
THE GUILFORD 99'ER NEWSLETTER

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The Guilford 99'er Users' Group Newsletter is free to dues paying members (One copy per family, please). Dues are \$12.00 per family, per year. Send check to P.O. Box 21691, Greensboro, NC 27420. The Software Library is for dues paying members only. (Herman Geschwind, Editor)

OUR NEXT MEETING

DATE: March 3, 1987. TIME: 7:00 PM PLACE: Glenwood Recreation Center
2010 S. Chapman Street.

Our program for the March meeting will be a presentation by Carl Foster on the TI and Music. Carl has done quite some exciting work in this field so that our program should be entertaining as well giving us some "how to do it" advice from an expert.

FRANKLY SPEAKING

As your new VP, I would like to take this space to thank you for the trust in electing me to this important office in your club. I want you to feel free to call on me anytime Joey is not available to help you.

There are a few things that I would like to pass on to you that I have very strong feelings about. One is, let's try to send the freeware author the donation that he is entitled to. These people try very hard to give us good programs, and I feel they are earning less than they deserve. They ask only a small percentage of what the same program would cost from a large software company. Just compare what you make an hour to what they are getting from days, weeks, or sometimes months of hard work. I am afraid that if only 20 or 30 percent of the users of these programs are responding, then we will soon see less and less of these freeware programs made available to us. So let's try to send them something, even if it's a note of encouragement and a promise of a donation later.

I would like to reprint an article from the user group in Pittsburgh.

"The Federal Bureau of Investigation is responsible to enforce the Federal Copyright laws. The very nature of this subject causes information to be somewhat difficult to obtain from the parties involved. It is embarrassing and damaging to one's integrity to be at the wrong end of criminal and/or civil copyright charges. Due to this and other factors, the identities of the computer club and members will not be given. Here is the story as reported."

The User Group meeting (graphically very near to where we meet) began normally enough. The UG was conducting business as normal, when one of their members produced to a few other members, an FBI ID card and informed a few members that they were under arrest for violation of United States copyright laws. Their computers, equipment, and media were seized.

Allegedly, programs were being copied illegally. The UG officers pointed out that before every meeting, all members are told not to participate in illegal activities. Also, they have placed a notice in their newsletter outlining a guideline of offenses for members who do attempt to participate in such illegal activities at group meetings. No charges against the user group have been filed in this case. There are laws on the books that could make that copy the most expensive program you ever gave/received."

So you see, pirating may be hazardous to you and your computer equipment 's best health!! Let's make sure this doesn't happen to any of our members ok?

If you can offer us some newsworthy items for our newsletter, please don't hesitate to do so. What might seem trivial to you could be just what some reader was looking for. If you have any short-cuts or data that you think the members or their kids would like, just flog in the Funnelweb, hit the Editor, and have at it! Just save the file to disk under any file name you wish such as "MYFILE" and call Herman (after 5 cause he still slaves) and if he's not eating or hacking, he will give you a time to call into his modem and you can download right from your easy chair. Seriously, we do need to hear from members because without input, our newsletter could shrink to a few pages or nothing at all. It's all up to us. I personally had rather read news about us than news about someone else we don't even know. How 'bout you?

I was glad to see that Dave Cohen has decided to stick with us for another year. I was afraid when I heard he was selling out that he would drop us. Welcome back Dave! Also a warm welcome to John Matthews, our newest member.

Just one other thing, Ryte Data, a monthly newsletter similar to MICRO- pendium sent us a letter offering a years subscription to a member of our club if we will exchange newsletters with them. They are located in Haliburton, Ontario Canada. That might be a good door prize some meeting in the future...let me know what you think about it. Speaking of door prizes, don't you think it would liven things up a little to have one? We could put names on a slip of paper, put it in George's ball cap, and let little Ben Jones draw the lucky number!!(just kidding Ben!). That would get someone a free disk or whatever the club would provide. Think on it.

TI SHOPPER

This month's column is going to be rather short. There isn't too much happening in the TI world lately. In fact, the only real news is from the "fairware" marketplace.

MASSTRANSFER has been updated and re-worked. This latest version (Version 4.1) has some enhancements that make it well worth having. The buffer size has been increased and there have been some "fixes" made to a number of internal "glitches". In addition, the documentation file has also been re-written. Although I haven't had the chance to use it "hands on", Herman had it all cranked up the other night when I was over there. Herman, as many of you know, was a real active proponent of FASTERM. From what I saw (and what I heard) he seems to think that this "new" update of MASSTRANSFER is good enough to replace FASTERM. Enough said!!

Word on the CAPTAIN'S WHEEL P-Box (see last month) is that the construction is rather easy though a bit crude. Tony McGovern bought one of them and said that the only part of the deal that he was not happy with was the need to do a little metal work to build your own cabinet for the P-Box. Other than that, he didn't have much derogatory to say about it. It still might be looking into if you haven't expanded.

The latest word on CorComp is --- nothing! There hasn't been ANY news from the West Coast about the eminent demise of CorComp. Laura Burns at MICROpendium said that, as far as she knows, they are still in business. At least there is a receptionist answering the telephone there. Who knows what the true story is?

The great HCN "swindle" --- you know the magazine that disappeared --- is another interesting story. One of the recent HV?? Newsletters has a little squib about where to write if you feel that your subscription was prematurely terminated. The address is that of the District Attorney's office. Well, since mine was, I went ahead and wrote a letter. The settlement that you get is (depending on how much they owe you) a copy of their latest "shaky" magazine. The subscription rates are completely out of line price-wise and the content is probably not worth the effort. Anyway, I'm going to get a copy of the quarterly magazine and disk as a settlement for what they owe me on my unfilled subscription.

