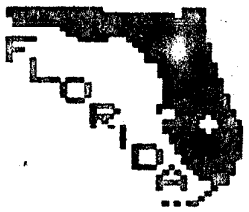
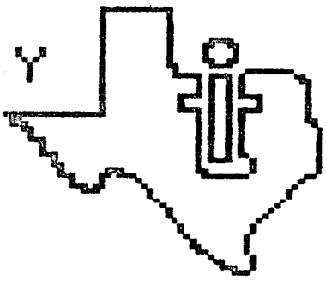


GREATER TAMPA BAY TI USER GROUP

APRIL 1989



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NEXT MEETING APR 4'89 AT 7:00 PM

****

Greater Tampa Bay TI User Group meets in Brandon Fla. on the first and third Tuesday of each month at Brandon High School in room 352.

The first Tuesday of the month is the general business meeting and to show off new hardware or software programs.

The third Tuesday is set aside for special interest group. If you have a problem with either hardware or software , this is the meeting to come to.

****

Officers

President: Charles Kinsey 644-5012
Vice President: Paul Wiese 985-1048
Librarian: James McGlone 837-9387
Secretary: Brenda Burwell 886-5942
Treasurer: John Hartweg 626-3429
Editor: Robert Barnes 533-2275

****

**** TI HEAVEN ****

Clubs BBS 8/N/1 2400/1200/300 Baud 24 Hrs

PC Pursuit: Accessible FLTAM Sysop: Gary Sweers

813-654-titi (8484)

****

**** Cy's Swap Shop ****

2400/1200/300 Baud 24hrs 8/N/1 Sysop: Cy Leonard

PC Pursuit Not Accessible but well worth the cost to sign on.

813-725-4568

****

THINKING OUT LOUD
by: Robert E. Barnes

Don't look now, but this months newsletter breaks my record for the number of pages. It is all of 36 pages. The last time I went over 10 pages the fat hit the fan, so to speak. And I was TOLD never to do that again.

P. S. See bottom of page 5.....!!!

This month ends our run with Jim Swedlow's TI-Tips series. I hope you enjoyed reading them and learned some new things. I am kinda sad that this series is finished, but, may I suggest that if you are so inclined you write Jim and let him know how much you ejoyed them? His address is 7301 Kirby Way, Stanton, CA 90680. Also, remember, if you want it, the entire un-cut series is available on disk from the club library, see Jim to place your order.

As most of you know, several of the guys from the club are going to Orlando for the computer show. And, most of you also know that they are going to be on the lookout for some fantastic prices for half height disk drives. Several people indicated an interest in having them pick up one or more for themself. If you are one of those planning on them getting your half height drives for you, you need to bring your money to the meeting this month. (The first meeting, April 4th). Don't forget now, "no money, no drives".

DEADLINE FOR NEWSLETTER CONTRIBUTIONS
The deadline for contributions to the newsletter is the 3rd Wednesday of each month. That's the day after each month's SIG meeting. You can bring your contribution to the meeting on a disk, or you can leave it on TI HEAVEN and leave a message for me.

PRESIDENTIAL RAMBLINGS
by: Charles N. Kinsey

There has been some interest with some club members in helping new users. Ray Murphy is trying to start a new series with the newsletter that I would like to call THE BEGINNERS CORNER. If you are a non-professional amateur hobbyiest like myself who likes to dabble with your home computer then please check with Ray and offer him your suggestions. Sometimes we as officers have a tendency to emphasize the bells and whistles (to impress the club members of course) and proceed to go over some members head. Not trying to be repetitious, but I would like to reiterate that this is your club and we as officers are here to serve you, we need your suggestions as to what direction you want to go. Remember also that Paul has a complete system that he brings to every meeting that is used primarily for beginners.
Also on the subject of beginners Paul is working on a package to hand out to members that need a starter kit. This could be a very dificult undertaking and we should all appreciate him for his efforts. If you have any suggestions please contact Paul.

The first meeting in July falls on July 4. Since most of us probably have other plans for that date the club will have the regular meeting on the third Tuesday of July. We also will not be able to use the school facilities on the first and third tuesday in August. We are trying to make other arrangements. Tom is trying to get a room at Beltz Outlet Mall located at Buffalo and I-4. We have to exit the premises by 9 PM so I would like start the meeting at 6 instead of 7. If this is an inconvenience for you we are open for suggestions. I know that this is early to mention these arrangements however I do not like surprises.

At the business meeting in March there was a lively discusion again on how to help beginners in the club. One idea that was suggested is to start a mini-class for about 30 minutes at the SIG meeting for XB-BASIC. Then the idea was thrown around to start a class on a separate night. It all sounds valid. Gary Sweers had a brilliant idea on getting started. How about taking the very first command in the XB manual and typing in a short program using that command. We will be assigning pupils to type them in and running them. At the next meeting we shall take the next command and do the same thing and merge it with the last program. By the time that we get through we should have a long program with all of the commands from the manual. I feel that one of the best ways to learn a subject is to teach it. So why not get some of the biginnners to teach. The experts (grin) can sit in and help out but you people will be the ones to do the research and make the presentation. The results on these classes should be placed in the newsletter in the form of a nice little article. Ray Murphy, did you say that you were looking for material to write about? (Gotcha Didn't I).

Well, thats all I have folks. Getting kinda lazy today, maybe a little case of spring fever. Of course it does not help to look outdoors and see an overcast and dreary day. Later....

A FAMILY OUTING
by: Henry Neuburger

A GTBTIUG Family Outing is planned for this coming June! Read on and see what it is about....

We are having a family canoe trip on the Little Manatee River. Canoes, paddles, life preservers and transportation will be provide by the canoe outpost on the river. The date is June 24th and departure time is

planned for the morning. Pickup and return to the outpost will be in the evening. Lunch will be whatever you bring, drinks the same. Bring your favorite food and beverage.

This is a family oriented outing, so plan accordingly. The cost will be $8.50 per adult and children under 12 is $4.25. Children 5 and under are free.

