

ISSUE #61 Sept. 1990

**FOR THE RECORD**  
by Ed Bittner

It's good to be back at the old keyboard for the chance to report on the August meeting of the WEST PENN 99'ERS. For those of you who do not regularly attend, I do now have a feeling of what you've been missing. Fortunately, through the capable hands of Frank Zic, our acting Rec Sec., and his substitute acting acting Rec Sec. John Willforth, we non attendees missed nothing but the entertainment, education, and just plain fun that the WEST PENN 99ERS' meeting have come to portray.

President M. Schmitt opened the meeting promptly at 7:08 PM. Gene Kelly was not to be found but indeed Ed Bittner did show. WOW. Little has been added to the non-software library but newsletters from other groups and the videotape from the Lima show are available. Speaking of shows, two upcoming favorites are :: Chicago TI Faire November 3 :: and Harrisburg (Hershey Park) Oct. 7, 1990. If interested in a table, see Mickey soon.

Discussion moved to the domain of some of our club members . specifically the Prototype board (Scott Coleman and John Willforth) and the Zeno board, (Eric Zeno) who indeed has several remaining and is toying with having another batch produced. If you can use either of the two afore mentioned products contact those members.

As of August 21, Librarian Bob Sadusky has put several new programs (Disk Format). 1) Word Search, by Jimmie Gordon ; 2) Utilities- an upbeat TI-Writer, EA5 Loader, REDISKIT, Arch3.03, ScreenReader, Filereader, Calendar Pgm.) Wow,,; 3) Surgeon General's Report on AIDS- DV80 File,,; 4) TI-Cartoons and Slides (like Facemaker), and TI-Artist Instances (5 Diskettes). Wow !! The Library is Loaded. Come visit Your Club at the next meeting and take advantage of the software.

Joe Ekl distributed copies of our software library and we were entertained by Chris Pratt (Electronic Systems Dev. Corp.) on an HDFC or HFDC (controller- hard -floppy-drive , are the words, the sure of which I'm not order). It can control 4 HDs and 4 FDs and to do it justice here, I can not! Contact Chris.( PS gary Taylor may have one soon!)

Mickey and Mike, (M & M) have formed a new software company called **MX EXPRESS SOFTWARE**. We all wish them luck and good fortune with this adventure. Thanks to Frank Foster for the goodies and Art for the juice. Raffles galore, many prizes, lots of fun.. Next time don't miss it !!!

Revitalizingly submitted,  
Scoops Bittner

WEST PENN 99'ERS CLUB INFORMATION

NEXT MEETING DATE: SEPTEMBER 18 1990
MEETING LOCATION: ST. STEPHEN'S BYZANTINE CATHOLIC CHURCH
JUST OFF ROUTE 30 BETHEL ROAD, NORWIN
TIME OF MEETING: 7:00 P.M.

LIST OF WEST PENN OFFICERS FOR 1990

PRESIDENT: MICKEY 335-0163
VICE PRESIDENT: SCOTT 523-3754
TREASURER: LYNN 835-4304
RECORDING SEC: ED 864-4924
CORRESPONDING SEC: GENE 829-0469
LIBRARIAN: BOB 863-5672
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 & PRINTERS
8:45 P.M. INTRO TO ASSEMBLY
11:00 P.M. DOORS CLOSE

MEETING HIGHLIGHTS FOR THIS MONTH

LATEST T.I. NEWS AND SOFTWARE DISCOUNTS
PREMIER RELEASES BY MS EXPRESS SOFTWARE
"ADVENTURE HINTS," DEMO BY LYNN GARDNER
"GALACTIC EMPERORS," DEMO BY ERIC KEPES
"SLIDING BLOCK PUZZLES," BY NORM ROKKE
KARATE CHALLENGE, DEMO BY FRANK ZIC

RENEW YOUR MEMBERSHIP DUES!

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

FROM THE EDITOR.....

We had over forty members as well as several guests at the August WP99 meeting. With the latest member from Florida, our membership is at 71 and if the normal trend continues, we'll be at about 75. This will be only the first year that we did not surpass the previous year in membership and in fact had a slight decline. I wouldn't hit the panic button, since we are still seeing improvements in existing software, as well as some new and exciting programs coming out weekly. Remember, this is the 61st newsletter from the West Penn 99ers and this club didn't even exist for the first year after TI pulled out of the home computer market.