Vendors and Sources:

Braatzs Computer Services, 719 E. Byrd St., Appleton, WI, 54911. Hard- and Software. Catalog \$1.00 (Refundable with order).

Competition Computer, 2629 W. National, Milwaukee, WI, 53204, (414)-672-4010. Hard- Software, Accessories and Printers.

Slidden Electronics, Inc., PO Box 1580, Deleon Springs, FL, 32028, (904)-985-5842. Hard- and Software. New and used.

Youngtree, PO Box 197, Leavittsburg, OH, 44430. Hardware. Catalog \$2.00 (Refundable) MC/Visa.

Kidware, 1380-156th NE, Suite H2, Bellevue, WA 98707. 80 Children's software titles.

Asgard Software, PO Box 10306, Rockville, MD, 20850. Software. MC/Visa.

Forth Information Center, 4122 Glenway, Wauwatosa, WI, 53222. Public domain Forth.

Down Home Computercraft, Box 514-CS, Brand Island, FL, 32735. SASE for catalog.

Tex'n Treasures, 1122 English Court, Belle Plaine, KS, 67013. SASE for listing of software.

D-F-A, PO Box 235, Oakdale, CA 95361. New Adventure Games.

L.L. Conner Enterprise, 1521 Ferry St., Lafayette, IN 47904. Hard-and Software. MC/Visa. (317)-742-8146. BBS (317)-423-4879.

Digit Systems, 4345 Hortencia St., San Diego, CA 92103. SuperCart \$35. Other hardware.

(Contributed by Bob Carmany)

LOGO TIMES

Over the course of the next year, I'm going to try to write a monthly column on TI Logo. Why bother you might reasonably ask?

Isn't it true, that our user group virtually never talks about LOGO? There are no LOGO programs in our library! And other user groups seem equally content to ignore the language, with little if any discussion about it in their heady newsletters.

Indeed, you might ask, whatever happened to what Texas Instruments described as "a limitless learning environment." Noting in early promotional literature that the TI-99/4A was one of only two home computers to offer LOGO, the company also described it as "a very special child-appropriate computer language." All of which probably made many of us parents wise enough (or intimidated enough) to buy LOGO for our kids, but not secure enough to venture beyond booting up the canned procedures on the sampler disk. Why?

Perhaps because like Trix, LOGO is for kids. Right? Wrong, I'd like to argue. It may not generate gee-whiz utilities or spreadsheets four arms long, but LOGO is being used outside the elementary classroom, for instance, by college mathematics, physics and computer science students. Indeed, TI LOGO Guru Harold Abelson says as a basis for exploring mathematics, LOGO's turtle geometry is useful in presenting "mathematical topics ranging from elementary geometry through (Einstein's theory of) General Relativity." To say the least, LOGO is a mind stretcher.

And we could all use a lil' bit of that. If there is one thing that has been painfully obvious at our club meetings, it is that most of us are not programmers or have only self-taught rudimentary programming skills. There are several notable exceptions, of course, and for their expertise we should all be grateful. Still, admit it: most of us couldn't pass a basic test in BASIC. We know enough to function, tinker and be astonished by the programming wizardry of others. If you aren't sailing, just try to recall the last time you tried to do anything really imaginative or original with any computer language.

Enter LOGO. Why again? Maybe cause its there. We ought to try to conquer it, or at least experience it. But don't be intimidated by Abelson's high-minded opportunities. General Relativity ain't everybody's cup of tea. For the less adventurous, how about because its much easier to learn LOGO than probably any other language and it seems to me to be the best foundation language for beginners. It appears likewise to be the most easily mastered, though LOGO has a way of bending back on you, taking you through turns you never knew were there.

Incidentally, let me make REAL clear right now that like you, I am very far from being a master and very much the beginner. Short of reading the manual, experiencing the sampler programs and about two hours worth of tinkering during the last month, I don't know diddly about LOGO. Hardly know a turtle from a sprite. So, anybody out there with LOGO blackbelt, feel free to jump into the fray. Otherwise let's see if we can't learn together from little LOGO.

Actually, I think that's one of LOGO's greatest assets. It lends itself very well to team programming. And as such, is an ideal family challenge. It goes hand in hand with LOGO's interactive nature. My very first LOGO session was exhilarating because I was quickly doing things I thought would take weeks and endless sorting through the manual. Abelson is correct when he says LOGO gives control of the computer in a personal, "self-directed" way. In this sense LOGO is not just a computer language, but a "philosophy of education" and a powerful one at that. He says it gives people the power to "establish intimate contact with profound ideas from science, from mathematics, and from the art of intellectual model building." In a way that even the most sophisticated computer adventure game can't match, LOGO turns you into an explorer. And let's face it. Exploring can be a riot.

That brings us to Micheal Crichton's (author of the "Terminal Man," "The Great Train Robbery," and "The Andromeda Strain") famous seven maxims about computers, all of which apply to LOGO and how we see it:

"People are more important than computers.

Much of what we believe about computers is wrong.

It is easy to use a computer.

This is fortunate, because everybody's going to have to learn.

It is not so easy to use a computer wisely.

This is unfortunate, because everybody's going to have to learn.

Computers can actually be a lot of fun.

There are people who want to put a stop to that."

Believe me, LOGO can be a lot of fun.

