



ISSUE #5 MAY 1989

FOR THE RECORD

by Frank N. Zic
(Acting Secretary)

The April meeting was called to order by President Mickey Schmitt at 7:20 PM. She made an announcement that the Ottawa faire was being held on April 29 and asked how many planned to go. 7 brave members responded affirmatively (they must be brave to go after hearing some of the Nomad stories from other recent trips). Is it possible they could get lost forever in the Canadian wilds? ... nah. The Lima, Ohio faire will be held May 20. I'm sure another expedition will be formed for those who survive the Canadian trip. Also note that there is a computer ham feist at nearby Wheeling, WV. Mickey made appreciative comments to the officers and all the others in the membership that always pitch in and help with the various small tasks that are so essential to having a good club, such as we maintain. For example, Jan came in late but were the goodies late? ... no way. Jose'. Ed, too, was detained in traffic but were the meeting minutes neglected? .. no-no.

Rob Ekl our librarian announced that 15 new disks were added to the club library, including MX-DOS and PLUS! v1.8. He also passed out a list of the other new additions. Rob's father, Joe, was speechless. That is to say he had no new messages on the membership campaign.

Under Old business, John Willforth brought in 7 accoustical 300 baud phone modems for distribution. He later interestingly entertained the group by tearing apart a P-Box. The only disliked part of his class was when he asked questions. (What a guy, and how fortunate we are).

Under New business, Mickey commented that if anyone wanted time to demo anything all they have to do is ask. There will be a Faire in Carlisle, Pa. on Oct 15. The PUG and West Penn groups will sponser 2 tables. More details later. Gene Kelly mentioned that today was the last day for submitting a Logo for the club contest. The winner will be voted on next meeting. The prize, while a secret, is supposed to be a dandy. Paul Brock handed out an Index of articles he made up from the March and April newsletters. William Vorp gave a demo on loading extra long cassette programs. Gary Taylor mentioned that a magazine called Directions would be willing to publish some user group articles. Well I'd better close now as Scoops says I get pretty windy. May the good 4's be with you.

Respectfully submitted,
Frank N. Zic

WEST PENN 99'ERS CLUB INFORMATION

TREASURER'S REPORT FOR APRIL 1989

NEXT MEETING DATE: MAY 16 1989
 MEETING LOCATION: UNITED PRESBYTERIAN CHURCH OF THE COVENANT
 CORNER OF 4TH AND OAK STREETS, IRWIN
 TIME OF MEETING: 7:00 P.M.

LIST OF WEST PENN OFFICERS FOR 1989

PRESIDENT: MICKEY 335-0163
 VICE PRESIDENT: SCOTT 523-3754
 TREASURER: JAN 863-1575
 RECORDING SEC: ED 864-4924
 CORRESPONDING SEC: GENE 829-0469
 LIBRARIAN: ROB 864-1233
 NEWSLETTER EDITOR: JOHN 527-6656

GENERAL ITINERARY OF THE CLUB'S MEETING

6:45 P.M. DOORS OPEN
 7:00 P.M. GENERAL MEETING
 7:45 P.M. DEMOS AND NEW INFO
 8:45 P.M. HARDWARE CLASS
 8:45 P.M. INTRO TO FORTH
 8:45 P.M. TIPS FOR BEGINNERS
 8:45 P.M. USING YOUR CASSETTE
 11:00 P.M. DOORS CLOSE

MEETING HIGHLIGHTS FOR THIS MONTH

VOTING ON LOGO FOR THE WEST PENN 99'ERS
 NEW T.I. PRODUCTS, FROM THE OTTAWA SHOW
 ARTIST BORDERS, DEMO BY MICKEY SCHMITT
 LIBRARY "DEMO OF THE MONTH" BY ROB EKL
 LATEST SOFTWARE DEMOS BY JOHN WILLFORTH

RENEW YOUR MEMBERSHIP DUES!