A rain date will be set in case of "rain out". Monies have to be in hand by the first meeting in May. More info will be forthcoming as we get closer to the date. The trip will be all down river with very little paddling necessary, all you will have to do is "steer", so come join in the fun.

FROM THE PRESIDENT'S DEN
by: Charles Kinsey

I have had this file around for quiet a while. However, I think it is worth placing in the newsletter for your veiwing for I have not seen much in the form of speech recently. (This file was downloaded off of compuserve)

Speaking About Speech
[Ronald Albright]

The more I read about the "new" developments and software for other machines, the more impressed/infuriated I become with Texas Instruments. Whether you realize it or not, TI was light-years ahead of the remainder of the home computer industry in virtually everything except, of course, consumer marketing and common sense. One of the features which remains the industry leader and is, at the same time, the most neglected and overlooked feature available for our machine is the Text-To-Speech access. With the speech synthesizer and the Terminal Emulator II cartridge (or disk-based Text-To-Speech program for XB), you have a feature unrivaled on any other machine. Sure, others have "speech" and some even boast "unlimited vocabulary", but, if you have ever heard these facilities on another machine, you realize how far ahead TI was (and still is) in synthetic speech. What I would like to do in this article is give you an overview of speech synthesis on the TI and, hopefully, revive some interest in this incredible facility. The chip used in our speech synthesizer is the TMS5220, a p-channel MOS device packaged in a 28-pin DIP. It is a second-generation speech chip, which followed the TMS5100 used in the Speak and Spell toys appearing in 1977. While the TMS5220 is capable of all 3 types of synthetic speech (linear prdictive coding, wave-form modulation, and phoneme-stringing), our machine uses the most memory-efficient form linear predictive coding, or LPC (but has capability for allophone-stringing). LPC in our machine requires a small 3K memory to hold the 128-allophone library, 7K to accomodate the 650-rule TEXT-TO-SPEECH set for translating English-language text into allophonic equivalents and for contouring inflections with the help of pitch modifiers to help make the speech more natural. The allophone library and the rules for stringing them are held in the TEII GROM chips. The synthesizer holds the speech chip and the resident speech vocabulary (memory location >9000).The system is not perfect (as you may have learned HOPEFULLY by experience) but even with this small ROM requirement, TI achieved 92% translation accuracy. You can correct the remaining 8% with changing text. Let us digress for clarity. Of what do we speak when we discuss allophones? Allophones are the most fundamental of any of the other linguistic components, including phonemes, diphones, and morphs. An analysis of the English language shows that about 40 allophonic sound characteristics can provide the needed variations for all 45 standard phonemes. For example, the phoneme for the letter "p" in English is rounded and aspirated in the word "poke", rounded and unaspirated in "spoke", aspirated in "pie", slightly aspirated in "taper", released in "appetite". These acoustically different "p"'s - so-called voiceless bilabial stops - are allophonic variations of the phoneme "p". Thus, allophonic speech produces better quality than phonemics, because the allophones provide most of the subtle variations each English phoneme can encompass AND use each variation in the appropriate relationship. Phonemic speech sounds mechanical and is limited, allophonic speech is much better though still not perfect...the transition between allophones make the speech sound unnatural and intonations are charcteristically monotonic. But allophonic speech is an ideal compromise based on size of vocabulary, memory requirements, quality and versatility of speech. So, knowing that we use a allophonic speech system, how does it work, in generalities? Text, from keyboard input, is converetd into the appropriate allophones, which are then converted into LPC data which activates the TMS5220 to generate immediate speech. Well, its not quite that simple. For the text to be converted to the "appropriate" allophones, rules must be applied; 650 rules, to be exact. The rules, based on a U.S. Navy Laboratory system, are complex to say the least. For example, in the process of translating the word "space", the allophone-stringing algorithm looks first at the "s" and supplies an initial allophone for /s/. But for the "p", it finds a rule where the left environment is an "s". Also, since the "p" is not a final sound, the algorithm translates the "p" accordingly. Next the rule is invoked that applies to an "a", where the right-sided environment consists of a single consonant and the word ends with a word-final silent "e". This rule selects the appropriate "long-a"

allophone. Finally, the rule for 'ce' inserts an /s/ component in the allophone string to replete the 'c' in the text; the rule says the 'e' is silent. As we have stated, 92% of the time, the rules work...not bad! Compound words give it problems, often easily corrected by hypenating...e.g. "base-ball". Not only does the TI system convert text to component allophones, it also, through the rule set, translates secondary and primary speech-stress points into pitch variations. Contouring algorithms divide sentences into two major stress profile types: a falling mode, where the pitch level drops following a primary stress point (as occurs in a normal sentence making a statement), and a rising mode, which occurs in sentences terminating in a question mark. This adds even more normal quality to speech. Remember how many times your have heard "Ready to start?"...notice how the pitch varies in a rising tone on 'start'. So, all in all, a very complex system that TI engineers gave us. We have sparse but utilitarian documentation in the TEII manual. It discusses, ever so briefly) how to access both the text-to-speech via "OPEN #1:'SPEECH', OUTPUT" and the allophone library directly, through "OPEN #1:'ALPHON',INTERNAL". It briefly defines the manual override feature to vary pitch and slope through the "//XX YY". Perhaps this feature deserves more comment. You can vary greatly the pitch and slope of speech through the use of the //xx yyy command. I have heard a sparse few program where the computer actually sings. The most recently published was the "ABC SONG" seen in Tigercub Tips
(Jim Peterson, Tigercub Software, 156 Collingwood Ave., Columbus, Ohio 43213). Look at that program, and see how Jim changes the pitch and slope to poduce synthetic singing. The key formula is one which were the slope is calculated from the set pitch through Y(slope)=(X(pitch)/10). We are told in the manual (p. 34), that this gives the best results. So, by changing the pitch to simulate singing of notes and adjusting the slope through this formula, we can approach singing. Further, we can set stress points in our own text through use of " " (sets primary stress point in a sentence), "_" (sets secondary stress points within a sentence, and ")" (shifts stress points within a word). So, we need not rely on the 92% accuracy TI accomplishes with the rule set...we can achieve realism approaching 100% with manual symbols input within our text.