(Editor's Note: Many thanks to Larry Spohn for this contribution and all indications are that Larry will continue his Logo column in future issues of this newsletter. We already have original contributions on Forth and Basic from group members and it is doubly gratifying that we now can cover Logo. For one Logo is an important language for the 99/4A, only as of late there has been very little coverage for it, and secondly we are always proud to be able to publish original material from our members. Maybe someone would like to write about Pilot, or E/A or "c"?....)

FORTH FORUM

Here are some tips from TI Forth that were contained in an article that Herman passed on to me. I'm really not sure who to attribute them to other than the NETWORK-99 U6 name appears in one of them. Without further delay, here they are:

HOW TO READ A CARTRIDGE!!!!

First, make sure the cartridge you want to read does not contain any GROM chips. Since many of the TI licensed carts contain GROM and GPL code, it is best to stick with 3rd party carts such as the Atarisoft carts. These are written entirely in TMS9900 Assembly Language, and are easily read. Since there is no automatic reset when one of these carts is inserted, it is very easy to read from Forth!

Load -DUMP from Forth's menu. When the cursor returns, gently pull out the E/A cart and insert a readable one. To read this cart all you have to do is type: HEX 6000 1FFF DUMP and watch the cart's contents print to the screen. To print to a printer, just load the -PRINT commands before you switch carts and type SWCH before the DUMP and UNSWCH after. It is also possible to save to disk using the same procedure, but changing the file attributes on SCR# 72. Of course, getting it to run from disk without the cart is another story! Please let us know if you succeed. You should be able to disassemble the code and check out the source code with one of the disassemblers floating around, or wait for the Forth disassembler in a future issue of the NETWORK-99 NEWSLETTER. Good Luck!

Here is a short routine that allows you to "freeze" a number of rows from the top of the screen. It assumes you are in Text mode, but can be adapted for other needs. Just type DEMO for a demonstration.

DECIMAL

```
: FREEZE ( ROWS --- ) 40 * SCR# START ! ;
: UNFREEZE 0 SCR# START ! ; : BORDER 22 0 DO 42 EMIT LOOP ;
: DEMO 0 0 GOTOXY BORDER 0 3 GOTOXY ." THIS SECTION IS FROZEN"
0 6 GOTOXY BORDER 0 23 GOTOXY 8 FREEZE 20 0 DO 1 SPACES
```

Here's a screen to test those sprite routines. It's a simple game. You control the white circle, with the joysticks or arrow keys and try to catch the blinking circle which the computer moves. Just load the screen and type GAME.

```
( SPRITE DEMO NETWORK-99 NEWSLETTER VOL1#6 )
```

```
BASE->R HEX GRAPHICS 800 SSBT 0 MAGNIFY
3C42 8181 8181 423C 1 SPCHAR 003C 7E7E 7E7E 3C00 2 SPCHAR
50 50 F 1 1 SPRITE 50 50 6 2 2 SPRITE
```

DECIMAL

```
: BLINK 1 2 SPRPAT 15 RND 2 SPRCOL 2 2 SPRPAT ;
: ZIGZAG 100 RND 50 - 100 RND 50 - 2 MOTION BLINK ;
: CATCH? 1 2 1 COINC IF BEEP THEN ;
: JOYSTICK 1 JOYST ROT 18 = IF QUIT THEN
SWAP 10 * SWAP -10 * 1 MOTION ;
: GAME 3 #MOTION BEGIN ZIGZAG JOYSTICK CATCH? AGAIN ;
R->BASE
```

The next XB program is self explanatory and is written by Clint Pulley of c99 fame. It is called Forthswap and that is exactly what it does.

```
100 ! FORTHSWAP - PROGRAM TO COPY FORTH SCREENS TO/FROM TEXT FILES
110 ! BY CLINT PULLEY
120 OPTION BASE 1 :: DIM A$(161):: F$=RPT$(" ",64)
130 CALL CLEAR :: PRINT "FORTHswap V1.0": "by Clint Pulley": "Copy (1 - Text to Screens)Type? (2 - Screens to Text)" ::
ACCEPT AT(23,6)SIZE(1)VALIDATE("12")BEEP:M
140 IF M=2 THEN 400
180 GOSUB 1500
190 FOR I=1 TO 161 :: IF EOF(1)THEN 210 ELSE LINPUT #1:A$(I)
200 NEXT I :: I=161
210 I=I-1 :: CLOSE #1 :: IF 2*INT(I/2)<>I THEN I=I+1 :: A$(I+1)=" "
215 NSC=INT(I/16+.95):: PRINT "File Length =";NSC;"screens" :: IF NSC>10 THEN PRINT "Sorry, this file is too long( >
10 screens)" :: STOP
220 GOSUB 2000
290 FOR J=1 TO I STEP 2 :: B$=SE6$(A$(J)&F$(1,64)&A$(J+1)):: PRINT #2,REC RNO:B$ :: RNO=RNO+1 :: NEXT J
300 CLOSE #2 :: GOTO 480
400 PRINT "## of screens to copy";
410 INPUT NSC :: IF NSC<1 OR NSC>10 THEN PRINT "Invalid input-try again" :: GOTO 410
420 GOSUB 2000 :: I=1 :: FOR J=1 TO 8*NSC :: LINPUT #2,REC RNO:B$
425 Z$=SE6$(B$(1,64)):: GOSUB 3000 :: A$(I)=Z$
430 Z$=SE6$(B$(65,64)):: GOSUB 3000 :: A$(I+1)=Z$
440 RNO=RNO+1 :: I=I+2 :: NEXT J
```

```

450 CLOSE #2 :: GOSUB 1500
460 FOR J=1 TO 16#NSC :: PRINT #1:A$(J):: NEXT J :: CLOSE #1
480 PRINT "File copy complete": "More? (Y/N)" :: ACCEPT A1(23,6)/SIZE(1)/VALIDATE("YN")BEEP:B#
490 IF B#="Y" THEN 130 ELSE STOP
1000 INPUT "Press ENTER to continue ":M# :: RETURN
1500 ! SETUP TEXT FILE AS #1
1510 PRINT "Load diskette containing the FORTH text file": : : GOSUB 1000
1520 /RINT "Text file? DSK1." :: ACCEPT AT(23,15)/SIZE(-12)BEEP:FN# :: OPEN #1:" DSK"&FN# :: RETURN
2000 ! SETUP FORTH SCREEN FILE AS #2
2010 PRINT "FORTH Diskette (1 = System)": "Type?";TAB(16);"(2 = Screens)"
2020 ACCEPT AT(23,6)/SIZE(1)/VALIDATE("12")BEEP:T
2030 IF T=1 THEN C1=20 :: C2=6 :: FN#="SYS-SCRNS" ELSE C1=9 :: C2=4 :: FN#="SCRE ENS"
2040 PRINT "Valid starting screen number for this type of diskette is":C1;"to";9 0-NSC: "Load FORTH diskette": : :
GOSUB 1000
2050 PRINT "Screen file? DSK1."&FN# :: ACCEPT AT(23,17)/SIZE(-12)BEEP:FN# :: OPE N #2:"DSK"&FN#,RELATIVE,FIXED 128
2060 PRINT "Starting screen #";: INPUT SCR :: IF SCR<C1 OR SCR>(90-NSC)THEN PR INT "Screen # out of range" :: GOTO 270
2070 RND=(SCR-C1)#8+C2 :: RETURN
3000 ! TRIM TRAILING BLANKS
3010 FOR K=63 TO 1 STEP -2 :: IF POS(Z%," ",K)<>K THEN 3030
3020 NEXT K :: K=1
3030 Z%=SEG$(Z%,1,K+1):: RETURN