\$15.00 PER YEAR FOR INDIVIDUAL / FAMILY
 \$10.00 PER YEAR FOR JUST THE NEWSLETTER

FROM JAN TRAYERS

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* 4/17 CASH ON HAND $ 50.00 *
*
* " LIBRARY SALES 40.00 *
*
* " MICROPENDIUMS 39.75 *
*
* TI BOOKS, ETC. 38.00 *
*
* DISKS & CASES 60.00 *
*
* DUES 65.00 *
*
* TI BASE 48.00 *
*
* TOTAL $330.75 *
* 5/5 DEPOSIT - 280.75 *
*
* 5/5 CASH ON HAND 50.00 *
*****
*
* 4/10 BANK BALANCE $1494.55 *
*
* 4/10 DISKS & CASES -312.28 *
*
* 1182.27 *
* 5/3 JOHN (POSTAGE) - 62.60 *
*
* 1119.67 *
* 5/3 MICROPENDIUM - 30.00 *
*
* 1089.67 *
* 5/3 TABLES/HARISBRG - 25.00 *
*
* TOTAL 1064.67 *
* 5/5 DEPOSIT + 280.75 *
*
* TOTAL 1345.42 *
*****
* TOTAL CASH BALANCE $1395.42 *
*****
    
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EXECUTIVE MEETING immediately after the regular meeting May 16th. All officers are requested to attend.

ALL MEMBERS please think about any possible new meeting locations. Our club has recieved word that the Church can no longer have outside groups meet without church representatives present. Think about location, cost, and capacity. We need facility for at least 50.

COMPUTER SMYTH'S PRECEDENCE CHART (ASCII)