Through "OPEN #1:'ALPHON', INTERNAL" we can directly access the 125 alphons (but we said 128; 126 and 127 are pauses) in the TEII Grom library. They are listed in the manual with a rather Spartan description of their use. They are strung together as CHR$ statements;
CHR$(10)&CHR$(22)&CHR$(x)....Again, we are allowed to change pitch and slope through manual input. This time, by sending a CHR$(252)&CHR$(xx), where the CHR$ statement following a CHR$(252) sets a new pitch and CHR$(251)&CHR$(yy) where CHR$(251) changes slope to the following CHR$(yy). Stress points can be set with CHR$ numbers 253 (primary stress with rising contour), 254 (primary stress with falling contour), and 249 (secondary stress point). While you can change pitch and slope of allophones, the only way (I know of) to increase the _uration of the sound is to string allophones, i.e. CHR$(N)&CHR$(N)&CHR$(N) to increase the duration of allophone "N" three fold. A way to implement the RPT$ function in BASIC would do the trick!

What follows is a marvelous application for what we have learned about speech and allophones. There are other ways to use the marvelous utility of speech. I hope we can revive interest in the easily accesable facility and incorporate its technology into more programs.

The following 2 program listings were either written by (Program 1) or inspired by (Program 2) Howie Rosenberg, of the TI Forum EMB. They reflect an innovative way to use speech on the TI...i.e. music and sound effects. Program 1 plays a musical tune through several different allophones which simulate (to my ear) everything from a trumpet to a guitar. Program 2 simply loops through a musical scale with several of the 125 alphons to demonstrate the possiblities. Try both and try variations yourself!

PROGRAM 1 by Howie Rosenberg
==========

```
100 CALL CLEAR
110 DIM X(23)
220 DATA 1,3,4,5,7,13,14,15,32,37,59,
64,69,75,76,77,79,81,83,85,93
230 OPEN #1:"ALPHON",INTERNAL
240 RESTORE
250 FOR M=1 TO 21
260 READ X(M)
270 NEXT M
280 FOR M=1 TO 21
290 N=X(M)
300 PRINT M
310 A$=CHR$(252)&CHR$(21)&CHR$(N)&
CHR$(N)&CHR$
330 C$=CHR$(252)&CHR$(11)&CHR$(N)&
CHR$(126)
340 D$=CHR$(252)&CHR$(5)&CHR$(N)&C
HR$(126)
350 E$=CHR$(252)&CHR$(54)&CHR$(N)&
CHR$(N)& CHR$(N)&CHR$(N)&CHR$(N)&
CHR$(N)&CHR$(126)
360 F$=CHR$(252)&CHR$(50)&CHR$(N)&
CHR$(252)&CHR$(48)&CHR$(N)&CHR$(25
2)&CHR$(45)&CHR$(N)&CHR$(252)&CHR
$(38)
370 ARP$=A$&B$&C$&D$&E$&F$&CHR$
(N)&CHR$(126)
380 PRINT #1:ARP$
385 PRINT X(M)
390 NEXT M
400 CLOSE #1
```

PROGRAM 2
=========

```
100 OPEN #1:"ALPHON",INTERNAL
110 DATA 54,53,52,51,50,48,47,45,44,4
3,41 3,4,5,7,13,14,15,32,37,59,64,69,
75,76,77,79,81,83,85,93
```

```
140 DIM X(36)
150 DIM A(12)
160 FOR Y=1 TO 36
170 READ X(Y)
180 NEXT Y
190 FOR Z=1 TO 12
200 READ A(Z)
210 NEXT Z
220 FOR AA=1 TO 12
230 S=A(AA)
240 FOR Y=1 TO 36
250 N=X(Y)
260 PRINT #1:CHR$(252)&CHR$(N)&CHR$(S)
270 NEXT Y
280 NEXT AA
290 CLOSE #1
```

==========

TI BITS Number 16 & 17
By Jim Swedlow

==========

[This article originally appeared in the User Group of Orange County, California ROM]

ON DISKS AND DRIVES

A while back the Disk Doctor attended one of our meetings. He had a number of interesting things to say. Since some of you missed it, here are a few of his comments.

o Don't clean your drives until you need to. Your system will tell you when it is time - you will have trouble reading disks.

o When you do clean your drive, use any brand name commercial disk drive cleaner and follow instructions.

o If this fails, you need to have your drive cleaned professionally. If you want to try yourself and you have a double sided drive, be careful with the second read/write head. It is very, very easy to bend the bracket to the point that the head must be realligned.

o He has tested the amount of residue left on heads with brand name disks ($1.00 + each) and the cheepies ($0.25 or so). He found no difference. This doesn't mean that they are of equal quality, only that the cheepies are not dirtier.

o He opposes flippies for single side users. His point is that when you flip the disk and it runs backwards in its cover, dirt is loosened and spun into your drive.

o His overall advise is the first rule of engineering: If it ain't broke, don't fix it.

SOME MORE THOUGHTS ON BACKING UP DISKS

Over the years I have mentioned the importance of backing up your disks. Simply put, disk drives eat disks. On the first weekend of October, I was working on some letters. This was the weekend where the temperature was well over 100 degrees. I blew both my word processing disk and my data disk.

I had a backup of the word processor, but it was not configured. That night, after it cooled down a bit, it took me about half an hour to recreate a working disk. The data files were simply lost.

The moral? Keep two back ups of your program disks. One of the disk as you received it (the master) and one of your configured working disk (back up working disk). Don't forget to back up your data disks every now and then. This will save you time and aggravation next time your drive gets hungry.

TI WRITER's INCLUDE FILE

One of TI Writers nicer features is Include File (.IF). It has a few limitations, but it extends TI Writers capabilities.

