



1-2-100

# SASKATOON TEXAS INSTRUMENTS COMPUTER CLUB

NEXT GENERAL MEETING AT:  
SASKATOON REGIONAL COMMUNITY COLLEGE,  
ROOM 114, 145 1ST AVE. N., 7:00PM  
FEB 4TH, 1985  
MAR 4TH, 1985  
APR 1ST, 1985  
MAY 6TH, 1985

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WE DISCUSS AND REVIEW NEW PRODUCTS FOR THE TI 99, WHILE PROVIDING TECHNICAL SUPPORT FOR ANY PROBLEMS THAT A MEMBER MAY HAVE. WE ALSO SUPPORT A SOFTWARE LIBRARY AND HAVE REGULAR CONTACTS WITH OTHER GROUPS IN CANADA AND THE UNITED STATES. OUR MEMBERSHIP FEES ARE VERY REASONABLE FROM \$10.00/SINGLE TO \$12.00/FAMILY. IF YOU WOULD LIKE TO BECOME A MEMBER OR REQUIRE MORE INFORMATION, CONTACT:

FRANCIS X. GASTON 978-0182  
DEAN JAMIESON 373-3548  
HARRY CARUK 244-8379  
KEN READ 384-2844 (BBS)

1985 EXECUTIVE COUNCIL

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PRESIDENT: FRANCIS X. GASTON 978-0182  
VICE PRESIDENT: DEAN JAMIESON 373-3548  
SECRETARY: HARRY CARUK 244-8379  
TREASURER: RON SCHNOR 343-1256  
LIBRARIAN: GORDON MILLHAM 374-3387

STICC DISCLAIMER

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WE ARE A SMALL, NON-PROFIT CLUB HERE IN SASKATOON. WE NEVER HAVE OR EVER WILL, CONSIDER OUR NEWSLETTER, AS A PROFESSIONAL MEDIUM IN ITS FIELD. THEREFORE WITH THIS CONSIDERATION, THE VIEWS PRESENTED IN THE ARTICLES, BY VARIOUS AUTHORS, MAY NOT NECESSARILY BE THE VIEWS OF THE NEWSLETTER COMMITTEE, THE STICC EXECUTIVE, OR ITS MEMBERS. ON THIS BASIS, THIS CLUB CANNOT BE HELD RESPONSIBLE FOR OMISSIONS, ERRORS, VIEWS, OR COPY INFRINGEMENTS, AS PRESENTED IN THE ARTICLES.

STICC EBS

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OUR EBS IS OPEN 24 HOURS A DAY, SEVEN DAYS A WEEK (WITH THE EXCEPTION OF DAILY MAINTENANCE), AND CAN BE CONTACTED AT (306) 384-2844. KEN READ IS OUR SYSTEMS OPERATOR, AND BARRING ANY PROBLEMS, CAN ALSO BE REACHED AT 382-2527 (VOICE). THE SYSTEM OPERATES AT SEVEN BITS, EVEN PARITY, AND ONE STOP BIT.

THE TELECOMMUNICATION FIELD, NEXT THING TO BEING THERE (THERE GOES OUR DISCLAIMER!!).

EDITORIAL

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WELL, WE HAVE JUST RECENTLY HELD OUR ELECTION. CONGRATULATIONS TO THOSE WHO WON, AND BEST OF LUCK IN THEIR TERM OF OFFICE. FOR THOSE WHO LET THEIR NAME STAND, AND FOR THOSE WHO PARTICIPATED IN THE ELECTION, A BIG LARGE THANK YOU. MAY YOUR PARTICIPATION IN THE CLUBS OTHER ENDEAVORS BE JUST AS SPIRITED.

AS YOU HAVE ALREADY NOTICED, A NEW FORMAT HAS BEEN IMPLEMENTED ON THE INSIDE PAGES.

FIRST, THE EXECUTIVES NAMES AND NUMBERS HAVE BEEN LISTED HERE FOR YOUR EASY ACCESS TO THESE OFFICERS.

SECOND, A DISCLAIMER HAS BEEN INCLUDED. THE REASON IS THAT A USERS GROUP IN THE SOUTHERN STATES, ARE CURRENTLY BEING TAKEN TO COURT DUE TO INFRINGEMENT OF COPYWRITE LAWS AND FOR

CONTRIBUTING TO PIRACY. I WILL TRY TO OBTAIN MORE INFORMATION ON THIS FOR THE NEXT NEWSLETTER. FROM THE AMOUNT OF NEWSLETTERS THAT WE RECEIVE (OVER 10 NOW), THERE HAS BEEN MANY WARNINGS IN THIS REGARDS. THIS IS FOR OUR OWN PROTECTION.