Dec.	Binary	Octal	Hex	Char.	Alternate Name(s)	Dec.	Binary	Octal	Hex	Char.	Alternate Name(s)
0	0000000	000	00	NUL	NULL, CNTL @	64	1000000	100	40	@	AT SIGN
1	0000001	001	01	SOH	START OF HEADER	65	1000001	101	41	A	UPPER CASE "A"
2	0000010	002	02	STX	START OF TEXT	66	1000010	102	42	B	
3	0000011	003	03	ETX	END OF TEXT	67	1000011	103	43	C	
4	0000100	004	04	EOT	END OF TRANSMISSN	68	1000100	104	44	D	
5	0000101	005	05	ENQ	ENQUIRY	69	1000101	105	45	E	
6	0000110	006	06	ACK	ACKNOWLEDGE	70	1000110	106	46	F	
7	0000111	007	07	BEL	BELL, ALARM	71	1000111	107	47	G	
8	0001000	010	08	BS	BACKSPACE	72	1001000	110	48	H	UPPER CASE "H"
9	0001001	011	09	HT	HORIZ. TAB	73	1001001	111	49	I	
10	0001010	012	0A	LF	LINE FEED, NL	74	1001010	112	4A	J	
11	0001011	013	0B	VT	VERT. TAB, VTAB	75	1001011	113	4B	K	
12	0001100	014	0C	FF	FORM FEED, PAGE	76	1001100	114	4C	L	
13	0001101	015	0D	CR	CARRIAGE RET., EOL	77	1001101	115	4D	M	
14	0001110	016	0E	SO	SHIFT OUT, RED	78	1001110	116	4E	N	
15	0001111	017	0F	SI	SHIFT IN, BLACK	79	1001111	117	4F	O	
16	0010000	020	10	DLE	DATA LINK ESC, DCO	80	1010000	120	50	P	UPPER CASE "P"
17	0010001	021	11	DC1	XON, READER ON	81	1010001	121	51	Q	
18	0010010	022	12	DC2	TAPE, PUNCH ON	82	1010010	122	52	R	
19	0010011	023	13	DC3	XOFF, READER OFF	83	1010011	123	53	S	
20	0010100	024	14	DC4	PUNCH OFF	84	1010100	124	54	T	
21	0010101	025	15	NAK	NEG. ACKNOWLEDGE	85	1010101	125	55	U	
22	0010110	026	16	SYN	SYNCHRONOUS IDLE	86	1010110	126	56	V	
23	0010111	027	17	ETB	END OF TXT BUFFER	87	1010111	127	57	W	
24	0011000	030	18	CAN	CANCEL, CANCL	88	1011000	130	58	X	UPPER CASE "X"
25	0011001	031	19	EM	END OF MEDIUM	89	1011001	131	59	Y	
26	0011010	032	1A	SUB	SUBSTITUTE	90	1011010	132	5A	Z	
27	0011011	033	1B	ESC	ESCAPE, PREFIX	91	1011011	133	5B	[	LEFT BRACKET
28	0011100	034	1C	FS	FILE SEPARATOR	92	1011100	134	5C	\	BACK SLASH
29	0011101	035	1D	GS	GROUP SEPARATOR	93	1011101	135	5D	]	RIGHT BRACKET
30	0011110	036	1E	RS	RECORD SEPARATOR	94	1011110	136	5E	^	UP ARROW
31	0011111	037	1F	US	UNIT SEPARATOR	95	1011111	137	5F	_	UNDERLINE
32	0100000	040	20	SP	SPACE, BLANK	96	1100000	140	60	`	ACCENT GRAVE
33	0100001	041	21	!	EXCLAMATION POINT	97	1100001	141	61	a	LOWER CASE "A"
34	0100010	042	22	"	QUOTE MARK	98	1100010	142	62	b	
35	0100011	043	23	#	POUND SIGN	99	1100011	143	63	c	
36	0100100	044	24	\$	DOLLAR SIGN	100	1100100	144	64	d	
37	0100101	045	25	%	PERCENT SIGN	101	1100101	145	65	e	
38	0100110	046	26	&	AMPERSAND	102	1100110	146	66	f	
39	0100111	047	27	'	APOSTROPHE	103	1100111	147	67	g	
40	0101000	050	28	(	LEFT PARENTHESIS	104	1101000	150	68	h	LOWER CASE "H"
41	0101001	051	29	)	RIGHT PARENTHESIS	105	1101001	151	69	i	
42	0101010	052	2A	*	ASTERISK, STAR	106	1101010	152	6A	j	
43	0101011	053	2B	+	PLUS SIGN	107	1101011	153	6B	k	
44	0101100	054	2C	,	COMMA	108	1101100	154	6C	l	
45	0101101	055	2D	-	DASH, MINUS SIGN	109	1101101	155	6D	m	
46	0101110	056	2E	.	PERIOD, DOT	110	1101110	156	6E	n	
47	0101111	057	2F	/	SLASH	111	1101111	157	6F	o	
48	0110000	060	30	0	NUMBER ZERO	112	1110000	160	70	p	LOWER CASE "P"
49	0110001	061	31	1	NUMBER ONE	113	1110001	161	71	q	
50	0110010	062	32	2	NUMBER TWO	114	1110010	162	72	r	
51	0110011	063	33	3	NUMBER THREE	115	1110011	163	73	s	
52	0110100	064	34	4	NUMBER FOUR	116	1110100	164	74	t	
53	0110101	065	35	5	NUMBER FIVE	117	1110101	165	75	u	
54	0110110	066	36	6	NUMBER SIX	118	1110110	166	76	v	
55	0110111	067	37	7	NUMBER SEVEN	119	1110111	167	77	w	
56	0111000	070	38	8	NUMBER EIGHT	120	1111000	170	78	x	LOWER CASE "X"
57	0111001	071	39	9	NUMBER NINE	121	1111001	171	79	y	
58	0111010	072	3A	:	COLON	122	1111010	172	7A	z	
59	0111011	073	3B	;	SEMICOLON	123	1111011	173	7B	{	LEFT CURLY BRKT
60	0111100	074	3C	<	LESS THAN	124	1111100	174	7C	|	VERTICAL SLASH
61	0111101	075	3D	=	EQUAL SIGN	125	1111101	175	7D	}	Alt Mode, Rt Curly Bkt
62	0111110	076	3E	>	GREATER THAN	126	1111110	176	7E	~	TILDE
63	0111111	077	3F	?	QUESTION MARK	127	1111111	177	7F	DEL	DELETE, RUBOUT

DISK DRIVES #8
by John F. Willforth (WP99 May, '89)

This month I'm going to talk about a more technical aspect of disk drives and that is ALIGNMENT. Specifically the Head Alignment. You must first understand the physical relationship between the drive and any media you insert.

COMPATIBILITY is probably the main concern here between the media that you create and that which is created either by a fellow TI user, or any commercial program you purchase. In order to have this compatibility, a standard must be adhered to by all creating the media, and reading it. The Alignment Disk!

Before attempting to align, check:

- * Drive rotational speed. For 5 1/4" drives 300 RPM is ideal.
- * Check for gummy residue on carriage shafts.
- * Check for sloppy or worn parts in all areas governing head travel from the stepping motor to the head(s).
- * See if you can read a file that was just written to a disk.
- * If single-sided check felt pad on the Upper Arm Assembly.
- * If double-sided determine if problem is exclusive to one head, by initializing a good diskette, and monitoring the VERIFY.
- * Be certain that Track 00 End Stop is adjusted so as to not limit movement of head(s) to track 0.
- * These are some major causes of READ errors, and DO NOT WARRANT ALIGNMENT!