I got my first TI .....Feb. 84
TI dropped 99/4A.....Dec. 84
West Penn newsletter....Oct. 85

Who can really say how many more years we will be able to say that there is a new piece of commercial software available, or that a new piece of hardware is being released for the TI community. But you know that I don't use the TI to be in "vogue" but because it does what a computer is supposed to do, and it does it easily and with as much pizzazz as any.

If no one ever writes another program for the TI, it has served well and since electricity coming into the house and paper and ribbons for the ribbons and even the printers themselves, will always be available, the TI will be making people like me happy.

JFW

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DIVIDING ONE DATABASE INTO FIVE IN  
TI-BASE

By Lynn Gardner

When my TI-BASE mailing list reached 700 records, I realized it had gotten completely unwieldy. Sorting it with TI-SORT helped, reducing sorting time from 1-1/2 hours to 12 minutes. But I still had the problem of sluggishness when editing or appending records.

I decided to break it down alphabetically into five databases: AC, DH, IM, NR, and SZ (the first letter of each last name). I first copied the structure file five times, naming each file for the desired section of the alphabet. I then used the following command files to move the records from the original MLIST to each new database. This had to be done five times, changing the name of the new database and the letters I wanted in it each time.

```
*MOVED1
*Move data from MLIST to AC
*REM to change new database name
CLEAR
CLOSE ALL
SET RECNUM OFF
SELECT 2
USE AC
TOP
SELECT 1
USE MLIST
DO MOVED2
SET RECNUM ON
SET HEADING ON
RETURN
```

```
*MOVED2
*REM to change letters in database
WHILE .NOT. (EOF)
IF (LN="A") .OR. (LN="B");
  .OR. (LN="C")
SELECT 2
APPEND BLANK
REPLACE 2.LN WITH 1.LN
REPLACE 2.FN WITH 1.FN
REPLACE 2.AD WITH 1.AD
REPLACE 2.CITY WITH 1.CITY
REPLACE 2.ST WITH 1.ST
REPLACE 2.ZIP WITH 1.ZIP
ENDIF
SELECT 1
MOVE
ENDWHILE
CLOSE ALL
RETURN
```

The following command files will print out one complete alphabetical listing of records in all five databases:

```
*LIST1
*Makes one list of 5 databases
CLEAR
CLOSE ALL
SELECT 5
USE SZ
TOP
SELECT 4
USE NR
TOP
SELECT 3
USE IM
TOP
SELECT 2
USE DH
TOP
SELECT 1
```

```
USE AC
TOP
DO LIST2
SET HEADING ON
RETURN
```

```
*LIST2
PRINT ALL LN FN AD CITY ST ZIP
SET HEADING OFF
SELECT 2
PRINT ALL LN FN AD CITY ST ZIP
SELECT 3
PRINT ALL LN FN AD CITY ST ZIP
SELECT 4
PRINT ALL LN FN AD CITY ST ZIP
SELECT 5
PRINT ALL LN FN AD CITY ST ZIP
CLOSE ALL
RETURN
```

The following command files will print labels for all records in these five databases:

```
*LABEL1
*Prints label from 5 databases
SET RECNUM OFF
SET HEADING OFF
SET PAGE=0
CLEAR
CLOSE ALL
SELECT 5
USE SZ
TOP
SELECT 4
USE NR
TOP
SELECT 3
USE IM
TOP
SELECT 2
USE DH
TOP
SELECT 1
USE AC
TOP
LOCAL TEMP C 40
LOCAL BLNK C 1
DO LABEL2
SET RECNUM ON
SET HEADING ON
CLOSE ALL
RETURN
```

```
*LABEL2
SELECT 1
DO LABEL3
SELECT 2
DO LABEL3
SELECT 3
DO LABEL3
SELECT 4
DO LABEL3
SELECT 5
DO LABEL3
RETURN
```

```
*LABEL3
WHILE .NOT. (EOF)
REPLACE TEMP WITH TRIM(FN);
  | " " | LN
PRINT TEMP
PRINT AD
REPLACE TEMP WITH TRIM(CITY);
  | " " | ST | " " | ZIP
PRINT TEMP
PRINT BLNK
PRINT BLNK
PRINT BLNK
ENDIF
MOVE
ENDWHILE
RETURN
```

PRINTERS #8

BY JOHN F. WILLFORTH (SEPTEMBER, '90)