TI Writer cannot work on large files. No books in one file here. As you reach the size limit, the time it takes to load and save files increases markedly. Include File to the rescue.

Suppose your have written two chapters of your next book. Your named your files CHAPTER1 and CHAPTER2 (very original). At the end of Chapter 1 (the very last line), add this:

```
.IF DSK1.CHAPTER2
```

Name CHAPTER1 for the Formatter and it will print both chapters. All the formatting commands you set for Chapter 1 will be used when Chapter 2 is printed, so you don't have to restate the margins and such.

Ah, you finish Chapter 3. No problem. At the end of Chapter 1, add another line:

```
.IF DSK1.CHAPTER3
```

You cannot do this at the end of Chapter 2, as you can't chain these commands. Also note that you must specify the drive number (DSK1 in this case).

I prefer to make a master file (called CHAPTER0) will all of the .IF

APRIL FOOL

.IF DSK1.CHAPTER2
.IF DSK1.CHAPTER3

Before (not after) your .IF lines, put in your format, header and footer instructions. Now you have all of your format commands in one place that is easy to find and edit.

##########

TI BITS NUMBER 17
By Jim Swedlow

[This article originally appeared in the User Group of Orange County, California ROM]

OUCH

Every once in a while I goof and someone catches me. This time it was in TI BITS Number 16 in which I said that you can't chain Include File (.IF) commands in TI Writer.

That is what the manual says and I believed the written word. Not so, says UGOC Pres Bob Harper. He is correct. You can end each file with a .IF command for the next file. I still prefer, however, a master file that has all of the .IF commands.

==========

THIS 'N THAT
by: Robert E. Barnes

==========

WARNING

This machine is subject to breakdowns during periods of critical need.

A special circuit in the machine called a "critical detector" sensed the operator's emotional state in terms of how desperate he or she is to the use the machine. The "critical detector" then creates a malfunction proportionally to the desperation of the operator. Threatening the machine with violence only aggravates the situation. Likewise, attempts to use another machine may cause it to also malfunction. They belong to the same union. Keep cool and say nice things to the machine. Nothing else seems to work.

##########

Have you heard of a programmer named Jim Reiss? Well, he has come up with a program callet TYPEWRITER 99. This is a nifty little program that tricks your computer into thinking it is a typewriter. You can print directly to the printer line by line, or as you type. This is an alarmingly simple tool complete with on-screen display of boldfacing, underlining and more. You can order it is you wish from Asgard Software, P.O. Box 10306, Rockville, MD 20850 for only $9.95 plus $0.75 for shipping and handling.

Also, there is another utility called FORM SHOP available from Comprodine, 1949 Evergreen Ave, Fullerton, CA 92635, $15.00 plus $1.00 for postage and handling. This program, by Rodger Merritt, transliterated certain keys into shapes and forms for use in making almost anything you can think of. I made up a special calendar with it last night. Of course it took me about 30 or 45 minutes to do it since I was not that fimiliar with it. When using FORM SHOP, what you see is what you get (WYSIWYG), that is, what you see on the screen is what you will get when you print it.

I received the latest issue of Asgard News today and in it was the latest on Press, the newest word processor for the TI. The main reason for the delays in its release is due to problems in de-bugging it. While no promises were made, the latest on the anticipated release date is: "The program could be available in as little as 3 weeks and as much as 2 months (or even more)". Understandably, they are reluctant to make any confirm release date. So, look for it when you see it. I for one am looking forward to getting my copy.

Incidentally, you can subscribe to Asgard News for only $9.00 per year (4 issues). Send your check to Asgard Publishing P.O. Box 10697 Rockville, MD 20850

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MULTIPLAN PART 4
by: Audry Bucher

==========

Back to the template. By now, you have your column headings in Row 3. To make your printout look nicer, you may want to realign R3 to center the headings. F for Format, C for Cells, Type in R3,tab over to align and hit C for center. Now you can begin to enter the information from your checkbook for January. Start with the check balance at the beginning of the month. This item has no check number and it's amount is not allocated to any expense so put the ALPHA description FORWARD in R4C2 (under Paid To)and then right arrow until the cell pointer is in the Balance Column(R4C11). Type the amount and press ENTER. Next you can begin filling in checks and deposits. At R5C1 enter the first check no. for January. Let's use 1234. As soon as you press enter, you'll see we need to make an adjustment. 1234.00 has been entered. This is because of the new default format we entered which is fine for dollars and cents but not so great for check nos. So we simply change the format of the cells in column 1 to be whole numbers or integers. And while we're at it, let's change the alignment format for C1 to Left to make a neater printout. Choose F for format, then Cells. To change all the cells in Column 1, type C1 where the system says Format cells, tab to align, type L, and tab to Format code and type I for integer. Now press ENTER and watch as the system changes the check number to 1234 and moves it to the left of the column. Next move the cell pointer to R5C2 and enter the payee for ck #1234 (let's use Duquesne Light). The check for $65 was a utility expense so

right arrow to the utility column (R5C6) and enter 65.