```

MODEM TALK

ROS: 621-2623

Dan now has settled in after his move and his board is up and running again 24 hrs a day. During the past month we had a variety of fare to upload, so here is a quick run-down on what is new:

AMAZING.TI 4k-A nice music and graphics rendition of "Amazing Grace".
 BATARC.TI 73k-A Star Trek-like game.
 BRIIARC.TI 52k and
 BRI2ARC.TI 38k A nice Bridge Tutorial. Runs with Console Basic or XB.
 DSKUAR.TI 51k If you are familiar with John Birdwell's Disk Utility 2.2, this is his latest version 3.2. Many more features have been added to make this one of the more versatile Disk/File editors ever. File includes updated docs.
 EDITPAK 25k This is Ballman's version of TI-Writer. Thanks to whoever the uploader might be.
 NARARC.TI 34k Some familiar marches transcribed for the TI.
 MCS2ARC.TI 83k Updated version of Will McGovern's utilities. Includes DISKHACK (Disk Analyzer) and a real nice Dis-Assembler (XB).
 MP2ARC.TI 53k A collection of MultiPlan templates including MP0&FM1040 to do your 1986 Form 1040 and Schedules A B. Docs included.
 MT12ARC.TI 69k This is the latest (V4.1) of MassTransfer. A very nice Auto Dial feature for Hayes compatible modems. Can now be used to upload ARC files (use NXT option from menu). In my book the best comm program for the 99/4A. I now have retired FastTerm except for some very special occasions.
 PUARC.TI 8k A bare bones but very fast Assembler version of ARCHIVER (Pack and Unpack). Docs included. Will load with XB.
 SOLITAIR.TI 9k A Solitaire game that has been around for a while. Now spiffed up by the author with assembler sub-routines
 T18&TAXP 27k An XB-based tax return package. I am not certain where this upload came from and cannot say very much how well it will work.
 FIDO: 274-5760

We are still waiting for Ben to install his additional 20 Meg drive. Thus for the past month we have not been able to upload due to lack of disk space.

Ben has installed two interface programs (SEAdog and OPUS) and thus the board will look different if you have not logged on for some time. SEAdog automatically detects the modem baud rate of the incoming call so it is no longer necessary to hit the space bar to wake up Fido.

Once you are logged on, by all means select <C> for changing parameters as your first menu choice. The items that should be set for the TI are <W>idth 40, <L>ength 24, and <G>raphics off. The <M>ore setting can be toggled. <M> on will keep text from scrolling off the screen until you hit <Enter>. You need to make these changes only once when you first log on. From there on OPUS will retain these settings for future sessions.

To read messages select (M) and press <Enter>. No longer necessary to key in R for read.

John has uploaded TI Runner to FIDO and we would like to thank him for the upload. It is real nice for me to log on to one of our boards and to see an upload from someone else. Gives me a chance to practice downloading (!)

THE BEGINNING OF COOL

Well you may remember an article a few months ago called "the beginning of Quiet, here's my latest venture that you might enjoy sharing with me.

Recently, I was reading an article that told of a club member removing his power supply board from the console, and using the power from the P-Box to power his console. This of course removes all the heat that usually collects under the module port and often causes lock-ups and loss of data. As I did not want to make all the modifications to my P-Box power supply that he called for, I decided that I would try to just remove my console power supply from the console. As Bob and Herman can tell you, I have been using a muffin fan that lies over the vent port to cool the power supply and it has performed well. It did however add a little noise to the fan from the PB. I thought I would try it out on the console out in the shop first as it is a little older than the one I am using. It worked out so well that I have just finished this one also. It's great to feel the port and have it as cool as the keys! If you are interested, here's the way it went..