THIS IS THE ARTICLE ON DOWN LOADING CHARACTERS TO YOUR PRINTER (IF IT SUPPORTS DOWN LINE LOADING OF CHARACTERS). MOST PRINTERS THAT DO SUPPORT THIS NIFTY FEATURE REQUIRE THE DISABLING OF THE COMMUNICATION BUFFER IN ORDER TO FREE UP THE RAM TO BE USED TO STORE THE DEFINED CHARACTERS. THE PROGRAM BELOW WAS PRINTED OUT AFTER THE PROGRAM WAS RUN. THIS IS WHY YOU SEE STRANGE CHARACTERS EMBEDDED IN THE PROGRAM LISTING. A= APPLE, B=BOAT AND C= EYE. THE PROGRAM BELOW ACCOMPLISHES THIS BY FIRST COPYING THE ROM WHERE THE FIXED CHARACTER DEFINITIONS RESIDE, INTO THE RAM (LINE 230). IF I DID NOT COPY THE ROM OVER TO RAM, I WOULD HAVE HAD ONLY A, B, AND C BECAUSE THESE ARE THE ONLY THREE I DOWNLOADED TO THE PRINTER AT THIS TIME AND THE RAM COMES UP EMPTY EVERY TIME YOU POWER THE PRINTER UP OR INITIALIZE IT.

```

100 REM DOWNLOADED CHARACTERS
110 REM BY JOHN WILLFORTH
120 REM HOW TO REDEFINE THE
130 REM CHARACTER OF PRINTER
140 REM THINKS IT PRINTS.
150 REM ENABLE ANY HARD-
160 REM WARE SWITCHES YOUR
170 REM PRINTER REQUIRES TO
180 REM PERMIT THE DOWNLINE
190 REM LOADING FEATURE IN
200 REM YOUR PRINTER FIRST.
210 REM *****
220 OPEN #1:"PIO"
230 PRINT #1:CHR$(27)&" ":"&CHR$(0)&CHR$(0)&CHR$(0)
240 PRINT #1:CHR$(27)&"E"
250 PRINT #1:CHR$(27);"&" ;CHR$(0);
260 PRINT #1:CHR$(65);CHR$(67);
270 PRINT #1:CHR$(137);
280 PRINT #1:CHR$(28)&CHR$(34)&CHR$(1)&CHR$(32);
290 PRINT #1:CHR$(17)&CHR$(96)&CHR$(129)&CHR$(34)&CHR$(28);
300 PRINT #1:CHR$(0)&CHR$(0);
310 PRINT #1:CHR$(9);
320 PRINT #1:CHR$(8)&CHR$(4)&CHR$(10)&CHR$(1);
330 PRINT #1:CHR$(248)&CHR$(65)&CHR$(42);CHR$(4);
340 PRINT #1:CHR$(8)&CHR$(0);
350 PRINT #1:CHR$(152)
360 PRINT #1:CHR$(28)&CHR$(34)&CHR$(65)&CHR$(8)&CHR$(35);
370 PRINT #1:CHR$(8)&CHR$(65)&CHR$(34)&CHR$(28)&CHR$(0);
380 PRINT #1:CHR$(27)&"%"&CHR$(1)&CHR$(0)
390 FOR O=1 TO 26
400 X=O+64
410 FOR I=1 TO 20
420 PRINT #1:CHR$(X);
430 NEXT I
440 PRINT #1:""
450 NEXT O
460 CLOSE #1
470 END

```

FIRST SET UP YOUR PRINTER ACCORDING TO YOUR PRINTER MANUAL TO ACCEPT DOWNLOADS. SOME PRINTERS, SUCH AS MY SEIKOSHA, REQUIRE A HARDWARE SWITCH TO BE SET. KEY IN THE PROGRAM STARTING AT LEAST AT LINE 220, AND SAVE IT TO CASSETTE OR DISK. MAKE A GRID 9HX10W TO DRAW OUT THE CHARACTERS YOU WANT TO CUSTOMIZE. YOU SHOULD MAKE A LOT OF PHOTO-COPIES OF THIS GRID BECAUSE ASIDE FROM ERRORS YOU MAY WANT TO REDEFINE THE ENTIRE UPPER/LOWER CASES OF THE ALPHABET AS WELL AS THE SPECIAL CHARACTERS. I CAN REDEFINE UP TO 128 CHARACTERS IN MY PRINTER. LINE 240 IS OPTIONAL FOR EMPHASIZED PRINT. LINE 250 BEGINS THE DOWNLINE LOAD BY ITS ESCAPE SEQUENCE: ESC & 0 ON MY PRINTER AND CONTINUES IN THE SAME SEQUENCE WITH TWO CHARACTERS (LINE 260) THAT TELL THE PRINTER THE CODE FOR THE FIRST CHR\$ AND THE LAST CHR\$ ("65" TO "67" OR "A" TO "C"). LINE 270 IS THE ATTRIBUTE CHARACTER USED TO TELL THE PRINTER WHICH SET OF 8 PRINT WIRES OF THE 9 AVAILABLE TO USE FOR THIS ONE CHARACTER, AS WELL AS WHERE THE FIRST AND LAST DOT COLUMNS ARE. LINES 280, 290 AND 300 DESCRIBE EACH DOT COLUMN BY BINARY WEIGHTS IN A STRAIGHT BINARY FORMAT. LINE 310 IS THE ATTRIBUTE FOR THE SECOND ("66" OR "B") CHARACTER) AND LINES 320, 330 AND 340 DEFINE IT'S BINARY EQUIVALENTS. LINE 350 IS THE ATTRIBUTE CHARACTER FOR THE THIRD ("67" OR "C") AND AFTER THE CHARACTERS THAT YOU WISH TO BE DEFINED ARE TAKEN CARE OF, LINE 380 ACTUALLY ENABLES THE USE OF THE RAM INSTEAD OF THE ROM FOR CHARACTER DEFINITION DURING THE PRINTING PROCESS.