Now we want to have the system calculate the new balance and put the answer in the Balance Column in R5. Check #1234 just happened to be entirely for utilities . Some checks however may be split among 2 or more expenses. So what we really want for the balance on the row is the balance from the previous row minus the sum of any expense on this row. Some rows will show income instead of expense so we need to enter a general formula here because the equation for the balance in row N should be the balance at N-1 plus the income in row N minus the sum of the expenses in row N. Sound confusing? Don't worry, it's harder to say than do with Multiplan. Put the cell pointer at R5C11 where the balance to be calculated belongs. Next press = to tell the system you are going to enter a formula. The first term in the formula is the balance from the row above. Use the up arrow to move the cell pointer to the above balance. You will see the expression R[-1]C in the command line. This means the cell at row minus one in the same column. Next we want to add any income from the current row. Hit + and the cell pointer pops back down to R5C11(where we started building the formula) and the formula is now R[-1]C+. Select the deposit amt. for the same row by left arrowing until the cell pointer is in the deposit column. Notice that the formula is now R[-1]C+RC[-8]. Since the deposit is in C3 and the balance is in C11, you can see why MP expresses this as Column minus 8. Now for the formulas third term. We want to subtract the sum of any expenses in the same row from the balance. Type - and the cell pointer returns to R5C11. We will use the special function called SUM to get the sum of the expenses. When you use SUM, you must tell MP what cells to add together in a FROM:TO expression. Type SUM(and then indicate the first cell to include in the sum by left arrowing until you are under the first expense which is Food in C4.Type : to show that you're ready to put in the last cell to include in the sum. Again the cell pointer pops back to R5C11. Left arrow once to select the last cell of the group of expenses to be added together. Finally type) to close the expression and then press ENTER. The finished formula is

R[-1]C+RC[-8]-SUM(RC[-7]:RC[-1]). MP will calculate the balance and fill in R5C11.

The formula applies only to R5C11 but we'd like it to be used on every row in the balance column. Since we have expresed the formula in relative terms (for example, using R-1 instead of R4, the same formula can be used for every balance. You can have as many entries as you need for the month and just copy the formula down that many rows. Let's just assume you will have 10 entries. With the cell pointer still at R5C11, invoke the Copy command by typing C, then choose the option D for down and type 9 at number of cells. Press ENTER. MP will copy the formula down 9 rows. For now, this will give you identical balances in all 10 cells because there are no income or expense entries below R5 as yet. This will change as you make more entries.

When you finish filling in the checks and deposits, the final touch is to add the totals for the income and expense columns. Label the totals line by skipping a row after the last check no. and entering TOTALS under the Paid To column. Arrow one to the right and prepare to enter a formula by typing =. Here we'll use the SUM function again. Enter SUM(and then arrow up to R5C3 for the first item to sum. Type : and then use the up arrow for the last item (R14C3). Finish your formula by typing). Check that the formula is SUM(R[-11]C:R[-2]C) and then press ENTER to see the income total appear. To total the other columns just copy the formula 7 cells to the right. C for copy, R for right and 7 for no. of cells.

Now press Function 8 and the entire sheet will be recalculated. Save your worksheet by pressing T for transfer, S for save and then enter a filename where the system says TEMP. If you have not recalculated with Function 8, MP will automatically do so before saving your spreadsheet. Next month we'll talk about printing the spreadsheet. If you have any questions, feel free to call.

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MONEY MATTERS
by John Hartweg

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TREASURER'S REPORT
MARCH 1989

Beginning balance	$1180.45	
Income		
	1 Membership	12.00
	1 Maintenence fee	10.00
	Lotto receipts	10.00
	Disk sales	114.00
	Library	32.00
		178.00
Disbursed		
	G. Sweers - BBS expenses	47.80
	J. Hartweg- Monitor,ship repair	143.60
	P. Wiese - Postage	17.10
		208.50
Ending balance	1149.95	

TIPS FROM THE TIGERCUB

$50

TIGERCUB SOFTWARE
156 Collingwood Ave.
Columbus, OH 43213

Distributed by Tigercub Software to TI-99/4A Users Groups for promotional purposes and in exchange for their newsletters. May be reprinted by non-profit users groups, with credit to Tigercub Software.

Over 120 original programs in Basic and Extended Basic, available on cassette or disk, NOW REDUCED TO JUST $1.00 EACH!, plus $1.50 per order for cassette or disk and PP&H. Minimum order of $10.00. Cassette programs will not be available after my present stock of blanks is exhausted. The Handy Dandy series, and Color Programming Tutor, are no longer available on cassette. Descriptive catalogs, while they last, $1.00 which is deductable from your first order.

Tigercub Full Disk Collections, reduced to $5 postpaid. Each of these contains either 5 or 6 of my regular catalog programs, and the remaining disk space has been filled with some of the best public domain programs of the same category. I am NOT selling public domain programs - they are a free bonus!

TIGERCUB'S BEST, PROGRAMMING TUTOR, PROGRAMMER'S UTILITIES, BRAIN GAMES, BRAIN TEASERS, BRAIN BUSTERS!, MANEUVERING GAMES, ACTION GAMES, REFLEX AND CONCENTRATION, TWO-PLAYER GAMES, KID GAMES, MORE GAMES, WORD GAMES, ELEMENTARY MATH, MIDDLE/HIGH SCHOOL MATH, VOCABULARY AND READING, MUSICAL EDUCATION, KALEIDOSCOPES AND DISPLAYS

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These are full disks of 100 or more utility subprograms in MERGE format, which you can merge into your own programs and use, almost like having another hundred CALLs available in Extended Basic. Each is accompanied by printed documentation giving an example of the use of each. NUTS & BOLTS (No. 1) has 100 subprograms, a tutorial on using them, and 5 pp. documentation. NUTS & BOLTS No. 2 has 108 subprograms, 10 pp. of documentation. NUTS & BOLTS #3 has 140 subprograms and 11 pp. of documentation. NOW JUST $15 EACH, POSTPAID.

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These are full disks which contain the programs and routines from the Tips from the Tigercub newsletters, in ready-to-run program format, plus text files of tips and instructions.

TIPS (Vol. 1) contains 50 original programs and files from Tips newsletters No. 1 through No. 14. TIPS VOL. 2 contains over 60 programs and files from Nos. 15 thru 24. TIPS VOL. 3 has another 62 from Nos. 25 through 32. TIPS VOL. 4 has 48 more from issues No. 33 through 41. NOW JUST $10 EACH, POSTPAID.

```
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
%          NOW READY           %
% TIPS FROM TIGERCUB VOL.5       %
% Another 49 programs and        %
% files from issues No. 42       %
% through 50. Also $10 ppd       %
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
```

TIGERCUB CARE DISKS #1,#2,#3 and #4. Full disks of text files (printer required). No. 1 contains the Tips newsletters #42 thru #45, etc. Nos. 2 and 3 have articles mostly on Extended Basic programming. No. 4 contains Tips newsletters Nos. 46-52. These were prepared for user group newsletter editors but are available to anyone else for $5 each postpaid.