THIRD, SINCE OUR BES IS NOW A PERMANENT FIXTURE TO OUR CLUB, KEN READ'S SYSTEM WILL HAVE THE NUMBER LISTED HERE. IF YOU HAVE LOGGED ON TO HIS SYSTEM LATELY, WE ARE NOW COMMUNICATING VIA BBS WITH SOME TI GROUPS. WE THAT THIS WILL CONTINUE.

NOW A PLEA FROM ALL OF YOU NEWER MEMBERS (EVEN OLD ONES). IF YOU HAVE ANYTHING TO SUBMIT (BE IT GOOD OR BAD), THEN PLEASE DO SO. WE WOULD LIKE TO HELP YOU(!) THE MEMBER IN ANY WAY, AND THIS CAN BE DONE ONLY IF YOU VOICE YOU CONCERNS. PROGRAMS IN BASIC, XBASIC, ASSEMBLY, FORTH, ETC. , WILL TRULY BE ACCEPTED. (HONEST!!!!). TILL NEXT TIME....

FRANCIS

#### PRESIDENT'S MESSAGE

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FIRST, I WOULD LIKE TO THANK THE FORMER EXECUTIVES AND THEIR ASSISTANTS, OF THE PAST YEARS. THEY TRULY DESERVE A BIG HAND!!!! IN CASE YOU WERE NOT FORMALLY INTRODUCED, LET ME DO SO AT THIS TIME.

#### 1984 EXECUTIVE

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PRESIDENT: HARRY CARUK  
VICE PRESIDENT: TRUDY CHARMBURY  
TREASURER: DOUG GIBBENS  
SECRETARY: JOHN GARBE  
LIBRARIAN: LLOYD LORAAS

A SPECIAL THANK YOU TO KEN READ, WHO TOOK OVER THE REIGN OF LIBRARIAN MID-WAY THROUGH THE 1984 SESSION.

WE HOPE THAT THEY ARE JUST "RESTING FOR NOW" AND THAT WE WILL SEE THEM CONTRIBUTE THEIR TIME AND EXPERTISE FOR THE NEW EXECUTIVE AND TO THE CLUB

SECOND, I WOULD LIKE TO EXTEND MY DEEPEST GRATITUDE TO THOSE OF YOU WHO HAVE VOTED FOR ME, AND MY NEW EXECUTIVE. I HOPE FRO HERE ON, WE CAN EXPAND OUR CLUB AND ITS KNOWLEDGE, IN REGARDS TO OUR BELOVED MACHINE, THE INDUSTRY AND OUR COMMUNITY. WE HAVE AMONGST US IN THE CLUB, PERSONNEL WHO ARE CAPABLE OF ACHIEVING THIS. FROM ELECTRICAL ENGINEERS, AND TECHNICIANS, PLAIN HACKERS, STUDENTS, TEACHERS, AND EVEN TO GAME PLAYERS. SO THE DIVERSITY AND CAPABILITIES ARE CERTAINLY THERE. ALL THAT WE REQUIRE IS INPUT, INTEREST AND LOTS OF QUESTIONS. IN THIS WAY, WE SHOULD HOPE TO HAVE A TRULY SUCCESSFUL YEAR.

SO NOW LET ME INTRODUCE YOU TO THE NEW EXECUTIVE FOR 1985.

1985 EXECUTIVE  
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PRESIDENT: FRANCIS X. GASTON  
VICE PRESIDENT: DEAN JAMIESON  
TREASURER: RON SCHNOR  
SECRETARY: HARRY CARUK  
LIBRARIAN: GORDON MILLHAM

SO IF YOU HAVE ANY SUGGESTIONS, PROPOSALS, NEWS, QUESTIONS,  
OR COMPLAINTS (OUCH!!), NOW YOU'LL KNOW WHO TO TALK TO!!!!

SINCERELY,

FRANCIS X. GASTON

EXECUTIVE MEETING  
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WE HAD AN EXECUTIVE MEETING ON THE SECOND SUNDAY OF THE  
LAST MONTH. THE FOLLOWING WERE DISCUSSED.