RUN THIS PROGRAM (IF IT WILL RUN ON YOUR PRINTER), THEN USING THE INFORMATION IN LINES 270 TO 370, DRAW THE CHARACTERS THAT ARE PRINTED HERE. THE ATTRIBUTE CHARACTER TAKES A LITTLE STUDY BECAUSE OF THE VALUES ASSIGNED TO THE BINARY POSITIONS, IF ENTERED INCORRECTLY WILL MAKE THE PRINTER PRINT "THINGS" THAT ARE NOT EVEN CLOSE TO WHAT YOU SEE ON THE LEFT. LINES 390 THROUGH 450 ARE THERE JUST TO PRINT OUT A LISTING OF THE UPPER CASE ALPHA CHARACTERS WITH THE FIRST THREE BEING SHOWN AS THE REDEFINED CHARACTERS YOU SEE DISPERSED THROUGHOUT THE LISTING ON THE LEFT. JUST THINK, IF YOU REALLY WANTED TO ENCODE MESSAGES, YOU COULD ENCRYPT CODE TO REDEFINE AND DOWNLOAD NEW CHARACTERS TO THE PRINTER AND HAVE THE PRINTER CREATE A HARD-COPY THAT WOULD REALLY BE DIFFICULT TO DECIPHER.

SOME MAY BE LOST HERE, (I WAS) BUT DUG THIS OUT BY USING MY PRINTER MANUAL AND SPENDING THE TIME. IT DID'NT COME EASILY BUT I'M NOT A PROGRAMMER AND I WAS STILL ABLE. I KNOW YOU CAN TOO! JFW

~~~~~  
W-AGE/99 \* NEW-AGE/  
99 \* NEW-AGE/99 \* N  
EW-AGE/99 \* NEW-AGE  
/99 \* NEW-AGE/99 \*  
~~~~~

\* by JACK SUGHRUE, Box 459, East Douglas, MA 01516 \*

#8

Declining membership in the TI world is definitely a real problem which has some interesting and real solutions.

The old guard is getting tired and its members no longer want to (or are too tired to) be presidents and newsletter editors and workshop demonstrators and librarians and bulletin board downloaders and whatever. They can't be blamed for this. Nobody can continue to operate well forever, particularly in what seems an unappreciative atmosphere.

Almost every newsletter I read has the same common problems: basically, too few doing too much for too long. This is true in LA and in Boston and in Canada and England and Australia. Large changes are taking place within groups, in many cases with very bad vibes coming across strongly in the newsletter pleadings. Over and over we see such things as "This club is dying." and "If the members who never contribute don't start doing something soon..." followed by serious threats.

Realistically, a group without a newsletter is a corpse that hasn't yet been identified as such. There are exceptions, of course, but a club without a newsletter is a body without a brain. So, first things first, keep a newsletter going. This is also the biggest (or only) contact with the outside world through exchanges.

Next, a regular monthly meeting YEAR ROUND is essential. Without a place to gather (even if it comes to homes, as a last resort) there can be no club. A club implies a community, a spirit of friendship and commonality, a gathering. Business and pleasure must be mingled here and can only be done by meeting.

Those are the two big things. Even if your group has only three members, but you put out a newsletter and you meet regularly, you can still have a viable, worthwhile user group. Nutmeg 99ers of Connecticut and the Lima User Group of Ohio are two fine examples of Teriffic TINies. But, believe me, there are many, many more, and they are more common than the large, flourishing groups.

