entire book begins with a prefatory chapter called "Opening comments".

But that's not all! Read on. . . .



SERIES $N=(10^Y-1) \times 10^9 + 1$

Y.....N

- 4.....99990'00001=PRIME
- 5.....9'99999'00001=PRIME
- 6.....99'99999'00001=PRIME
- 7.....999'99999'00001=PRIME

SERIES $N=(10^Y+9)$

Y.....N

- 1.....19=PRIME
- 2.....109=PRIME
- 3.....1009=PRIME
- 4.....10009=PRIME
- 9.....10000'00009=PRIME

SERIES $N=((10^Y-1)/3)+4$

Y.....N

- 1.....7=PRIME
- 2.....37=PRIME
- 3.....337=PRIME
- 6.....3'33337=PRIME

SERIES $N=(2^Y+1)$

Y.....N

- 1.....3=PRIME
- 2.....5=PRIME
- 4.....17=PRIME
- 8.....257=PRIME
- 16.....65537=PRIME

SERIES $N=(3^Y-2)$

Y.....N

- 1.....1
- 2.....7=PRIME
- 4.....79=PRIME
- 5.....241=PRIME

6.....727=PRIME

9.....19681=PRIME

22.....3'13810'59607=PRIME

SERIES $N=(3^Y+2)$

Y.....N

- 0.....3=PRIME
- 1.....5=PRIME
- 2.....11=PRIME
- 3.....29=PRIME
- 4.....83=PRIME
- 8.....6563=PRIME
- 10.....59051=PRIME
- 14.....47'82971=PRIME
- 15.....143'48909=PRIME
- 24.....28'24295'36483=PRIME
- 26.....69'32361'34999=PRIME

SERIES $N=(7^Y+2)/3$

Y.....N

- 1.....3=PRIME
- 2.....17=PRIME
- 6.....39217=PRIME
- 9.....134'51203=PRIME
- 12.....38412'87199=PRIME
- 14.....22'60743'57617=PRIME

SERIES $N=(7^Y-2)$

Y.....N

- 1.....5=PRIME
- 2.....47=PRIME
- 3.....341=PRIME
- 4.....2399=PRIME
- 7.....8'23541=PRIME
- 8.....57'64799=PRIME
- 12.....34812'87199=PRIME
- 15.....474'75615'09941(?)

111234567890098765432111
 1 1
 1 PLAYING WITH NUMBERS 1
 0 No 14 0
 9 By Meredith Beyers 9
 9 9
 999876543210012345678999

MORE OF THE ...
 PRIME NUMBERS OF LIMITLESS SERIES:

In previous months, we appended some primes generated by three limitless series, $N=(10^Y-7)$, $(2 \times 10^Y+1)$ and $(5 \times 10^Y+1)$. For all values of Y each member of each series has a predicted least factor of 3, and the quotient of division by 3 is factored to discover the primes. Anyone testing those series on the original issue of this article will discover that this operation, $(N)/3$, was inadvertently omitted from the title of the third series, $(5 \times 10^Y+1)$. Please note that we have corrected the error on this issue.

SERIES $N=(3 \times 10^Y+1)$

Y.....N
 1.....31=PRIME
 3.....3001=PRIME
 7.....300'00001=PRIME
 10.....3'00000'00001=PRIME

SERIES $N=(4 \times 10^Y+1)$

Y.....N
 1.....41=PRIME
 2.....401=PRIME
 3.....4001=PRIME
 13.....4000'00000'00001=PRIME

SERIES $N=(6 \times 10^Y+1)$

Y.....N
 1.....61=PRIME
 2.....601=PRIME
 8.....6000'00001=PRIME
 9.....60000'00001=PRIME

SERIES $N=(7 \times 10^Y+1)$

Y.....N
 1.....71=PRIME
 2.....701=PRIME
 3.....7001=PRIME
 4.....70001=PRIME
 5.....700001=PRIME
 8.....7000'00001=PRIME
 9.....70000'00001=PRIME

SERIES $N=(9 \times 10^Y+1)$

Y.....N
 3.....9001=PRIME
 4.....90001=PRIME
 5.....900001=PRIME
 9.....90000'00001=PRIME

SERIES $N=(10^Y-1) \times 10^2+1$

Y.....N
 2.....9901=PRIME
 3.....99901=PRIME
 5.....99'99901=PRIME

SERIES $N=(10^Y-1) \times 10^3+1$

Y.....N
 1.....9001=PRIME
 6.....9999'99001=PRIME
 7.....99999'99001=PRIME

SERIES $N=(10^Y-1) \times 10^4+1$

Y.....N
 1.....90001=PRIME
 2.....9'90001=PRIME
 4.....999'90001=PRIME
 10.....9999'99999'90001=PRIME

SERIES $N=(10^Y-1) \times 10^5+1$

Y.....N
 1.....9'00001=PRIME
 3.....999'00001=PRIME
 8.....999'99999'00001=PRIME

THE PUG PERIPHERAL

NEW TRIX
By Andy Frueh
Lima UG

This article deals with a few unique tricks that I found useful. They are worth looking over.