1. REPORTS TO BE SUBMITTED ON THE FEB. MEETING BY EACH OF  
THE EXECUTIVE MEMBERS. REPORTS WILL CONSIST OF WHAT THEIR  
POSITIONS ENTAILS.
2. HARRY CARUK WILL PRESENT A BRIEF REPORT TO THE STAR  
PHOENIX TO INFORM THEM OF OUR CLUBS EXISTENCE.
3. FRANCIS GASTON WILL PRESENT THE QUESTIONNAIRE ISSUE  
BEFORE THE MEMBERS.
4. HARRY CARUK AND DEAN JAMIESON WILL ATTEMPT TO OBTAIN A  
CONSTITUTION FOR THIS CLUB.
5. FRANCIS GASTON WILL PROVIDE AN OUTLINE AND RECORDING OF  
GAME HIGH SCORES AT THE NEXT MEETING./
6. GORDON MILLHAM WILL HAVE A COMPREHENSIVE LIST OF ALL THE  
PROGRAMS IN THE LIBRARY.
7. PROPOSAL FOR MAGAZINE SUBSCRIPTION WILL BE LOOKED INTO  
BY FRANCIS.
8. DEAN WILL BE INVESTIGATING THE AVAILABILITY OF NEW  
PRODUCTS AND SOFTWARE.
9. DEAN ALSO TO LOOK INTO HOW TO BECOME A MEMBER OF THE  
USERS GROUP ASSOCIATION BASED IN CALIFORNIA.
10. A DISCUSSION OF WHETHER WE SHOULD OBTAIN A LARGER ROOM  
WAS TABLED FOR LATER REVIEW.
11. A SUGGESTION BOX WILL BE PLACED NEAR THE FRONT DOOR IN  
ORDER TO GENERATE INPUT FROM THE MEMBERS.
12. FEB BOX TO BE BROUGHT BY FRANCIS, MONITOR AND CONSOLE  
BY HARRY.

MEETING ADJOURNED.

TID BITS  
-----

FROM RICH STANFORD, PRES., CHARLESTON U.G., S. CAROLINA.  
"AS THE 2 MILLION PLUS USERS GET MORE PROFICIENT IN  
PROGRAMMING THE MACHINE, IT ONLY GETS BETTER. THE BOTTOM LINE  
IS THAT TI MAY JUST HAVE DONE US A FAVOUR. BY MAKIN US ORPHANS  
IN THE COMUTER WORLD AND BY NOT TELLING US WHAT GOES ON INSIDE  
THIS MACHINE, THEY JUST MAY HAVE CREATED A BUNCH OF  
COMPUTERISTS OR HACKERS WHO WILL EXCELL IN UNDERSTANDING AND  
USE OF THIS POWERFUL TOOL. AND BECAUSE WE ARE USING A MACHINE  
THAT'S NO LONGER MADE, BUT BECAUSE THERE ARE SO MANY OF US,  
UPGRADING AND ADDING ON IS GOING TO BE EASY AND INEXPENSIVE. A  
BARGAIN!!!"

FROM NORTH CHARLESTON AND WINNIPEG. SCI TECH IS THE  
MANUFACTURER OF THE NEW 64K AND 256K RAM DISK FOR THE PEB.  
ACTING LIKE A DISK DRIVE IT CAN HOLD 127 FILES. ESTIMATED TO  
BE 10-15 TIMES FASTER THAN A DISK DRIVE, IT SHOULD BE POPULAR  
INDEED. AN OPTIONAL BATTERY BACKUP IS AVAILABLE. (\* - REALLY  
SHOULD BE BUILT IN AND NOT AN OPTION). A DISK MANAGER ON DISK  
IS INCLUDED, SO THAT THIS CAN BE COPIED DIRECTLY INTO THE RAM  
DISK. A DIRECTORY WILL BE BUILT INTO THE CARD. WE HOPE THAT  
THIS WILL COME OUT SOON!!!