If you can't afford an Alignment Disk as is the case with most of us, get a friend with a new, low mileage disk to create two diskettes for you. One will be just a regular initialized diskette single or double sided as your needs dictate, and the other a diskette with a "LOAD" file runnable from Extended and filled with other runnable programs that will be used in "seat-of-the-pants" disk alignment.

These two diskettes will be used next month, however, since this month I will discuss the right way to do it. Well almost? We won't use a scope to do the adjustment and see the famous "CAT'S EYE", but rather an inexpensive NULL METER made from an ANALOG VOLTMETER and a simple circuit shown in Figure 1. CE Disk refers to "Cats Eye".

The circuit shown below, in Figure 1 can be integrated into the Exerciser I described to you several months ago.

After building the circuit, attach an Analog Voltmeter to "C" and it's ground reference to "D". Attach "B" to the logic ground of the drive being aligned. The hardest part is finding a point to attach "A" which is the read data in analog form coming from the head selected. This will, of course, be found on the drive logic board, and may be a leg of an IC chip, test point or resistor lead, depending on your drive.

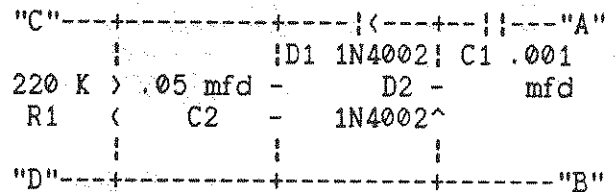


FIG. 1

If you are sure you are now ready, we can put the write protected CE disk another term for the Alignment Disk in the drive. Power up the Exerciser or where you couldn't get one built, you may use your system and a good Disk Utility program that will be used in either case to position and select the head to read the alignment track from Track 16. Before you do any adjustment warm up the drive and media by selecting to turn the MOTOR ON. You may in the case of using your system for this use Advanced Diagnostic, or short pin 16 on the edge connector to the logic board to ground (any odd pin). Do this only with the logic cable disconnected from your controller, but with power cable attached.

When ready, step the head to TK 16, and verify if no reading on NULL METER by stepping one track either direction IN or OUT, also being sure that the correct head has been selected! Locate and loosen the collar, motor housing, or whatever type head alignment device your drive is equipped with. Be sure to hold it as you loosen, so that you are in the general area that you started, and as soon as some freedom is felt, look at the NULL METER. When appx. 3v is reached lock it down. More in June.

PRIME NUMBERS REVISITED

by John F. Willforth

Below you will find a variety of BASIC and EXTENDED BASIC programs that will either tell you if a number is PRIME or will list all PRIME NUMBERS to the screen or to a printer. Some I have written, others were written by those whose names are mentioned in the REM statements. These programs ALL RUN!