First, I removed the screws on the bottom of the console. If you plan on doing this, I would recommend a piece of foam or padding to lay your console on so as not to scratch the top or keyboard. After removing the bottom, you will see the power supply board located at the bottom left of the console. The board has only two phillips screws holding it in. When these screws are removed, you can lift the power board away from the console. Study the position of the wires coming from the Mother Board assembly and make you a drawing showing the color and it's position. One note here, one of my consoles had colored wires with the connector free of the board. The other one had solid brown wires with the connector mounted on the power board. I have no way of knowing which you have, but there is no trouble if you mark everything carefully. Next, I took a piece of 8 conductor cable and prepared it so that four wires could be used for the power and four could be used for the switch, as I wanted to use a switch for re-upping in case of a lock-up. Be sure to leave the four wires for the switch long enough to reach to the side of the console that you are wanting to mount your switch. I mounted mine to the right, just in front of the speech box. This switch will be a miniature DPDT(double pole, double throw) type and can be bought where you get your cable. After unsoldering the wires from the Mother Board, I soldered my new wires in their place, making sure of the right positions. Then I measured to make sure that the switch would clear the inside of the case and drilled my hole for the switch. After the switch was mounted, I routed the cable over the top of the Mother Board shield and let it lay out the back in the hole that the power cord used to plug into. Before closing the console, I checked each wire and made sure there was no solder bridges or anything touching the shield. Then I prepared the other end of my cable by leaving enough wire on the four wires that will go to the switch. After soldering my four power wires in their right positions, I sweated the slide switch off of the power board and soldered the new wires in it's place. Be sure to get your connections right on this switch. You will have six holes but only four are used. I then hooked power to the transformer and my switch happened to be in the "on" position, so I got my TI screen. If you do not get the TI screen as soon as you throw your switch, CUT IT OFF IMMEDIATELY !! Reverse current causes those little fellows called "IC"s to conduct heavy and the results is a fried console that will be impossible to repair. So make sure all wires go where they are suppose to. I left the red LED on the power board cause I know when the console is on anyhow an don't really need it. If you like, you could mount your power board somewhere where you could see the LED if you must know if it's on.

Well, I've been typing for about an hour now, and the only slight hint of heat is the EXB cartridge that is just a little bit warm but not that much. The port it's self is cool as a night in June!

Hope you enjoyed my conversion, and if I can be of any help, see me at the meeting. Y'all come!! (Submitted by "Mac" Jones)

BASIC CORNER

When we started this column the promise was that from time to time we would mix in some fun with the serious stuff..so here we go.

The program that we have for you this month is a biorhythma charting program. Now, Biorhythmas is a little bit like astrology. People who believe in biorythas will not do anything without consulting their charts just as believers in astrology will not do anything unless their horoscope is favorable.

When I moved to Switzerland many years ago I was amazed that among the rather soberminded Swiss there was a strong belief in biorythas and there were some folks making a lucrative living as biorhythma consultants! They had to use pencil and calculator and just think how much money you can make among believers with this month's program! Well, even if it is not for profit, you can still entertain your family members and party guests when you present them with their personalized biorhythma chart!

What it is all about is that the believers hold that in every person's life there are distinct cycles of varying lengths: A physical cycle of 23 days, an emotional cycle of 28 days, and an intellectual cycle of 33 days. Starting with the day of birth these cycles go through a high and low phase and at certain times two or all three cycles can coincide in a high phase. This is when a person is at his or her best. By the same token, don't go into a final exam when the chart says that you are in an intellectual low cycle (what a novel excuse to present to teachers!), or watch out when you go out on a date during an emotional "high" phase. Whatever....

Now to the more serious stuff. What we are featuring this month is a program that has been tweaked for maximum performance. Here is what it takes:

(1) All variables have been reduced to one letter. Long variable names (of which TI Basic and XB are capable, are great for documentation but they sure take up space and slow things down.

(2) All REM statements have been removed. Again REM statements are great for program clarity but they sure can clutter up memory.

(3) Wherever possible, statements have been combined into multi-statement lines. Readability suffers, but it sure makes for compact and fast running programs. I usually keep a documentation listing of all my important programs complete with REM statements, meaningful, but long variables as a printout and a version that has been tweaked as the one that I actually run. Danny Michaels NEATLIST is great for taking a multistatement program that is almost impossible to decipher (but runs like gangbusters) and list it out as a single line program (even with variables listed and cross-referenced).

(4) Another way to speed things up is not obvious from the listing. I am not a very neat programmer and most of my programming is done right on the keyboard. The result is that things get inserted or deleted all over the place. Sure, I RESequence to make it look a little neater but the important thing to remember is that the TI saves program lines exactly in the order in which they were typed in. The listing that you see has been nicely sorted but in reality (if you program the way I do) things are a mess and the Basic Interpreter has to jump all over the place to find the next line number. How to get things in order? Easy, save and re-load your program as a MERGED program (Save DSKn.XXX, Merge, followed by MERGE DSKn.XXX, followed by SAVE DSKn,XXX).

(5) Last but not least, turn off the Pre-Scan. This is that infamous amount of time it takes between entering <RUN> and things starting to happen. During the Pre-Scan you poor little old computer needs to take care of all sorts of housekeeping routines and that is why seemingly nothing happens. Take a close look at lines 1 through 100. This is how we can make it easier for our good friend. Rather than having to hunt through all program lines to round up all the variables that you might have used, we give him a nice compact listing of all data items, variables, CALLS and DIMS and then by keying in !@P- we are telling him: "Look no further, all has been done for you, so now please go ahead and run the program." The story about the Pre-Scan you will not find in the XB manual, rather it was tucked away in an addendum, which I almost tossed out!