FROM TERRY ATKINSON, NOVA SCOTIA ON ORDERING FROM ABROAD  
(U.S.). CUSTOM OFFICIALS BASE THE VALUE OF DUTY AND TAX ON A  
CANADIAN VALUE. SO CONVERT U.S. COSTS INTO CANADIAN FUNDS  
BEFORE FURTHER CALCULATIONS. A FEDERAL SALES TAX OF 10% IS  
THEN APPLIED. NEXT, THE ITEM IS CATEGORIZED INTO A SPECIFIC  
AREA. EACH CATEGORY HAS ITS OWN APPLIED COST. USUALLY A 3.9%  
DUTY IS APPLIED IN GENERAL. SO BE FOREWARNED. THE FOLLOWING  
CATEGORIES HAVE A DUTY OF 3.9% APPLIED: COMPUTER, PC  
BOARDS(MEM), DAISY WHEEL PRINTERS, PEN PLOTTERS, MODEMS,  
MONITOR (COMPUTER SPECIFIC), AND SOFTWARE (CASSETTE). THE  
FOLLOWING HAVE NO DUTY: STORAGE DEVICES (DISK DRIVES), DOT  
MATRIX PRINTERS, OTHER PLOTTERS, SOFTWARE (DISK). THE  
FOLLOWING ARE SPECIAL CASES: CASSETTE RECORDERS 9.7%, COLOR TV  
11.3%, B/W TV 4.5%, DOCUMENTATION W/O ADS - NO DUTY, NO 10%  
TAX, DOCUMENTATION W/ ADS - NO DUTY BUT FST. ALSO PLEASE NOTE:  
THE VALUE FOR DUTY AND TAX IS ASSESSED ONLY(!!!) ON THE COST OF  
THE DISK OR CASSETTE OR MODULE, AND NOT ON THE SOFTWARE  
WITHIN. SO IF A PROGRAM ON DISK COST YOU \$100.00, YOU SHOULD  
ONLY BE ASSESSED A TAX OF \$0.70 FOR THE DISK ONLY ( THE PRICE  
CUSTOMS PLACES ON A DISK IS \$7.00) AND NOT \$13.90 (IN  
GENERAL). (\* - SO IN ORDER TO CLAIM YOUR ITEMS, IT IS  
ADVISABLE TO BRING A CATALOGUE WITH YOU AND THE CUSTOMS  
OFFICER SHOULD BE WILLING TO RE-ASSESS YOUR ITEMS). ALSO  
PLEASE CHECK THIS AT YOUR LOCATONS IN CASE THE COSTS VARIES.

```
FROM TINS, TIGER CLUB: XBASIC. 100 CALL CLEAR:: CALL  
COLOR(2,16,5,3,16,16,4,7,7):: A$(1)="*****080808" ::  
A$(2)=RPT$("80",7):: CALL CHAR(23,RPT$("01",9)):: CALL  
VCHAR(4,4,33,2) 110 FOR C=5 TO 22:: X=1+ABS(C 11):: FOR T=1 TO  
13: CALL VCHAR(5+T,C,ASC(SEG$(A$(X),T,1))):: NEXT T :: NEXT C  
:: GOTO 110
```

FROM S. CAROLINA: SCOTT FORESMAN EDUCATIONAL CARTRIDGE ALL  
ON SALE FOR \$4.95 (U.S.) EACH. REGULAR WAS \$39.95 EACH. IT IS  
AVAILABLE FROM SCOTT FORESMAN AND COMPANY, 400 S. EDWARD ST.,  
MT. PROSPECT, IL 60056.

FROM NEW YORK: THERE IS A 99ER USER GROUP ASSOCIATION IN  
THE UNITED STATES. AUTHORS FOR THIS MONTHLY NEWSLETTER

INCLUDES CLULOW, PETERSON, REGINA, AND VINCENT. A GROUP MEMBERSHIP IS \$12/YEAR (US) AND CAN BE CONTACTED AT 3535 SO. H. ST. #93, BAKERSFIELD, CALIFORNIA, 93304. THEY ALSO HAD THE FOLLOWING IN SEARS, NEW YORK FOR SALE (JUST TO GET YOU IRKED!!!). DISK FRIVE \$62.00, RS232 \$25, MODEM \$39, PEB \$50, DISK CONTROLLER CARD \$37, AND 32K FOR \$37. EVEN THOUGH THESE APE IN U.S. FUNDS, IT STILL VERY CHEAR FOR A COMPLETE BACKUP SET!!!! (\* - OUCH!!!!).