<pre>100 REM BASIC CONSOLE REQ. 110 REM CHANGE 300 TO 3000 IN LINES 140,150,180,& 230 IF EXP. MEMORY AVAILABLE. 120 CALL CLEAR</pre>	<pre>130 PRINT "PRIME NUMBERS AR E:" 140 DIM X(300) 150 FOR I=1 TO 300 160 X(I)=I</pre>	<pre>170 NEXT I 180 FOR I=2 TO 300 190 IF (X(I)=0) THEN 250 200 IF I<3 THEN 220 210 PRINT :I</pre>	<pre>220 KTR=I+I 230 FOR K=KTR TO 300 STEP I 240 X(K)=0 250 NEXT K 260 NEXT I</pre>
<pre>100 REM BASIC CONSOLE REQ. 110 REM TEST WHETHER A NUMBE R IS PRIME 120 REM BASED ON FERMAT'S TH EORN 130 REM USE PROBABLISTIC TES T 140 REM SEE KNUTH "SEMINUMER ICAL ALGORITHMS" 150 REM ===== 160 REM REVISED FOR THE TI-9 9/4A BY: 170 REM P.C. VAN NORDSTRAND (JSC USERS GROUP) 180 REM ORIGINAL TRS-80 PROG RAM BY JOHN SMITH 190 REM PUBLISHED IN BYTE MA</pre>	<pre>GAZINE, JAN. 1983 200 REM K=NO. OF PASSES 210 K=10 220 REM GET NUMBER TO BE TES TED. CHECK SIZE 230 CALL CLEAR 240 INPUT "NUMBER TO BE TEST ED PRIME = ":N 250 IF N<3 THEN 510 260 IF N>99999999 THEN 530 270 REM DETERMINE IF N IS PR IME 280 FOR I=1 TO K 290 X=2+INT((N-2)*RND) 300 GOSUB 400 310 IF X<>1 THEN 330 320 NEXT I</pre>	<pre>330 PRINT : 340 REM ===== 350 IF Y=1 THEN 550 360 IF Y<>1 THEN 580 370 GOTO 230 380 REM ===== 390 REM SUBROUTINE COMPUTE Y =X^(N-1) MOD N 400 Y=1 410 P=N-1 420 REM IF P IS EVEN, SKIP 430 IF P/2=INT(P/2) THEN 460 440 Y=Y*X 450 Y=Y-INT(Y/N)*N 460 X=X*X 470 Y=Y-INT(Y/N)*N 480 P=INT(P/2)</pre>	<pre>490 IF P>0 THEN 430 500 RETURN 510 PRINT "TOO SMALL" 520 GOTO 230 530 PRINT "TOO BIG" 540 GOTO 230 550 PRINT N;" IS PROBABLY PR IME." 560 GOSUB 610 570 GOTO 360 580 PRINT N;" IS NOT PRIME" 590 GOSUB 610 600 GOTO 370 610 INPUT "MORE? (Y/N):":A\$ 620 IF A\$="Y" THEN 640 630 IF A\$="N" THEN 550 640 RETURN 650 STOP</pre>
<pre>100 REM BASIC CONSOLE REQ. 110 REM PRIME NUMBER 120 REM GENERATOR 130 REM BY 140 REM RAY SANTUCCI 150 REM WEST PENN 99'ERS</pre>	<pre>160 REM USERS GROUP 170 CALL CLEAR 180 PRINT "PRIME": "NUMBERS": "" 190 IF N>2 THEN 220 200 N=N+1</pre>	<pre>210 GOTO 240 220 N=N+2 230 GOTO 240 240 FOR R=3 TO N/2 STEP 2 250 TEST=N/R 260 IF TEST=INT(TEST) THEN 19</pre>	<pre>0 270 NEXT R 280 IF N<3 THEN 190 290 PRINT N 300 GOTO 190</pre>
<pre>100 ! XB AND PRINTER REQ. 110 CALL CLEAR 120 N=2 130 P%=CHR\$(46)</pre>	<pre>140 OPEN #1:"PIO" 150 PRINT #1:" IME NUMBERS": : : 160 N=N+1</pre>	<pre>170 FOR TEST=1 TO N 180 A=N/TEST 190 A%=STR\$(A) 200 F=POS(A%,P%,1)</pre>	<pre>210 IF F=0 THEN 230 220 NEXT TEST 230 IF A=N THEN 220 240 IF A=1 THEN PRINT N 250 GOTO 160</pre>
<pre>100 ! XB, 32K, PRINTER REQ. 110 ! EXT. BASIC VERSION 120 CALL CLEAR 130 DISPLAY AT(12,8):"PRIME NUMBERS TO 3000"</pre>	<pre>140 OPEN #1:"PIO" 150 DIM X(3000) 160 FOR I=1 TO 3000 170 X(I)=I 180 NEXT I</pre>	<pre>190 PRINT #1:"PRIME NUMBERS TO 3000": : 200 FOR I=2 TO 3000 210 IF (X(I)=0) THEN GOTO 270 220 IF I>2 THEN PRINT #1:I</pre>	<pre>230 KTR=I+I 240 FOR K=KTR TO 3000 STEP I 250 X(K)=0 260 NEXT K 270 NEXT I 280 STOP</pre>

I haven't had time to do it, so here's a little challenge for you. Why print out the prime numbers each time you need them and go through a long list? I'd like to see a table printed out, maybe to 10000. I'll look for a prize to give.

Quote from Gary Taylor " men plan, the gods laugh".