This educational program is a much expanded version of a routine I published before.

```
100 DIM M$(100)
110 GOTO 150
120 S,K,A$(),J,M$(),Y$,Z$,Z,
X,ING$,A,AN$
130 CALL CLEAR :: CALL COLOR
 :: CALL SCREEN :: CALL CHAR
 :: CALL KEY :: CALL ING ::
CALL HCHAR
140 !@P-
150 CALL CLEAR :: FOR S=0 TO
 12 :: CALL COLOR(S,2,8):: N
EXT S :: CALL SCREEN(5):: DI
SPLAY AT(3,1):"LEARNING TO "
"ING"" IT  V.1.1"
160 CALL CHAR(64,"3C4299A1A1
99423C"):: DISPLAY AT(5,1):"
@ Tigercub Software 1987 for
free distribution - no price
or copying fee to be charged
"
170 CALL KEY(3,K,S)
180 A$(1)="No, if the word d
oes not end in B, D, G, M, N
, P, R or T you always just
 add ING"
190 A$(2)="No,if the last le
tter is not E and the next-t
o-last     letter is not a v
owel, just add ING"
200 A$(3)="No, if the word h
as two     vowels just befor
e the last letter, just add
 ING"
210 A$(4)="No, if a word end
s in B, D, G, M, N, P, R or
 T with one vowel (but not tw
o vowels!) just before it, y
ou must     double the last
 letter and add ING"
220 A$(5)="No, if the word e
nds in IE, change the IE to
 Y and add  ING"
230 A$(6)="No, BE is an exce
ption to   the rules,"
240 A$(7)="Some dictionaries
 give EYING but EYEING is be
tter"
250 A$(8)="No, if a word end
s in E (ex-cept BE and words
 ending in IE,OE,UE AND YE)
 you must drop the E and add
 ING"
260 A$(9)="No, if the word e
nds in EE, or OE or UE, just
 add ING"
270 A$(10)="No, QUIP, QUIT a
nd QUIZ are exceptions to th
e rule.     Double the last
 letter and  add ING."
280 FOR J=1 TO 100 :: READ M
$(J):: NEXT J
290 FOR J=1 TO 100 :: Y$=Y$&
CHR$(J):: NEXT J :: Z$=Y$
300 DISPLAY AT(3,1):"";"";""
:" Type the word with the
  correct ING suffix"
310 RANDOMIZE :: Z=INT(RND*L
EN(Z$)+1):: X=ASC(SEG$(Z$,Z,
1)):: Z$=SEG$(Z$,1,Z-1)&SEG$
(Z$,Z+1,255):: IF LEN(Z$)=0
THEN Z$=Y$
320 CALL ING(M$(X),ING$,A)
330 DISPLAY AT(12,1):M$(X)::
 ACCEPT AT(12,15):AN$
340 CALL HCHAR(13,1,32,280):
: DISPLAY AT(10,1):"" :: IF
AN$=ING$ THEN DISPLAY AT(10,
10):"CORRECT!" :: GOTO 310
350 DISPLAY AT(15,1):A$(A):"
":"The word is ";ING$ :: GOT
O 310
360 !@P+
370 DATA LODGE,BUY,HOPE,QUIP
,TITHE,WISH,CUT,DRIVE,SEE,EY
E,GO,CRY,TRY,AGREE,QUIT
380 !@P-
390 DATA BOIL,COOL,HURT,BUTT
,CAGE,BE,ROVE,PITY,SAVE,COOL
,RULE,MEASURE,TUNE,RAVE
400 DATA RUN,BEG,STOP,THINK,
ERR,BORE,TEAR,BAR,CARE,BARE,
BEAR,LET,QUIZ,HOOT,HEAT,COME
410 DATA DREAM,TAKE,FRY,CADD
Y,FLEE,HOE,SEW,TRIP,HOPE,RIG
,DRAG,SUE,KNEE,BOO,BABY,NURS
E,CRUISE
420 DATA LIE,TIE,DIE,BELIE,V
IE,DODGE,LIVE,DRIVE,LOVE,LEA
VE,HUM,HOP,BEG,BEGIN,BOMB,BO
B
430 DATA ADD,AID,BAT,BOAT,PR
AY,LAY,QUOTE,SNORE,STARE,HIR
E,FIRE,LINE,CRY,SAY
440 DATA BOOGIE,RAGE,RATTLE,
GRATE,LEAVE,STRIVE,DRAW,WRIT
E
450 !@P+
460 SUB ING(M$,ING$,A):: E$=
SEG$(M$,LEN(M$),1):: F$=SEG$
```

```
(M$,LEN(M$)-1,1):: A$="ING"
:: C$="BDEGHNPRT" :: V$="AEI
OU"
470 GOTO 500
480 C$,E$,ING$,M$,A$,A,V$,F$
490 !@P-
500 IF LEN(M$)=4 AND SEG$(M$
,1,3)="QUI" THEN ING$=M$&E$&
A$ :: A=10 :: SUBEXIT
510 IF POS(C$,E$,1)=0 THEN I
NG$=M$&A$ :: A=1 :: SUBEXIT
520 IF E$="E" THEN 550
530 IF POS(V$,F$,1)=0 THEN I
NG$=M$&A$ :: A=2 :: SUBEXIT
540 IF POS(V$,SEG$(M$,LEN(M$
)-2,1),1)<>0 THEN ING$=M$&A$
 :: A=3 :: SUBEXIT ELSE ING$
=M$&E$&A$ :: A=4 :: SUBEXIT
550 IF F$="I" THEN ING$=SEG$
(M$,1,LEN(M$)-2)&"YING" :: A
=5 :: SUBEXIT ELSE IF F$="E"
 OR F$="O" OR F$="U" THEN IN
G$=M$&A$ :: A=9 :: SUBEXIT
560 IF M$="BE" THEN ING$="BE
ING" :: A=6 :: SUBEXIT
570 IF M$="EYE" THEN ING$="E
YEING" :: A=7 :: SUBEXIT
580 ING$=SEG$(M$,1,LEN(M$)-1
)&A$ :: A=8
590 !@P+
600 SUBEND
```