There are some other things to consider, too, of course.

Is it worth complaining constantly in print and at meetings that too many are not doing their fair share. Most of the people who sit on their hands and don't take leadership roles are not capable and know it. Not everybody is a leader. Not everybody is outgoing and comfortable performing in public. There are lots of insecure (though maybe talented) people who just cannot put themselves on the line. It has nothing to do with laziness or meanness or unwillingness or lack of responsibility. Some of these people come to every meeting; all continue to pay their dues.

And, in truth, everybody in the group has, when allowed and encouraged by the leadership, probably contributed in some continuous, if not significant ways.

My own group - M.U.N.C.H. of Worcester, Mass. - is typical, I think, of most. We went from over 200 members to about 15 (5 or 6 of whom were active) to about 40 (a dozen of whom are active in one way or another). There are officers, of course. Our Treasurer (Jim Cox) was one of the

founders and has continued to man that post and perform lots of others (including membership and newsletter editor at the present). Without him there'd be no club. Every club has a Jim Cox, someone with incredible dedication and common sense. All the rest of us have done different things: officers, editors, workshop demonstrators. Some have brought in friends; some have written programs; some have catalogued our libraries; some have repaired equipment; some have lugged in equipment or materials; some have helped with sales and fundraising and faires. All have paid their dues; most come to meetings, take part in raffles, appear interested in demos and workshops. All enjoy the company of fellow TIers, which has to be the most important aspect of a group.

A lot of us lead some incredibly busy lives. One member flies all over the country and never knows when he'll be able to make a meeting. When he comes, though, he brings enthusiasm and knowledge which he so generously shares. Our chief BBSer who provides the club with many of the library and Disk of the Month goodies misses most meetings because of courses he's taking toward a degree. His sharing doesn't stop, though, as the boards, phones, and mail demonstrate. Then there are illnesses or family matters or all the other obstructions of life in this complex age. But we're still linked by newsletter, library, and common desire to keep a good thing going and growing.

So our M.U.N.C.H. group is a success, as are lots of other groups who don't realize they are.

If you still have an operating group; if you still put out a newsletter, share materials, meet regularly, enjoy some of the friends you've made through TI - then you have a successful group. The workload may not be equitable, but no situation in life ever is.

For what it's worth, here are a few suggestions to get members reinvolved, revitalized: At the next club meeting find out the following:

1) What kinds of newsletter does the club want (type-in programs, latest hard/software, reviews, club news, graphics, whatever)

2) If everyone would be willing to contribute something to a raffle (blank disks, tapes, cables, non TI stuff even)

3) If all members would dig through old disks and tapes and locate at least THREE programs they like (or liked back in the old days) to add to a giant club D.O.M. (games, utilities, kids' programs, LOGO stuff, tutorial text files, whatever)

4) And maybe demo at least ONE????

5) Hold a NOVICE NIGHT! This would be to introduce beginners, older kids, and definitely long-time TIers to the fun of writing in BASIC (or XB). I know there are thousands of TI users who became comfortable with their machines and have used them successfully for years and are now ready to learn to program or would take a refresher. All the old newsletters contain GREAT little tutorials, type-in programs, etc. Just what the doctor orders for a new boost in attitude. Maybe this would be a continuing thing with EVERYBODY who wants to getting involved in research, xeroxing, demoing, tutoring, whatever. But mostly sharing and helping. There are more of us amateurs out there (probably 1000 to 1) than wizards.

In order to get reformed we need to remember the three Rs: Review, Rethink, Rekindle!

!!! If you use NEW-AGE/99 please put me on your exchange list.!

P L U S !  
v.2.0  
The FINAL VERSION!!!  
~Utilities and Wordprocessing  
Environment~

Now available: over 1400 sectors of pure environmental and tutorial dynamite! The newest PLUS! (v.2.0) is over twice the size of the original and 10 times as potent.

EVERY SINGLE FILE from the original PLUS! has been rewritten, enhanced, debugged, and/or replaced. But it is just as user-friendly as ever. The single keypress autoloads of templates in the EDIT mode are classics of efficiency, and the format coding (for italics, underlining, etc.) have become a TI wordprocessing standard. The popular (miniscule) INSTA programs (INSTALABEL, INSTADUMP, etc.) have been increased to seven (taking up a grand total of just 19 sectors!). They are powerful and they are fast and, because of their size, are ideal for keeping on any working disk or RAM for immediate, big power for a variety of tasks.