LOOK AT THIS STATIC RAM (Bud Mills), it is a hybrid and one would make the a half-meg. Ram Disk. Two chips would give you a hefty one-meg. Ram Disk. It' a little pricey but I know that there are some who wouldn't care and would like to have, say, 32 of these on a Ram Disk. You would probably have to piggy-back to 2 levels, but that wouldn't cause any problem. This would give a max. capacity of 16-meg. bytes of Ram Disk, on one board, at a cost of about \$32,000.00. There is one problem as I see it, and that is that these are not Low Power, and as such would have to be loaded each time you lost the A.C. power to the P.E.B.. You would have to buy a HFDC card and a twenty-meg. hard drive just to back it up.

Looking at the above in the proper perspective, you can appreciate the difficulty that HORIZON, RAVE, and Data-Bio-Tics have in providing the STATIC MEMORY type Ram Disks for you. The chips that are used in these 3 units, are 256k bit (32K byte) packages, and they have become very pricey, perhaps not \$995.00 each in lots of 1000, but enough that for you to buy a half-meg. unit, would cost more than most of you have spent for your entire system.

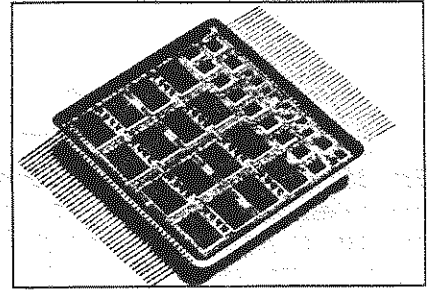
Those who have a Ram Disk of any type, are for the most part, very happy users. The Dynamic Memory types (CORCOMP and MYARC) cost quite a bit less at this time, and are recieving more attention. Many who are holding out for Static Ram units, have chosen to buy them as 0-K (no memory installed), and watch for "DEALS" that will enable them to populate their board as the funds become available. You may choose this method. Prices are very unstable and you may truly have lost out on your chance to get the Ram Disk you wanted for what I paid for mine. And I'm not tell'n you!

Now a little on the HFDC (Hard Floppy Disk Controller) by MYARC. Many of us feel that the main reason that the RAM DISKS were so successful on the TI-99/4A was because there was only one Hard Disk (Winchester, non-floppy) available for the TI community, and that was the original one built by MYARC 5 years ago, and which cost between \$1000. and \$1500. It wasn't fast by todays standards, and so Ram Disks which were much cheaper to build 4 years ago, started to appear. They gave us some capacity and much speed at a much lower cost. They have flourished in a fixed market. Well, MYARC has come up with an outstanding product which can support newer, faster, cheaper Hard drives, and do it on both the TI-99/4a and their own sucessor, the 9640. Running speed test between RAM DISKS and the HARD DRIVES on the HFDC, yield very similar times. You should be aware that you will need to develop a whole new filing structure for a Hard Drive, if you want to get the EASE of use that you are accustomed to on your TI with or without a Ram Disk. Like anything worthwhile, you'll have to investigate and plan if you expect to get a HFDC. Some dealers who have very good prices are:

Disk Only Software	:	COMPUNCTION
P.O. Box 4170	:	805 N. Mountain Road
Rockville, MD 20850	:	Harrisburg, PA 17112
800-446-4462	Touch-tone-order:	(717)540-8411 VOICE
(301)340-717	Voice	: (717)540-5369 FAX

4-Mbit SRAM MEMORY

Features complete CMOS design



The Model M4194 Kbit is a hybrid memory module that is user-configurable to 512K×8, 256K×16, or 128K×32. It is totally uncommitted until it is soldered to the PCB. When configured for 16- or 32-bit operation, the hybrid allows the user to select the bits to be used. It can also be handwired to allow the full 16- or 32-bit to be active at all times. Bytes written in the 8-bit mode can be read in the 16- or 32-bit mode with total word integrity. It is also possible for one computer to talk to the device in an 8-bit mode while another talks to it in a 16- or 32-bit mode. Price is \$995 in lots of 1000. Contact Dan Tarantine, White Technology, 4246 E. Wood St., Phoenix, AZ 85040. (602) 437-1520.

Using the now common term from "COMPUTER SHOPPER" advertisements, "CALL FOR PRICES". You will find that these are as LOW as any there are. You might also inquire about complete packages, i.e. HFDC and 20-meg. hard drive.