There is a way to use the computer to do all this speed-up work for you. There are a number of programs (COMPXB, SHRINK, COMPACTOR) that will automatically remove REMs, shorten variables and combine lines and newest on the market is Pre-Scan-It by J. Peter Hoddie (\$10 from Asgard Software) will do all the Pre-Scan setup for you (With subprograms it can be a bear to set up pre-scan routines by hand and if you happen to overlook a variable or CALL, things will lock up on you for sure).

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1 DATA 31,28,31,30,31,30,31, : 200 DATA THE DAY OF HIS BIRT : 320 DATA JANUARY,3,FEBRUARY, : 480 DISPLAY AT(24,@):"IS PRI
31,30,31,30,31 : H.,,THESE CYCLES ARE:----- : 0,MARCH,3,APRIL,2,MAY,3,JUNE : NTER READY?(Y/N):N" :: ACCEP
2 GOTO 100 :: A$,B$,C$,D$,E$ : PHYSICAL CYCLE(23 DAYS),---- : ,2,JULY,3,AUGUST,3,SEPTEMBER : T AT(24,24)SIZE(-@)VALIDATE(
,F$,G$,H$,I$,J$,K$,L$ :: @,B : EMOTIONAL CYCLE(28 DAYS) : ,2,OCTOBER,3,NOVEMBER,2,DECE : "YN"):A$ :: IF A$="N" THEN 4
,C,D,E,F,G,H,I,J,K,L,M,N,O,P : 210 DATA -INTELLECTUAL CYCLE : MBER,3 : 60 ELSE DISPLAY AT(24,@):"WH
,B,R,S,T : (33 DAYS),,"*IN THIS PROGRAM : 330 DATA ZZZ,ZZZ,0,0 : AT YEAR?1983" :: ACCEPT AT(2
3 CALL CHAR :: CALL CHARPAT : ,CYCLES SPAN",FROM -1(LOW) T : 340 DISPLAY AT(@,@)ERASE ALL : 4,11)SIZE(-4)VALIDATE(DIGIT)
:: CALL CLEAR :: CALL COLOR : 0 1(HIGH). : : "*****BIRTHDATE*****" : : M
:: CALL GCHAR :: CALL MCHAR : 220 DATA ,,"*HIGH" DAYS OF : 11": : "MONTH OF BIRTH": : : 490 IF M<J THEN 480
:: CALL INIT :: CALL KEY :: : A CYCLE ARE",WHEN FIGURES 0 : "DATE OF BIRTH": : "YEAR OF : 500 DISPLAY AT(24,@):"STARTI
CALL LOAD :: CALL SAY :: CAL : F THAT CYCLE,"RISE ABOVE THE : BIRTH:" : NG MONTH:JANUARY" :: ACCEPT
L SCREEN :: CALL SOUND :: CA : MIDDLE LINE,"AND "LOW" : 350 IF G THEN 380 : AT(24,16)SIZE(-9)BEEP:F$ ::
LL VCHAR :: DIM A(12):: !@P- : DAYS ARE BELOW IT." : 360 RESTORE 330 : 60TO 570
100 @=1 : 230 DATA ,WHEN ALL 3 OF THE : 370 READ A$,E$,I,J :: IF A$= : 510 DISPLAY AT(12,@):"*****
110 ON WARNING NEXT :: CALL : CYCLES,COINCIDE ABOVE THE M : "ZZZ" THEN 390 ELSE IF A$<D) : $PROJECTION DAY*****" : :
INIT :: CALL LOAD(-31878,0) : IDDL, "LINE,PERSON IS AT HIS : $ THEN 370 : "THE MONTH": : "THE DATE":
130 FOR B=@ TO 12 :: READ C : BEST!" : 380 DISPLAY AT(4,20)BEEP:E$ : : "THE YEAR": : : : : : : I
:: D=D+C :: A(B)=D :: NEXT B : 240 CALL CLEAR :: RESTORE 19 : :: DISPLAY AT(6,19):I :: DIS : F D=34 THEN 590 ELSE CALL SA
:: CALL CHAR(39,"000000007E : 0 :: FOR B=@ TO 23 :: READ A : PLAY AT(8,19):J :: GOTO 430 : Y("PLEASE+ANSWER THEN PRESS+
",96,"1899FF1818246642",104, : $ :: PRINT #E:TAB(F);A$ :: M : 390 CALL SAY("PLEASE+ANSWER : ENTER")
"0066E7FFFF7E3C18",112,"1014 : EXT B :: IF E=@ THEN 260 ELS : THEN PRESS+ENTER"):: ACCEPT : 520 DISPLAY AT(19,20):"1983"
583FFC1A2808",120,"@17E665A5 : E PRINT "****PRESS ANY KEY"; : AT(4,20)SIZE(-9)BEEP:E$ :: A : 530 ACCEPT AT(15,20)SIZE(-9)
A667E81") : 250 CALL KEY(0,D,C):: IF C=0 : CCEPT AT(6,20)SIZE(-2)BEEP:I : BEEP:F$ :: ACCEPT AT(17,20)S