There are now four templates (forms) for you letter writers. Just type away while PLUS! does all the formatting for you. There are three calendar programs. The popular desk calendar for personal or business needs now has so many added features that its flexibility and friendliness are ideal for almost any use. And there's a yearly calendar, a banner maker, two columnizers, a Gothic writer, some large graphic pictures (with a program to view them, color them, print them, save them, and convert them). There's even a program that lets you create your own cursor. And another that writes and prints out in Pig Latin everything YOU write. There are programs that automatically scrunch your XB programs up to 60% for faster more efficient operation.

One program (PLUS!VIEW) lets you set up a screen audio/visual presentation for club, business, or educational uses. Another lets you create 4-line strips for your console (the TI-Writer/DM1000 is done for you).

The world's tiniest (1 line) wordprocessor is also part of PLUS! And there are word counters, DV/80 printers, and a highly-praised 3-column cataloguer that prints disk envelope-size printouts of 127 files (the maximum on the TI) with your name and the date and all standard info on each. A direct-access setup program for your printer is another powerful utility available.

There are many other templates, data files, pictures, programs, graphic codes, and much more on this disk, including Barry Boone's magnificent Fairware ARCHIVER. But the major part of PLUS! is the manual/tutorial that explores every aspect of our TI wordprocessing world. The works of many writers were selected to make this manual the best tutorial and most complete reference guide for TI WRITER (FUNNELWEB) wordprocessing available anywhere at any price.

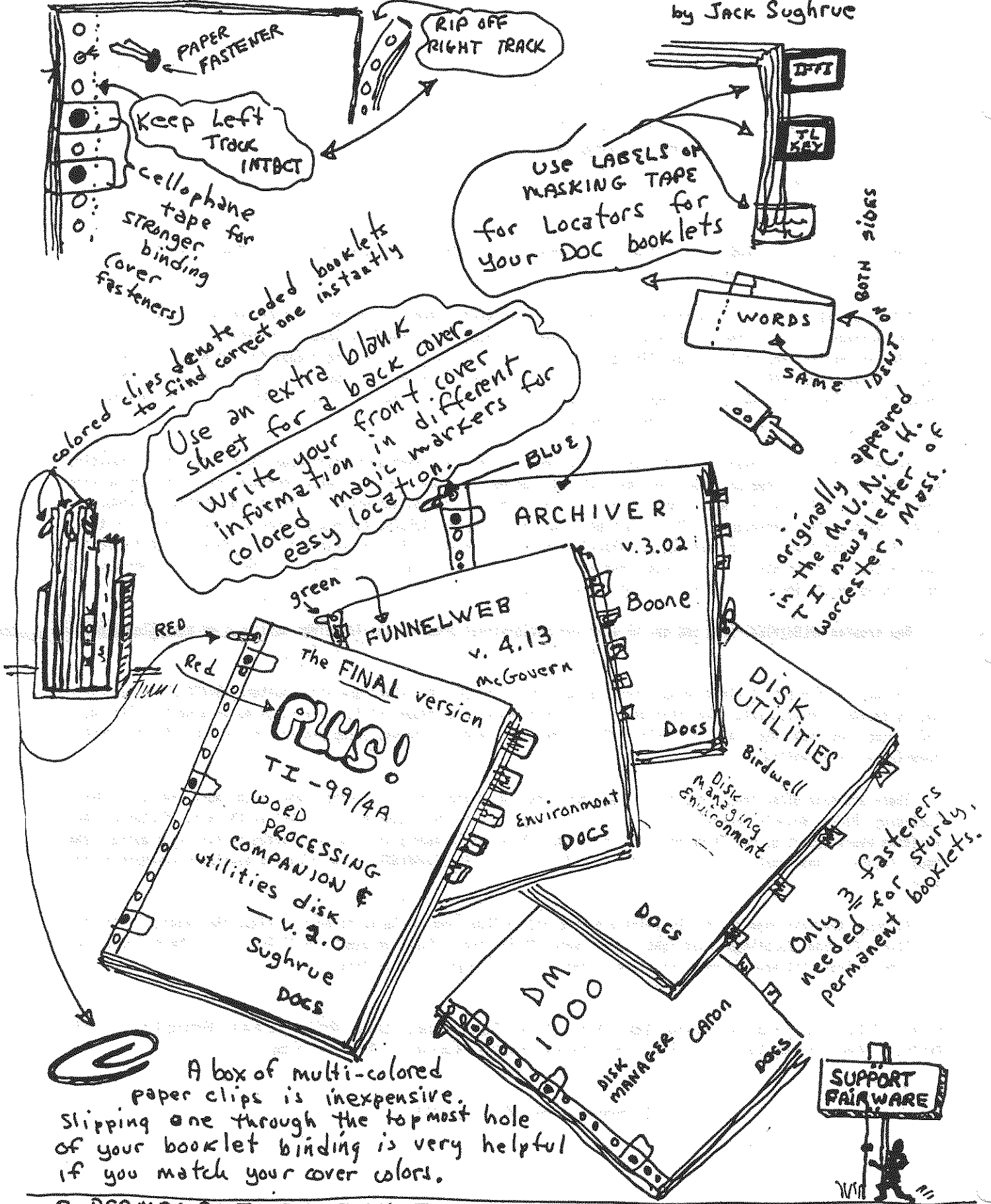
Although the vast majority of the files are original to PLUS! and can be found nowhere else, the addition of the excellent PD and permitted copyright files make PLUS! (this FINAL Version) the TI Bargain of the Decade and an environment that will provide years of pleasure and learning and practical utility.