- 1) If you have a D/V 40, 132, or whatever text file that you need to edit with TI Writer, you can change it to a D/V 80 file by using a sector editor. TI Writer will load ONLY D/V 80 files. Find the header sector of the D/V file. Edit that sector in HEX mode. Go to byte >11. If the file is D/V 40, you should see the number 28 ("(" in ASCII) here. To change it to an "80" (or "P in ASCII), type the number 50 over the 28.
- 2) Remember that E is an accepted number in TI Writer. For example, to delete from line 470 to the end of the file, Delete, then use 470,E as your numbers.
- 3) It seems that there is a toll free number for finding almost all kinds of computer stuff. It would appear to be a "Computer Buyers Guide" on the phone. The number is 1-800-366-0676. [Actually, this is sales information of "Vulcan Publications, Inc. --Ed.]
- 4) You can hook up the computer to a VCR using a standard 300 ohm to 75 ohm TV antenna adaptor or a composite monitor cable. Adapters are found with almost all home video game systems or at radio supply stores. It has a cable TV male connector and two screw terminals. The male plug goes into the "CABLE IN" jack of the VCR. The screw terminals go to the modulator's "TO TV" wire. You can then hook the VCR to a stereo's "AUX IN" jack, using a standard audio/video cable. Plug the other end into the "AUDIO OUT" on the VCR. You can then hear improved sound and record the computer's output. Note that this isn't as good as using a monitor cable into the "AUDIO IN" and "VIDEO IN" of the VCR, but it works for those without monitors.
- 5) If a disk doesn't seem to initialize, don't give up. First, inspect the disk for cuts or grooves. Check the visible surface on the BACK of the disk, since data is recorded on the opposite side of the label. If nothing looks wrong, continue to re-initialize the disk. Make sure that you validate each sector. Chances are, some sectors will be bad. Choosing the validate feature marks each bad sector as used. After trying this for awhile, the disk should operate.
- 6) Finally, for those without a monitor, here is another use for the adaptor mentioned above. I have the following display setup: a TI with 2 separate RF modulators. Each one is constantly hooked up to a TV. Only one of the DIN end plugs is connected at a time. I use a small black and white TV on the PE box (with adequate ventilation) whenever anyone needs to use the larger color TV (which is also connected to cable and a Nintendo). The problem is when I'd use the color TV, either with the computer or without (i.e. I'd be using the B&W TV), I would get interference from the computer. Placing the antenna adaptor between the color TV and it's modulator clears up the interference.

MAILING LIST MANAGER V1.1 RELEASED

Bill Gaskill announced the release of Mailing List Manager on March 6, 1995. As the name implies, MLM is designed to manage home and small business mailing lists.

Although MLM is a full-featured productivity tool, Gaskill says he wrote the program with ease-of-use always at the top of the features list.

MLM offers the user unlimited file sizes, highly readable inverse video field names and prompts, a lightning quick assembly language file sort, 18 menu options divided into two screens, single-key-press selection of any item on either menu, and single-key-press switching between the two screens.

Menu options include the ability to Add, Browse, Delete, Find, Globally Delete, Index, Merge, Report, Sort and create Subfiles. MLM also provides for envelope addressing, Columnar, Label or Rolodex type report printing.

If you don't really have the time or desire to learn yet another piece of software for your 99/4A, MLM has a Label Editor that lets you design, save and print up to 19 mailing labels, so you can print labels without having to learn any other part of the program. A custom Label Maker is also included that does up to 99 mailing labels, disk labels or warning labels in one pass.

MLM also has Contact/Correspondence Management capabilities that allow you to attach up to 114 lines of free form text to any record in your mailing list. The text is also fully searchable and printable via a name, word or phrase in a file or range of files.

Finally, MLM allows data to be exported in ready-made TI-Writer Value Files for mail merging with form letters.

Mailing List Manager requires 32K RAM, Extended Basic, at least 1 disk drive of any density and a printer if hardcopy output is desired. It is also immediately useable from any valid Horizon Ramdisk drive (1-9, A-Z).

The program is available from the club library for try-before-you-buy purposes or directly from the author for a \$15 shareware fee. Mailing List Manager may be purchased from Bill Gaskill 2310 Cypress Ct Grand Junction, CO 81506.

THIS IS OUR APRIL D.O.M.
142.

TI vs PENTIUM?

Reprinted from the December issue of Wordplay, the newsletter of the Portland Users of Ninety-Nines:

By the way, did you know that your TI is more accurate on floating point math operations than the flawed Pentium chips? Yup, it's true. Pentium has error at 9 decimal places. The TI, while displaying 10 digits, actually keeps precision to 13 or 14 places internally. Displaying only 10 digits *usually* will eliminate cumulative round-off errors. However, *all* computers have limitations that can under the right circumstances give an incorrect answer.

Try $X=2/3-1/3-1/3$. This will give a non zero answer-- i.e.-14, indicating a problem in the 14th place (on a TI).