140 CALL COLOR(9,11,@,10,9,@ : THEN 250 : : ACCEPT AT(8,20)SIZE(-4)B : IZE(-2)BEEP:M :: ACCEPT AT(1
,11,5,@,12,13,@):: CALL CLEA : 260 CALL CLEAR :: PRINT "WHM : EEP:J :: IF (I>0 AND J>0 AND : 9,20)SIZE(-4)BEEP:M :: IF (N
R :: CALL SCREEN(16):: CALL : EN ASKED FOR THESE KEYS, THE : I=INT(I)AND J=INT(J))THEN 4 : >0 AND M>0 AND N=INT(N)AND M
COLOR(2,9,@) : Y HAVE THE FOLLOWING": "FUNCT : 30 : =INT(M)AND J<=M)THEN 600
150 A$=RPT$(" ",7):: B$=RPT$ : IONS:" : 400 CALL SAY("#THAT IS INCOR : 540 CALL SAY("#THAT IS INCOR
(" ",13):: C$=" : 270 PRINT : "--PROCEED: CONTIN : RECT# #TRY AGAIN#"):: GOTO 3 : RECT# #TRY AGAIN#"):: GOTO 5
" :: PRINT A$;B$;A$;C$;A$;" : UE PROGRAM": : "--REDO: BACK T : 90 : 30
BIORHYTHM #":A$;C$;A$;B$ : 0 INPUT SCREEN": : "--": IF I : 410 IF B=13 THEN B$="WHAT IS : 550 IF B=13 THEN B$=" INVE
: : : : : : "NEE : N INPUT, SCREEN WILL": "PRINT : A "&E$&?" ELSE B$=SIR$(I)& : NIED A NEW MONTH?" ELSE B$="
D INSTRUCTIONS?(Y/N)"; : TO PRINTER 12 MONTHS" : " DAYS IN "&E$&"?!" : ONLY "&STR$(D+28)&" DAYS IN
160 CALL CHARPAT(42,A$):: B$ : 280 PRINT " IF IN GRAPH, : 420 DISPLAY AT(24,@):B$ :: 6 : "&F$
="000000103810" : SCREEN WILL PRINT TO PRINTER : 0TO 390 : 560 DISPLAY AT(24,@):D$ :: 6
170 CALL KEY(0,D,C):: IF D=7 : BIORHYTHM GRAPH": : "--BEGIN : 430 RESTORE 320 :: FOR B=@ T : 0TO 530
8 THEN 310 ELSE IF D<>89 THE : : ASK FOR DIFFERENT NAME": : 0 12 :: READ A$,K :: IF A$=E : 570 RESTORE 320 :: FOR B=@ T
N CALL SOUND(100,110,3):: CA : : "--BACK: END PROGRAM" : $ THEN L=B :: B=14 : 0 12 :: READ A$,0 :: IF A$=F
LL CHAR(42,B$):: CALL SOUND( : 290 PRINT #E : :TAB(F);"AVER : 440 NEXT B :: IF J/4=INT(J/4 : $ THEN P=B :: B=14
200,110,16):: CALL CHAR(42,A : AGE OF CYCLES IS THE":TAB(F) : )AND K=0 THEN K=@ : 580 NEXT B :: IF B=13 THEN 5
$):: CALL SOUND(400,44733,30 : : "AVERAGE ON DAY LISTED.";CH : 450 IF B=13 OR 1<K+28 THEN 4 : 00
): GOTO 170 : R$(12):: PRINT : "****PRESS A : 10 : 590 H=@ :: N=15 :: FOR Q=P T
180 INPUT "TO PRINTER OR SCR : NY KEY"; : 460 DISPLAY AT(24,@)BEEP:"FR : 0 12 :: RESTORE 320 :: FOR D
EEN?(P/S)":A$ :: IF A$="P" T : 300 CALL KEY(0,D,C):: IF C=0 : ESS PROCEED,REDO OR *** : =@ TO Q :: READ F$,0 :: NEXT
HEN E=@ :: F=23 :: OPEN #@:" : THEN 300 ELSE IF E=@ THEN C : 470 CALL KEY(0,D,C):: IF D=6 : D :: P=@ :: DISPLAY AT(15,2
PIO" ELSE IF A$<>"S" THEN 18 : LOSE #@ : : THEN 390 ELSE IF D=34 THEN : 0)BEEP:F$ :: DISPLAY AT(17,1
0 ELSE E=0 :: F=@ : 310 CALL CLEAR :: 6,H=0 :: C : 480 ELSE IF D=12 THEN 510 EL : 9):N :: DISPLAY AT(19,19):M
190 DATA "***** BIORHYTH : ALL CHAR(43,"0010101010101" : SE 470 : : GOTO 640
M *****", "THE THEORY OF : :: INPUT "WHAT IS YOUR NAME? : : 600 RESTORE 320 :: FOR B=@ T
BIORHYTHM", "STATES THAT EVE : ":D$ :: CALL CLEAR :: PRINT : : 0 12 :: READ A$,0 :: IF A$=F
RYONF HAS", "THREE CYCLES WHI : : : "HELLO ";D$ : : : : : : $ THEN P=B :: B=14
CH START ON" : : : : : : CALL SAY("HELLO : : 610 NEXT B :: IF M/4=INT(M/4
: : : : : : " ) : : )AND D=0 THEN D=@