Send \$10 Fairware donation to Jack Sughrue, Box 459, East Douglas, MA 01516 for complete disk and text materials. Thank you.

I hope you ♥ PLUS!

# BUILT-IN BOOKLETS with Tractor-Feed Paper

by Jack Sughrue



A box of multi-colored paper clips is inexpensive. Slipping one through the topmost hole of your booklet binding is very helpful if you match your cover colors.

A PERMANENT SOLUTION TO YOUR GROWING DOCS LIBRARY PROBLEMS



ASCII Codes					
SET	CODE	CHAR	SET	CODE	CHAR
0	30		7	80	P
	31			81	Q
	32	!		82	R
	33	"		83	S
	34	#		84	T
	35	\$		85	U
	36	%		86	V
1	37	&	87	W	
	38	'	88	X	
	39	(	89	Y	
	40	)	90	Z	
2	41	*	8	91	[
	42	+		92	\
	43	,		93	]
	44	-		94	^
	45	.		95	_
	46	/		96	`
	47	0		97	a
3	48	1	9	98	b
	49	2		99	c
	50	3		100	d
	51	4		101	e
	52	5		102	f
	53	6		103	g
	54	7		104	h
4	55	8	10	105	i
	56	9		106	j
	57	:		107	k
	58	;		108	l
	59	<		109	m
	60	=		110	n
	61	>		111	o
5	62	?	11	112	p
	63	@		113	q
	64	A		114	r
	65	B		115	s
	66	C		116	t
	67	D		117	u
	68	E		118	v
6	69	F	12	119	w
	70	G		120	x
	71	H		121	y
	72	I		122	z
	73	J		123	{
	74	K		124	
	75	L		125	}
13	76	M	126	~	
	77	N	127	DEL	
	78	O	128 - 131		
	79		132 - 135		
14			136 - 139		
			140 - 144		

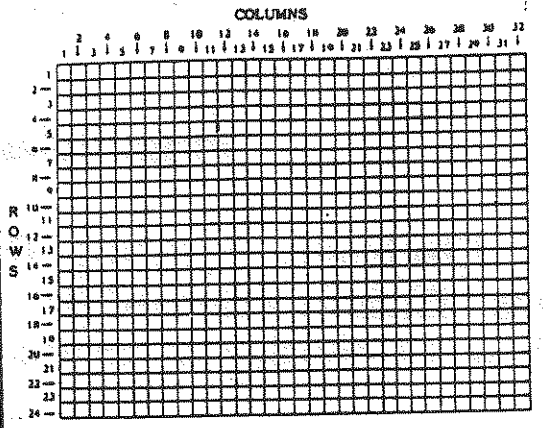
### Pattern-Identifier Conversion Table

Blocks	BINARY	HEX
	0000	0
	0001	1
	0010	2
	0011	3
	0100	4
	0101	5
	0110	6
	0111	7
	1000	8
	1001	9
	1010	A
	1011	B
	1100	C
	1101	D
	1110	E
	1111	F