I still have a sort of an old-fashioned idea that the computer can be a useful educational tool -

```
100 CALL CLEAR :: FOR SET=0
TO 12 :: CALL COLOR(SET,2,8)
:: NEXT SET :: CALL SCREEN(5
):: DISPLAY AT(3,6):"NOUN TO
 ADJECTIVE" :: CALL KEY(3,K,
S)
110 CALL CHAR(64,"3C4299A1A1
99423C"):: DISPLAY AT(5,5):"
@ Tigercub Software";"";" Fo
r free distribution - no pr
ice or copying fee to be ch
arged."
120 DISPLAY AT(12,1):" One m
oment...loading memory"
130 DATA ROGUE,ROGUISH,HOG,H
OGGISH,PIG,PIGGISH,SWINE,SWI
NISH,THIEF,THIEVISH,KNAVE,KN
AVISH,BRUTE,BRUTISH or BRUTA
L
140 !@P-
150 DATA FAME,FAMOUS,TUMULT,
TUMULTUOUS,RIOT,RIOTOUS,SCAN
DAL,SCANDALOUS,MOUNTAIN,MOUN
TAINOUS,ODOR,ODOROUS or ODOR
IFEROUS
160 DATA CAVERN,CAVERNOUS,VI
LLAIN,VILLAINOUS,DANGER,DANG
EROUS,PERIL,PERILOUS,ADVANTA
GE,ADVANTAGEOUS
170 DATA BARB,BARBED,FORK,FO
RKED,BORDER,BORDERED,WHEEL,W
HEELED,HUNGER,HUNGRY,ANGER,A
NGRY
180 DATA PARLIAMENT,PARLIAME
NTARY,PLANET,PLANETARY,LEGIS
LATURE,LEGISLATIVE,PARISH,PA
ROCHIAL
190 DATA CONGRESS,CONGRESSIO
NAL,ELEPHANT,ELEPHANTINE,FAN
TASY,FANTASTIC,BULL,BULLISH
200 DATA GIRL,GIRLISH,BOY,BO
YISH,BABY,BABYISH,AMATEUR,AM
ATEURISH,FEVER,FEVERISH,DEVI
L,DEVILISH,FOOL,FOOLISH
210 DATA OAF,OAFISH,SHEEP,SH
EEPISH,CHILD,CHILDISH or CHI
LDLIKE,VIRTUE,VIRTUOUS,PRIDE
,PROUD or PRIDEFUL
220 DATA HATE,HATEFUL,DOUBT,
DOUBTFUL,THOUGHT,THOUGHTFUL,
SHAME,SHAMEFUL,FEAR,FEARFUL,
SORROW,SORROWFUL
230 DATA WISH,WISHFUL,PEACE,
PEACEFUL,EVENT,EVENTFUL,TRUT
H,TRUTHFUL,SKILL,SKILLFUL,MA
N,MANLY
240 DATA WOMAN,WOMANLY,FATHE
R,FATHERLY,MOTHER,MOTHERLY,B
ROTHER,BROTHERLY,SISTER,SIST
ERLY
250 DATA NIGHT,NIGHTLY,HOUR,
HOURLY,MONTH,MONTHLY,ORDER,O
RDERLY,SERIES,SERIAL
260 DATA TIME,TIMELY,GRAVEL,
GRAVELLY,FRIEND,FRIENDLY,MOO
L,MOOLLY,YEAR,YEARLY,SOUTH,S
OUTHERN or SOUTHERLY
270 DATA NORTH,NORTHERN or N
ORTHERLY,WEST,WESTERN or WES
TERLY,EAST,EASTERN or EASTER
LY
280 DATA CHARITY,CHARITABLE,
TERROR,TERRIFIED or TERRIBLE
,HORROR,HORRIFIED or HORRIBL
E or HORRIFIC
290 DATA RAG,RAGGED,MILITARY
,MILITARISTIC,ART,ARTISTIC,C
AT,CATTY,DOG,DOGGY,FOG,FOGGY
,SUN,SUNNY
300 DATA BAG,BAGGY,LEG,LEGGY
,BOG,BOGGY,STUB,STUBBY,FUN,F
UNNY,FUR,FURRY,GUM,GUMMY,AVA
RICE,AVARICIOUS
310 DATA CLOUD,CLOUDY,RAIN,R
AINY,FLOWER,FLOWERY or FLORA
L,GREED,GREEDY,THIRST,THIRST
Y,AIR,AIRY,BUSH,BUSHY,FISH,F
ISHY
320 DATA SOUP,SOUPY,BLOOD,BL
OODY,FOAM,FOAMY,BEAD,BEADY,S
WAMP,SWAMPY,SILVER,SILVERY,C
OPPER,COPPERY,DUST,DUSTY
330 DATA DIRT,DIRTY,GUILT,GU
ILTY,SALT,SALTY,GRAIN,GRAINY
,OIL,OILY,TRICK,TRICKY,HILL,
HILLY,ROCK,ROCKY
340 DATA SAND,SANDY,SOAP,SOA
PY,SUDS,SUDSY,SILK,SILKY,WOO
D,WOODY,MODESTY,MODEST,PIETY
,PIOUS,DAY,DAILY
350 DATA TREE,TREELIKE,TOY,T
OYLIKE,FINGER,FINGERLIKE,SWA
N,SWANLIKE,WAR,WARLIKE,DISH,
DISHLIKE,PLATE,PLATELIKE
360 DATA SPOON,SPOONLIKE,BIR
D,BIRDLIKE,SNAKE,SNAKY,WIRE,
WIRY,BONE,BONY,SMOKE,SMOKY,F
LAKE,FLAKY
370 DATA NOISE,NOISY,BRINE,B
RINY,TASTE,TASTY,STONE,STONY
,WAVE,WAVY,GORE,GORY,PASTE,P
ASTY,BUBBLE,BUBBLY
380 DATA LABOR,LABORIOUS,ORN
AMENT,ORNAMENTAL,GOVERNMENT,
GOVERNMENTAL,CONTINENT,CONTI
NENTAL,MUSIC,MUSICAL
390 DATA MAGIC,MAGICAL,TOPIC
,TOPICAL,SENSATION,SENSATION
AL,LOGIC,LOGICAL,ALARM,ALARM
ING,ARTERY,ARTERIAL
400 DATA GOLD,GOLDEN,EARTH,E
ARTHEN,GLAMOUR,GLAMOURIZED,D
EPUTY,DEPUTIZED,ENERGY,ENERG
IZED,PART,PARTIAL,FIRE,FIERY
410 DATA ANGEL,ANGELIC,CHERU
B,CHERUBIC,BURDEN,BURDENSOME
,TROUBLE,TROUBLESOME,BEAST,B
ESTIAL
420 DATA HISTORY,HISTORICAL,
GEOGRAPHY,GEOGRAPHICAL,BOTAN
Y,BOTANICAL,BIOLOGY,BIOLOGIC
AL,LITURGY,LITURGICAL
430 !@P+
440 DIM A$(175),B$(175):: FO
R J=1 TO 174 :: READ A$(J),B
$(J):: Z$=Z$&CHR$(J):: NEXT
J :: Y$=Z$ :: RANDOMIZE
450 DISPLAY AT(7,1):"":"Type
 the adjective form of -":""
460 X=INT(RND&LEN(Y$)+1):: Y
=ASC(SEG$(Y$,X,1)):: Y$=SEG$
(Y$,1,X-1)&SEG$(Y$,X+1,255):
: IF LEN(Y$)=0 THEN Y$=Z$
470 DISPLAY AT(12,1):A$(Y)::
 ACCEPT AT(12,14):Q$ :: IF P
OS(B$(Y),Q$,1)=0 THEN 490
480 DISPLAY AT(18,1):"":"" :
: FOR D=1 TO 100 :: NEXT D :
: DISPLAY AT(18,1):" That is
 the word in my     memory b
anks.":"" :: GOTO 460
490 DISPLAY AT(18,1):" The a
djective in my memory banks
is ";B$(Y):: GOTO 460
```