FROM TERRY ATKINSON, N.S. REAL TIME CLOCK (RTC) IS NOW AVAILABLE. SCHEMATICS ARE PUBLIC DOMAIN WITH CREDIT GOING TO GARY EMMICH. IT HAS DATE, YEAR, HOUR, MINUT, SECONDS, AND AN 8 CHANNEL ANALOG TO DIGITAL CONVERTER (ADC) IT FITS INTO THE PEB AND INFO OBTAINED BY A CALL PEEK. A BATTERY BACK UP IS INCLUDED IN ORDER NOT TO "LOSE" TIME WHEN THE PEB IS TURNED OFF. CURRENT MANUFACTURER FOR THE PRINTED CIRCUIT BOARD ONLY, IS MBP INC., 5522 EAST HARRY, WICHITA, KS, 67218. THE KIT COMES WITH PCB, BOOKLET, DEMO SOFTWARE, AND A FEW JUMPERS. OTHE PARTS CAN BE OBTAINED WHICH IS LISTED IN AN ORDER FORM FROM JAMECO ELECTRONICS. WICHITA TIBBS AT 316-681-3167 HAS AN ON-LINE DEMO ON THEIR SYSTEM. TERRY SHOULD HAVE HIS SOON AT 902-434-3121. FULLY ASSEMBLED CAN BE PURCHASED FROM FJ AND J, PO BOX 1902, LARGO, FL., 33540. PRICE IS \$140.00 (U.S).

FROM TIN MACHEACHERN, N.S.: BASIC PROGRAM POINTERS >832E = CURRENT STATEMENT, >8330 = END OF STATEMENT LIST POINTER, >8332 = START OF STATEMENT LIST POINTER, >8334 = NEXT DATA ITEM LOCATION, >8336 = CURRENT DATA STATEMENT LIST POINTER.

FROM ST. CATHERINES, ONT. THEY HAVE REGISTERED OUR GROUP WITH OLYMPIC SOFTWARE, 183 KING STREET, ROOM 104, ST. CATHERINES, ONT., L3B 7J8, 416-682-3446. THEY OFFER MANY TI PRODUCTS AND ALSO THIRD PARTY ITEMS. THE SELECTION IS EXTENSIVE AND THEY HAVE ALSO OFFERED A 10% DISCOUNT FOR STICC MEMBERS. CHECK OUR ARCHIVES FOR A COPY OF THEIR CATALOGUE. IE MINER 2049'ER AT \$29.95, EXTENDED BASIC AT \$129.95, EDITOR ASSEMBLER AT \$40.95, TUNNELS OF DOOM \$24.95. MUCH MORE.... CHECK OUR ARCHIVES.

TIMELINE. THE NEWEST BBS AROUND. SEE THE ENCLOSED APPLICATION FORM. MY ID CODE ONTHIS SYSTEM IS FRANCIS.A141B. SEE YOU ON THE SYSTEM.

MUCH MORE NEXT MONTH.....

FRANCIS

## WELCOME TO THE LIBRARY !

Yes, thanks to Ken Read and others, S.T.I.C.C. has a library of programs on tape and on disk and they are available for "borrowing" by the club members. However, like anything worthwhile, our library can be made even better with your help. As the new club librarian, I have many exiting ideas for the library. Some may even work.

All our disk programs are now listed on the CARDFILE. CARDFILE is a computer filing system that makes it possible (and even a little bit of fun) to search for a program by title, key word, catagory, disk number, or author. Eventually, I hope to add other search criteria to the filing program.

Members may get a copy of CARDFILE and updates will be available as the library grows.

In order to increase the value of our library and to make it easier for you to select programs, I hope to prepare a summary or review of each program that we have. With the summaries of the programs available to you, it will be easier to select a program that suits your needs. Once we have all the current library programs reviewed, it should be quite easy to keep the records updated as we add programs.

In order to complete the library files, I need the following information about each program:

1. Name of the program, and the filename if a shortened name is used.
2. The author's name.
3. The language used; basic, extended basic, Forth, etc. Can it run in either basic or extended basic?
4. System requirements: Does it operate by keys, by joysticks, or by either. List any peripherals that are required or that are optional. eg. speech synthesizer, disk drive
5. If a game, is it graphic or just text.
6. A very brief description of what the program does, what its purpose is. This should be very concise because it will be put on a disk retrieval system in conjunction with CARDFILE.
7. Your opinion of the program. Does it perform its function well. Is it as complete as you would like or does something seem to be missing. How useful do you think it would be or how entertaining do you think it is, and to whom. You might look at some magazine reviews to get ideas of what should be included.
8. Finally, classify the program under one of these headings: game, finance, utility, education, entertainment, miscellaneous.