***** * EASY GRADER * *****
by Harold Hoyt

Now that my daughter, Kim, is a school teacher, I see that she can use all the help that she can get. I see her using a "slide rule table" for grading homework and tests. You move the number of problems on the test under a window and look up the percent right as a function of the number of questions missed. I thought that it might be handy to have several copies of this kind of table, produced by the computer for easy insertion in a notebook. Maybe all of the school teachers might find it handy.

In order to get a large table printed in a small space, a printer that can do condensed 136 characters and subscripts is required. The table covers a range of 4 to 99 problems. Some squirming was required to get everything to fit. The table is printed as three smaller tables. After each table is printed, the program stops to allow the operator to position the paper. After the paper is positioned as desired, press any key to continue. Do not turn off the printer to position the paper as the control codes to the printer are sent only once when the printer file is opened. The first two tables fit nicely on one 8.5 by 11" sheet and the third table nearly fills a second sheet.

One could make several copies of the table without separating the sheets and then put the paper back in the printer reversed so that the tables would print on both sides. One would have to stagger the printing by one sheet to come out even.

Problems 5 through 35 are in one table, 36 through 67 in a second, and 68 through 99 in the third. Line 100 opens the printer. Substitute codes as required for your printer into the string at the end of line 100. 27 65 06 sets line spacing at 6/72". 27 66 03 sets condensed. 27 92 01 slashes the zero and 27 83 01 sets subscripts. The 13 performs a carriage return to start a fresh line for the header.

For P=0 to 2 refers to pages or passes. Could have said T for tables? For C=4+32*P to 35+32*P allows the three tables to be non-overlapping. The rows are calculated to be one less than the maximum # of problems. The whole thing was designed without TAB settings using tricks to make each column entry right justified printing PRINT #1:RPT\$(" ",3-LEN(C\$))C\$; :This function will use 3 printing spaces if C\$ is 0,1,2 or 3 characters long.

The only meaningful calculation is in line 140 where C\$=STR\$(INT(100*((C-R)/C)+.5)). C is the total # of problems, R, the # wrong, is the row #. C-R/C is the fraction right. Multiplied by 100 is % right. Add 0.5 and do an INT rounds up to the nearest percent.

* EASY GRADER *
*
* THE PROGRAM *

```

1 SAVE DSK1.GRADER 1200
100 CALL CLEAR :: OPEN #1:"P
10",VARIABLE 136 :: FOR C=1
TO 14 :: PRINT #1:CHR$(VAL(S
E8("15276506276603279201278
30113",2*C-1,2))):; NEXT C
1147
110 X6=" Easy Grader
      by Harold Hoyt 10/1
1/88" :: DISPLAY AT(10,7):X6
:: FOR P=0 TO 2 :: PRINT #1
:X6:TAB(60);"# of Problems"
1047
120 PRINT #1:" Wrong";; FO
R C=4+32*P TO 35+32*P :: C$=
STR$(C):: PRINT #1:RPT$(" ",
3-LEN(C$))&C$;:; NEXT C :: P
RINT #1:" Wrong" !PrntHdr 11
43
130 FOR R=1 TO 34+P*32 :: R$
=STR$(R):: PRINT #1:TAB(8-LE
N(R$));R$;:; FOR C=4+32*P TO
35+32*P :: C$=" " :: IF C
<R THEN 150 1173
140 C$=STR$(INT(100*((C-R)/C
)+.5))1238
150 PRINT #1:RPT$(" ",3-LEN(
C$))&C$;:; NEXT C :: PRINT #
1:RPT$(" ",3-LEN(R$))&R$ ::
NEXT R 1135
160 DISPLAY AT(12,1):" " :: D
ISPLAY AT(12,1):"Press Any K
ey To Continue" :: CALL KEY(
0,K,S):: IF S=0 THEN 160 ::
DISPLAY AT(12,1):"Working" !
080
170 NEXT P :: CLOSE #1 1255

```

NOTICE !

EASY
GRADER
EXAMPLE
ON P. 8

MISC THINGS.....

CHRIS PRATT will not be in Rochester, NY after May 19th, so any who planned to write to him, requesting MAC graphics files for your MACFLIX will have to write to his home in Pennsylvania. Chris Pratt, 51 Landau Drive, Pulaski, PA 16143. Chriss will be in Washington, D.C. for the summer, and we may get that address for more rapid communication later.