When one program is run from from another by RUN DSK.., the screen is not cleared, sprites are not deleted, and screen color, character definitions and sprite magnification are not returned to the default values. This can cause some strange results, which can be prevented by CALLing CLEARALL just before the RUN.

```
1000 SUB CLEARALL :: CALL CL
EAR :: CALL DELSPRITE(ALL)::
 CALL SCREEN(8):: CALL CHARS
ET :: CALL MAGNIFY(1)
1001 FOR CH=65 TO 90 :: CALL
 CHARPAT(CH,CH$):: CALL CHAR
(CH+32,"00"&SEG$(CH$,1,12)&S
EG$(CH$,15,2)):: NEXT CH
1002 CALL CHAR(96,"000201008
",123,"0018202040202018",124
,"0010101000101010003008080400
08083000000205408")
1003 FOR CH=127 TO 143 :: CA
LL CHAR(CH,"0"):: NEXT CH ::
 SUBEND
```

The routine in line 1001 can be used, by deleting the +32 if necessary, to modify some of the character sets on my Nuts & Bolts disks.

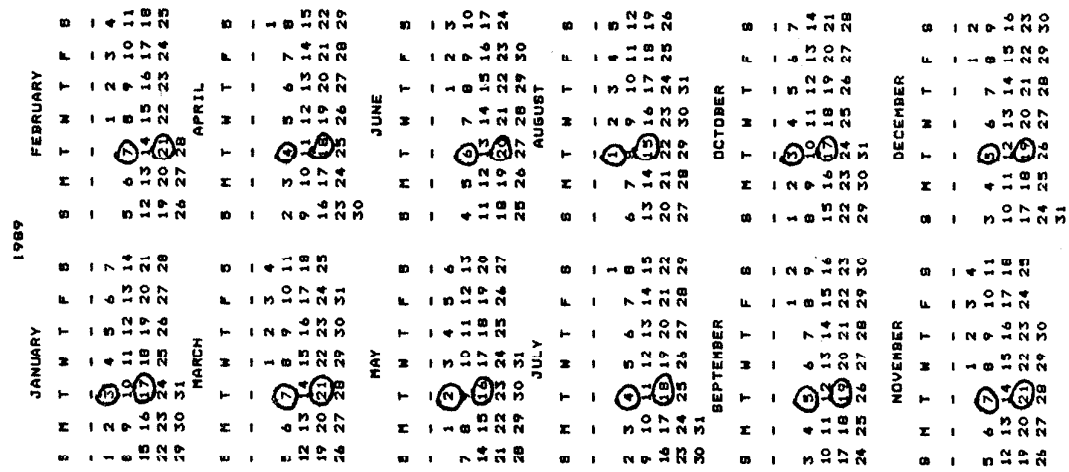
From an idea in a program by Ed Machonis, here is an improvement to my 28-Column Converter published in Tips #18. After line 160, insert

```
165 DISPLAY AT(20,1):"Tab se
tting? 1" :: ACCEPT AT(20,14
)SIZE(-2)BEEP:T
```

And change line 290 to -

```
290 PRINT #2:TAB(T);L$ :: S=
S+28 :: GOTO 410
```

MEMORY FULL! - Jim P.



Greater Tampa Bay TI
User Group Newsletter

c/o Paul Wiese
4115 Okara Road
Tampa, Florida 33617

FIRST CLASS MAIL

TO:

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