The procedure for "borrowing" from the library is quite simple: one for one, or five for one. Sound contradictory? Perhaps I should put it this way; one for \$1, or five for one.

For the price of one dollar, you may borrow one program tape (which actually has two programs on it ) to take home, or copy any one (1) program from the library disk onto your disk. Alternatively, you may submit one new program to the library and get copies of any five in return.

When you submit a program to the library, please provide the review that I described earlier, if you can. It will help to keep the library up to date.

If you key in a program from a printed source - to save your fellow members from working their fingers to the bone - remember, please remember to include the author's name. The name of the person who originally wrote the program. In a similar vein, when you borrow from the library, please don't erase the author's name from the program listing. Let your computer friends (and other captive audiences) see that you are willing to give credit where credit is due. When you submit an original program we want your name to stay on it. If you substantially modify a program and submit it to S.T.I.C.C., you should include your name with the original author in the credit listing.

In the case of programs entered from magazines or books, it would be helpful if the source were entered with the credits in REM statements. This would allow other users to find the documentation if they need it. As an example see BOOLEAN BRAIN on library disk #8.

Following is a listing of the programs currently on Library disks:

BEETHOVEN	SPEECHSUF	RABBIT
CYBER_DICE	TEX-SCRIBE	TERMITE
GOLDRUSH	GROCRYLIST	ANTI-AIR
SHERLOCK	INTEREST	CRAZYEIGHT
SPACEBLAST	MORTGAGE	GUNNER
SPRITECHSE	SECRETARY	LIGHTCYCLE
BATTLESTAR	WORDGAME	SLALOM
JUNGLEJIM	AUTOCHAR	TOURIST
MAZESCAPE	DEFUSE	DOOLE
SPACEJUNKT	ENCOUNTER	LOSTRUINS
TOWERHANOI	MUSIC1	MATCH-EM
AAROVARK	MUSIC2	STCKMRKT
BEELINE	MUSIC 3	SUBMARINE
DIAMONO	MUSIC4	TICTACTOE
HELICOPTER	NUM-MATCH	BOOLEAN
		NEWYEAR'85

NOT VERY MANY EH! BRING THEM IN, I CAN HANDLE IT.

*Gordon E. Millham*



TI DISK OPERATING SYSTEM (DOS)

BY DENNIS HANCOCK  
COMPILED FROM "THE SOURCE"

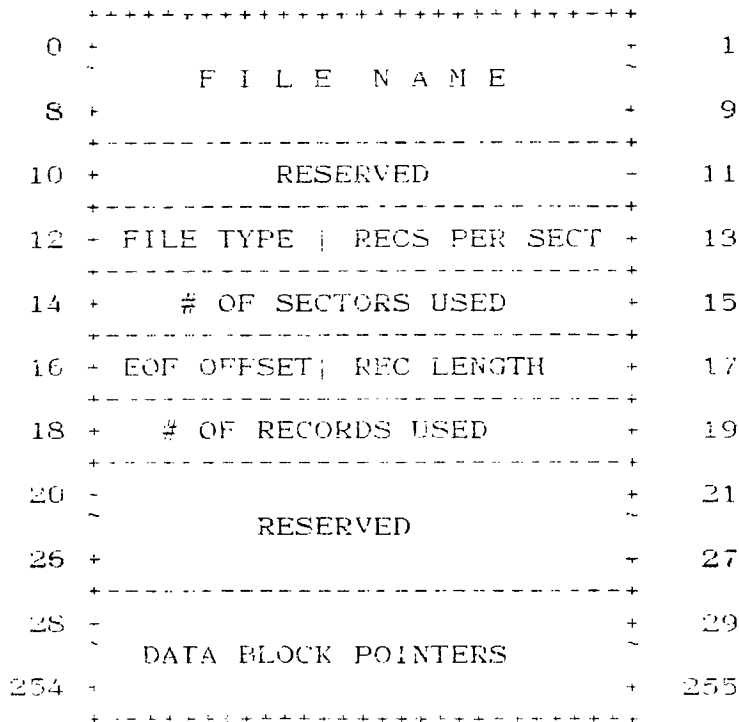
THE FILE DESCRIPTOR BLOCK

In the last issue we learned the layout of sector 0 - the Volume Information Block (VIB). This first sector holds info on the disk status including diskname, # of sides, track density, and the # of free tracks on the disk. Lastly, sector 0 contains the infamous "disk bit map" which indicates exactly which sectors are entered in the order they are created (not alphabetically!).