I'll have copies of John Guion's "CONSOLE DEBUGGING HELP" at the WP99 and PUG meetings in MAY, provided you contact me more than one day before the meeting you will be attending, so that I can have your own personal set printed. If you cannot attend the meeting, please send a SASE (business envelope) to me at the address on this newsletter.

PAOLO BAGNARESI of Italy, has written up a working modification for those who wish to get the MYARC 512 to run with the MYARC 9640 (GENEVE). This is very extensive, and once done, will make it non-functional on the standard TI-99/4A. These instructions came off DELPHI. I'm told that there are two versions of the card that these instructions were written for, and you should as always, check the entire text of the instructions before starting to cut. If you would like a set of these instructions, contact me also. Send SASE (business size).

MOST COMPLETE USER GROUP LISTING EVER, was recently compiled by (Ms) ANDI WISE of the Eugene, OR users group. This is the first version, and as such has many duplications, but it does have nearly anybody anywhere who calls themselves a TI user included. Where she could use help, is by getting current info as to NAMES, ADDRESSES, Etc. Why not contact her at the address below, and let's get version II out. This could be an item that cements the TI users groups and individuals together. I know that perhaps 25 or 30 of the mailings we do, yield no response. I have to include a warning occasionally just to see if a group or an officer is still there. EUGENE 99/4A USERS GROUP, % Ms. WISE, PO BOX 11313 EUGENE, OR 97440.

OPA (Oasis Pensive Abacutors) Co-Processor. GARY BOWSER of Toronto, Ont. Canada, has been working on a Z80 card to run in the PEB with the TI-99/4A or the 9640. The card will allow a user to run Z80 assembly code plus the games from COLECOVISION with a big increase of speed over other Z80 computers. This is so because the CPU used in this card can run up to 25 Mhz, which is about six times faster the most common Z80 chip in use (running at about 4 Mhz). The card is designed to fully interface with the TI 9900 processor in a co-processor/Multiprocessor type system to give you the increased speed and memory in TI programs designed with with Z80 code, making use of the many possible functions with the cards CPU and memory. A new enhanced BASIC is planned. Gary is looking for a MORNINGSTAR CP/M CARD in order to make his card compatible with any CP/M software that was written for it. There is just too many things to tell you about the card in this space. If interested, write: GARY BOWSER, 432 Jarvis Street #502, Toronto, Ontario, M4Y-2H3 CANADA Ph.-(416) 960-0925

Please excuse the change in print again, they were taking the system at W down for maintenance and I was't done. So this is being finished on a typewriter and in a very precarious location.

This newsletter is going to be two pages shorter than normal because of the very humid weather. The moisture makes the paper heavier, and as a result the U.S. and Canadian Postal authorities want more money.

REMINDER.... Please think about writing an article for the West Penn newsletter. We'd all like to read about your thoughts or maybe key in a program you wrote. Remember this is your newsletter, not MINE!

ON PASCAL....

These articles were written by Stanley Katzman, 1142 Skyline Dr., Greensburg, Pa. 15601.

If you can add anything to this body of information please write to me so that we can share information.

At the present time I would like to be able to "bulletproof" a Pascal program so that if one accidentally hits a letter key in place of an integer or a real that the program will not bomb out. If you know of any way of doing this please write to me at the above address. I have tried engaging the {\$I-} compiler option and then checking with the IORESULT intrinsic but this did not work for me because when I checked it the IORESULT was always "0". Which meant that nothing was wrong when a letter was entered for a number, but the program did not bomb.

I would also like to be able to read the disk directory within a program, so if anyone has a routine that would do this I would like to see the source code.

If anyone knows of any commercial programs for the p-System please write and tell me what they are, where they can be purchased and what the cost is. T. I. sold one program, that I know of, and that was a income tax program.

I have made a few programs for my own usage which I would be happy to share. The programs are a Rollbook program (I teach college), a Gas and Electric bill analyzer program and several chemical calculation programs. All of the programs work for me. I have been in correspondence with the USUS group but they do not have many programs for the T. I., the majority of their programs are for the Apple. They want people to translate Apple programs to the T. I. I do not feel that the USUS group is for me because there is very little support for the T. I. community.

WEST PENN 99'ERS

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