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620 IF B=13 OR N>0+28 THEN 5 : 700 F=16 :: G=CHR$(27)&"K"& : 750 IF N<>15 THEN 780 ELSE A : 840 PRINT #@:TAB(F);"AVERAGE
50 : CHR$(8)&CHR$(0);: B=CHR$(96 : $="1234567890123456789012345 : OF CYCLES";SEG$(STR$(1/SIN(
630 DISPLAY AT(24,@)BEEP:" : )&CHR$(35)&CHR$(38)&CHR$(248 : 678" :: IF P=2 AND M/4=INT(M : PI/180*360*T/23)+SIN(PI/180*
PRESS PROCEED OR REDO" : )&CHR$(248)&CHR$(38)&CHR$(35 : /4)THEN A=A&"9" ELSE A=A$ : 360*T/28)+SIN(PI/180*360*T/3
640 CALL KEY(0,D,C):: IF D=6 : )&CHR$(96) : &SEG$("901",@,0) : 3)/3),@,7);CHR$(13)
THEN 530 ELSE IF D<>12 AND : 710 C=CHR$(56)&CHR$(124)&CH : 760 PRINT #@:TAB(F); : 850 IF H=@ THEN IF Q/2=INT(Q
H=0 THEN 640 : R$(126)&CHR$(31)&CHR$(31)&CH : 770 FOR B=@ TO LEN(A$):: PRI : /2)THEN PRINT #@:CHR$(12)ELS
650 R=INT(365.25*J+A(L-@))+1 : R$(126)&CHR$(124)&CHR$(56):: NT #@:CHR$(27);"K";CHR$(2);C : E PRINT #@:RPT$(CHR$(10),5)
:: S=INT(365.25*M+A(P-@))+N : H=CHR$(8)&CHR$(40)&CHR$(26 : HR$(0);CHR$(0);CHR$(0);SEG$ : 860 CLOSE #@ :: IF H<>@ THEN
:: T=S-R :: DISPLAY AT(@,@) : )&CHR$(252)&CHR$(63)&CHR$(88 : A$,B,@):: NEXT B :: PRINT #@ : 690
ERASE ALL:"*****BIORHYTH : )&CHR$(20)&CHR$(16):: I=RPT : :CHR$(10) : 870 NEXT Q :: H=0 :: GOTO 69
*****": "NAME: ";D$;" : $(CHR$(0),8) : 780 FOR B=5 TO 18 :: A$="" : : 0
+";F$;" ;STR$(N);";M : 720 J=CHR$(0)&RPT$(CHR$(8), : : FOR D=2 TO 32 :: CALL GCHAR : 879 !@P+
660 CALL HCHAR(12,2,39,31):: : 6)&CHR$(0):: K=RPT$(CHR$(0) : R(B,D,C):: IF C=39 THEN A$=A :
CALL VCHAR(5,16,43,14):: DI : ,4)&CHR$(255)&RPT$(CHR$(0),3 : $J$ ELSE IF C=120 THEN A$=A : 880 SUB GRAPH(U,V):: FOR W=2
SPLAY AT(20,@):CHR$(96);"PH : ):: L=CHR$(129)&CHR$(126)&C : $L$ ELSE IF C>95 THEN 800 E : TO 32 :: X=INT(SIN(PI/180*3
YSICAL CYCLE":CHR$(104);"=EM : HR$(102)&CHR$(153)&CHR$(153) : LSE IF C=43 THEN A$=A&K$ EL : 60*(V+W-16)/U)*-6)+12
OTIONAL CYCLE":CHR$(112);"=I : &CHR$(102)&CHR$(126)&CHR$(12 : SE A$=A&I$ : 881 GOTO 890 :: W,X,Y :: CAL
NTELLECTUAL CYCLE" : 9) : 790 GOTO 810 : L SOUND :: CALL VCHAR :: !@P
670 DISPLAY AT(24,@):"PRESS : 730 OPEN #@:"PI0.CR" :: PRIN : 800 IF C=96 THEN A$=A&B$ EL : -
REDO,BEGIN," OR BACK" :: CA : T #@:CHR$(14);TAB(16);"BIORH : SE IF C=104 THEN A$=A&C$ EL : 890 CALL GCHAR(X,W,Y):: IF Y
LL GRAPH(23,T):: CALL GRAPH( : YTHM";CHR$(10);CHR$(10);TAB( : SE A$=A&H$ : >95 THEN CALL SOUND(100,999,
28,T):: CALL GRAPH(33,T) : F);"NAME: ";D$;CHR$(10);TAB( : )CHR$(27);"K";CHR$(248);CHR : 0):: CALL VCHAR(X,W,120)ELSE
680 DISPLAY AT(23,@):"AVERAG : F);"BIRTHDATE: ";E$;" ;STR$ : $I);A$;CHR$(10):: NEXT B : CALL VCHAR(X,W,(U-23)/5*8+9
E OF CYCLES";SEG$(STR$(1/SIN : (I);";";J;CHR$(10) : $I);A$;CHR$(10):: NEXT B : 6)
PI/180*360*T/23)+SIN(PI/180 : 740 PRINT #@:TAB(F);G&K$;CH : 820 PRINT #@:TAB(F);G&B$;"= : 899 !@P+
*360*T/28)+SIN(PI/180*360*T/ : R$(27);"E";"=";F$;" ;STR$(N : PHYSICAL CYCLE";CHR$(10);TAB : 900 NEXT W :: SUBEND
33)/3),@,7) : );";";M;CHR$(F);CHR$(10);CHR : (F);G&C$;"=EMOTIONAL CYCLE" :
690 CALL KEY(0,D,C):: IF D=6 : $(27);"F";CHR$(10) : ;CHR$(10);TAB(F);G&H$;"=INT :
THEN G=@ :: GOTO 340 ELSE I : : ELLECTUAL CYCLE";CHR$(10) :
F D=14 THEN 310 ELSE IF D=15 : : 830 PRINT #@:TAB(F);G&L$;"= :
THEN CALL CLEAR :: STOP ELS : : LUINCIDENCE";CHR$(10) :
E IF D<>34 AND H=0 THEN 690 : : :

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