1. the FDRs are scanned, sorted and then their sector numbers are reprinted onto sector 1 in the NEW alphabetical order. This indexing helps to speed up file access and cut down on wasted disk space.

WHAT DOES IT LOOK LIKE?

Below is a diagram of the FDR. As you can see, it looks much like the VIB. We will describe each of the sections later in the article.



FDR DESCRIPTION

Bytes 0-9 contain the filename (up to ten ASCII characters - padded if necessary)

Bytes 10-11 are reserved for future expansion.

Byte 12 contains the file type flag. The bits are set according to the file attributes in TI-BASIC (Internal, Display, Fixed, Variable, etc) and can be interpreted

as follows:

BIT	MEANING
0	0=Data file 1=Program file
1	0-DISPLAY format 1-INTERNAL format
2	RESERVED
3	0-Unprotected file 1=Protected file
4-6	RESERVED
7	0=Fixed length recs 1=Variable length recs

For example; if byte 12 contained >07 (b00000101) then you'd know that the file was a protected program file. If byte 12 contained >80 (b10000000) you'd know it was a Display / Variable data file.

Byte 13 contains the number of records per sector. For example, if the file was a DIS/VAR 80 file then byte 13 would contain >03 (3=240). Note that TI-DOS automatically takes care of any "blocking factors" that may be needed. TI-DOS accesses the disk in 256 byte blocks. This means it does not "split" any records between sectors. In other words, any record more than 128 bytes long takes up an entire sector for storage! Keep that in mind next time you plan your data files!

Byte 14-15 contain the number of sectors used by the file.

Byte 16 contains the EOF Offset for the last sector in the file. Since the DOS accesses in 256 byte blocks, this value is used to locate the last byte in the file. This prevents reading past the end of the file. This is only used for variable length data files and for program files.

Byte 17 contains the record length. If the file is 80 bytes long, byte 17 contains >50. If the file is variable in length, this value is the maximum length allowed

Bytes 18-19 contain the number of records allocated for the file. This is either the number of records presently on file or the number of records the file was initial! "opened for" in the TI-BASIC OPEN statement. If the file is VARIABLE-type, this value is the same as the value in bytes 14-15, but in REVERSE ORDER!

Bytes 20-27 are RESERVED and set to 0.

Bytes 28-255 contain the data pointers. When the file must be "broken up" due to its size, a reference to the next record of the file is entered in the pointer area. This tells TI-DOS where on the disk to find the next block of records for this file. Each data chain pointer consists of two THREE byte entries. The first entry contains the sector number of the START of the new data block. The second entry contains the "EOF offset" of THAT block (not necessarily the EOF of the FILE!). To make matters worse, the three bytes are stored in a rather awkward manner. See the diagram below:

Start Sector: |S3|S2|S1|

Block "EOF" : |B3|B2|B1|

Note that the bytes are stored in "reverse" order or right to left.

Now the two sets of three bytes are stored in a 6 byte segment as follows:

|S2|S1|B1|S3|B3|B2|

Note the location of bytes S3 and B1!

AS each new block is created, a six-byte entry is added to the data chain pointer area. The pointer area can handle up to 76 different blocks for the same file.

#### LETTING IT SINK IN

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Now get out your disk-reading program and start looking at the FDRs. What are the file attributes? Experiment with changing the protection bit, or the record length and see what happens. Can you figure out a way to read a program file like a data file? see if your data files have any data chain pointers. If so, follow them down and find the next starting sector. After you get comfortable with the information contained in the FDRs you will be ready to do a little file-handling of your own including recovering already deleted files, and restoring "blown directories." You will even be able follow them down and find the next starting sector. You will be able to retrieve those DIS/FIX 0 files you ended up with when you downloaded from SF99 with TE-II and forget to close the file!

## UMBBS In Limbo

-----

For those of you who have modems, I have some bad news. The following was taken directly off the UMBBS. I'm sure its meaning is quite clear.

```
DATAPAC: call connected to 9020 0000  
      (001) (n, remote changing, packet size: 056)
```

b login umbbs

UMBBS01 LOGIN IN PROGRESS AT 21:22:03 ON JANUARY 26, 1985

On Friday Jan. 18, 1985 UMBBS was shutdown.