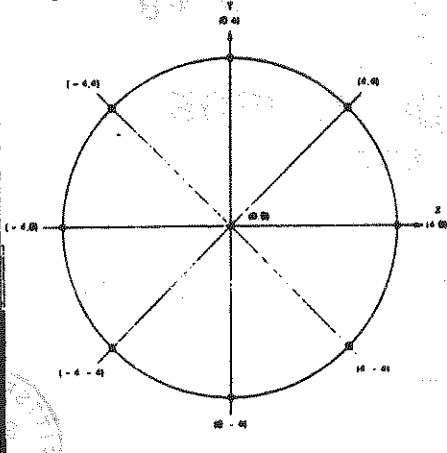
### Color Codes

COLOR	CODE
Transparent	1
Black	2
Medium Green	3
Light Green	4
Dark Blue	5
Light Blue	6
Dark Red	7
Cyan	8
Medium Red	9
Light Red	10
Dark Yellow	11
Light Yellow	12
Dark Green	13
Magenta	14
Gray	15
White	16

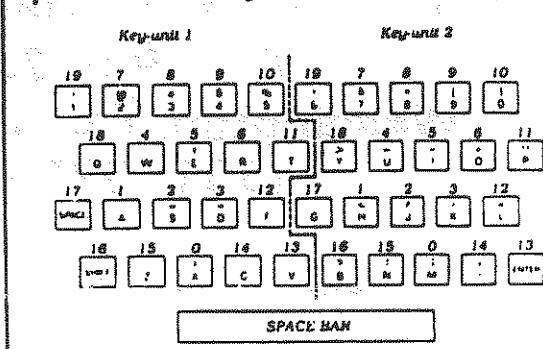
### Screen Grid Layout



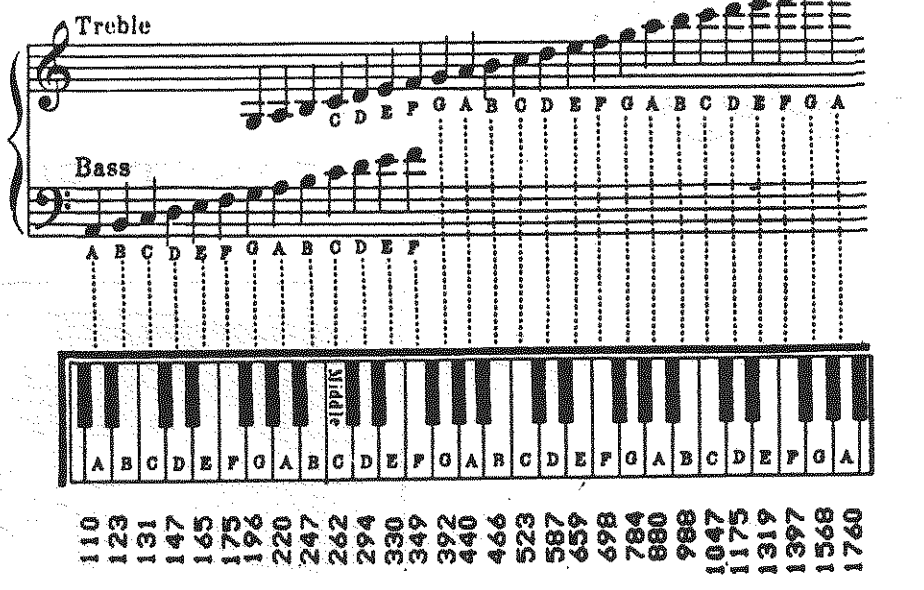
### Joystick Values



### Split Console Keyboard



### Musical Tone Frequencies





Electronic Systems Development Corp.

Please use the address and phone number ( to the left) for all orders, inquiries, and suggestions regarding E.S.D.'s TI compatible products.

The complete delivered price of the Hard/Floppy controller is: \$225.00

### Press Release:

**Electronic Systems Development Corp. has officially released its mailing address for their TI division of products.**

I received a letter from Chris Pratt dated Sept., 5th stating that he received the first of the production boards and "They work beautifully!" There are some very interesting and unadvertised features of the card mentioned in the letter, but I won't list them here in case the one you receive does not have it, meaning that they were unable to complete the implementation in time for the first run of cards.

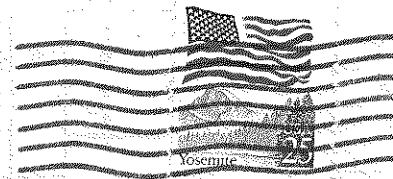
**Electronic Systems Development Corp.  
P.O. Box 23805  
Washington, DC 20026-3805  
(301) 322-6150**

As you can see the price is very reasonable for a HFDC card that supports up to four of each type ( 4-hard disks, and 4-floppies of every size).

You can send in your order NOW!

WEST PENN 99 'ERS

% JOHN F. WILLFORTH  
R.D. #1 BOX 73A  
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