The main reason was the cost of providing this service.

After a review, the board may be back.

Thank you for your cooperation and support.

Comments, questions, etc. may be mailed to:

Mark Evans

Dept. of Computer Science

University of Manitoba

Winnipeg, Manitoba

UMBBS01 LOGGED OFF TSO AT 21:22:12 ON JANUARY 26, 1985

DATAPAC: call cleared - remote request

The intent of the message is quite clear. We have lost the only truly national BBS in existence. All we can hope for is a change of heart of the U of M Administration.

Ken Read

T I M E L I N E

**CANADA'S USER-ORIENTED COMPUTER SERVICE**

WE CORDIALLY INVITE YOU TO SIGN UP WITH CANADA'S FASTEST-GROWING  
COMPUTER SERVICE:  
TIMELINE

FOR LESS THAN SEVEN CENTS A MINUTE (300 BPS) YOU CAN:

- #1 PLAY A SIMULATED SPACE WAR AGAINST SEVERAL OTHER USERS IN A REAL TIME ENVIRONMENT.
- #2 COMPUTER-EASE SHOP FROM YOUR OWN HOME FOR A WIDE SELECTION OF COMPUTER PERIPHERALS AND ACCESSORIES AT INCREDIBLY DISCOUNTED PRICES, DELIVERED TO YOUR DOOR.
- #3 COMMUNICATE WITH ANY OTHER USER IN NORTH AMERICA FOR LESS THAN A FRACTION OF THE COST OF A LONG-DISTANCE CALL.
- #4 PLAY A MULTITUDE OF EXCITING SINGLE-USER GAMES... ADVENTURE, POKER, STAR TREK... AND MORE.
- #5 READ AND POST BULLETINS ON A MULTI-TOPIC BOARD.
- #6 SEND AND RECEIVE ELECTRONIC MAIL.
- #7 KEEP UP TO DATE WITH YOUR USER GROUP'S NEWS.  
(PROVIDED YOUR GROUP HAS REQUESTED A PRIVATE SECTION)
- #8 PARTICIPATE IN AN ON-LINE USER'S CONFERENCE IN EITHER PRIVATE OR OPEN DISCUSSIONS, ALL IN REAL TIME.
- #9 DO MUCH MORE.

BECOME PART OF THE FASTEST GROWING USER GROUP IN NORTH AMERICA: T.U.G.--TIMELINE USER'S GROUP.

TIMELINE CAN BE REACHED BY A LOCAL PHONE CALL FROM PRACTICALLY ANY CITY IN CANADA THROUGH THE DATAPAC™ NETWORK.

-----cut along this line-----

TO SIGN UP PLEASE FILL OUT THE FOLLOWING SECTION AND MAIL IT TO:  
T.U.G. 680 100TH AVENUE, LAVAL H7W-3Z6, QUEBEC, CANADA  
OR FOR MORE INFORMATION CALL 1-514-681-2280.

NAME..... ADDRESS.....  
CITY..... PROVINCE.....  
POSTAL CODE..... PHONE.....  
TYPE OF COMPUTER..... BAUD RATE.....  
WOULD YOU LIKE TO BE BILLED BY MAIL... MASTERCHARGE... VISA...  
CREDIT CARD NO. IF APPLICABLE..... EXPIRY DATE.....  
SIGNATURE.....

PLEASE ENCLOSE THE SIGN UP FEE OF \$15.00 (CHEQUE OR MONEY ORDER) PAYABLE TO T.U.G. WHICH INCLUDES YOUR LIFETIME MEMBERSHIP AND YOUR USER'S MANUAL

WHERE DID YOU PICK UP THIS APPLICATION?.... *FRANCIS. A1413..*  
1200 BPS IS AVAILABLE AT 10 CENTS A MINUTE



99'ER ONLINE  
P.O. BOX 11983  
EDMONTON, ALBERTA  
T5J 3L1

THE FOLLOWING TWO PAGES LIST THE BOOKS IN PRINT FOR THE 99/4A AS OF 1984. LOCALS CAN PURCHASE ANY OF THESE THRU THE SASKATOON BOOK STORE. OTHER USERS IN OTHER CITIES COULD BUY THRU ANY LARGE REPUTABLE DEALER. PRICES ARE IN U.S FUNDS AND ARE ABOUT 30% HIGHER HERE.

H. CARUK S.T.I.C.C.

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