DATA BASE MANAGERS COMPARED

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Some owners/authors of the applications I have covered in this article will no doubt be angered by the apparent brutality of it. I choose to view it as honesty rather than brutality. Too many reviewers whitewash the weaknesses of TI software they critically review. I will not. I think sometimes that we are afraid that the software market will dry up and blow away unless we give favorable reports on the software products that do appear for our computer. I prefer to think of it in another way — if we promote junk software in a favorable light those that do publish product reviews will lose credibility and those that buy software based upon those reviews will simply be that much more reluctant to get burned a second time.

In the process of searching for the perfect database manager I have purchased several programs and spent a few hundred dollars in the process. All of the programs that I own have positive points and all have negative points. What I have discovered to date is that the "perfect'' data base manager does not exist yet (not even in the business world). What I am going to share with you are my impressions of the programs I own and in doing so will perhaps save you a little time and money if you too are looking for that "perfect" application.

The programs I own are:

- Acorn 99 from Oak Tree Systems
- Creative Filing System from Mark Beck
- DBMS from Navarone Industries
- Data Base I from SPC Software
- Data Base 99 from Quality 99 Software
- Data Base 300 from the International Users Group
- Data Base X from Western Ware
- PR Base Vl.2 and V2.0 from William Warren
- Turbo Dataman from Easy Ware

I have used these programs enough to feel comfortable with each and could probably write several pages about each one. Unfortunately, publication space is limited and such a voluminous article would never see print. I have tried to be brief and to the point in my comments on each program. Also, keep in mind that my comments are subjective, based upon how each product meets my needs and expectations. Yours may be different.

There are a couple of applications I own that are not included in this article. They are the Personal Record Keeping module and Data Base 300/500 from the International User's Group Master 99 series. The PRK module does not warrant recognition in this article and Data Base 300/500 is no longer available as far as I know. A couple of other applications, Total Filer by Warren Agee and S-Files and S-Reports by Shepard Software, are not included because I don't own them yet. No doubt there are other programs I haven't discovered and programs yet to be written. Eventually, I will probably try them all.

ACORN 99
Among the top three database manager's available to the TI community. The only relational database available, also the only one with a programming language interface for custom applications. Extremely powerful and well designed. Can support three active files at one time, allows existing data file formats to be edited, copied to another file, resequenced and can reformat a file structure into another file format. Does not have the ability to show number of records in a file. Can hold more than 1500 records per file on a SS/SD disk (depending on file size). Sorts alpha characters and strings better than numbers. Indexes record location for subfile creation and mainfile is then concatenated to create the subfile as another database. Possesses ability to search using "equal to, unequal, greater than, less than, ignore'' logical operators. Supports relational operators in search routines through the use of a true/false convention that allows selection of records where all parameters are met or any parameters are met. Can print a single record from a display screen. Extremely slow in operation. Uses 40-column text mode. Allows duplicate key field data entries. Allows printer control codes to be encrypted in setup file. Provides input checking for "numeric, integer, money, string, flag and date" entries. Over all, a fabulous program, with almost limitless potential. The best documentation of the group, giving many examples along with explanations. Superb application.

NAVARONE DBMS
Allows 32,000 records per file but only 350 per SS/SD diskette. Limits you to half that amount if you wish to sort the file since it creates a second sorted file that demands equal space on your data disk. Most interesting report generator I have ever seen, a cut and paste type affair that is really neat but poorly documented. Excellent custom screen design module which includes help screens that you design. Fast, fast, fast. Requires unique key field entries only, which I find inconvenient. Documentation is better than originally written but still confusing at times and incomplete. Dotes on mundane things and skips over or entirely omits important things. Does totaling in reports but no other computational work. Does not support single record printing but can use the report module to scroll data on screen, write it to disk or send it to your printer. Can append new data fields to the end of an existing record but cannot reformat the record in any other way. Can create subfiles but you have to figure out how to do it for yourself because the documentation does not tell you how. It doesn't even mention subfiles. Allows printer control codes to be encrypted in Report Generation file. Does not perform input checking of any type. All data is considered to be a string entry. Best suited for a hard disk environment. Not difficult to use once you have "played" with it, but can be intimidating at first.

CREATIVE FILING SYSTEM
Creative Filing System (CFS) is the most feature-packed and interesting application of the group, containing so many different programs and files that they do not all fit on a SS/SD diskette. This can be an annoyance to the user who has only a SS/SD drive, but no problem otherwise. CFS supports 1-3 disk drives, as well as the Horizon RAM Disk and the Foundation 128K card. It has a neat Auto-open feature that catalogs a data disk to look for your file name for you, then opens it for processing. Does not support custom screen design. Does not perform input checking of data. All data is considered string input. Uses a rather unusual record format in that it actually supports only eight data fields with a maximum length of 28 characters per field. But each field has been split in half to provide 16 fields of 14 characters each. No length limiters are provided to control the length of an entry though. So one could accidentally type in more than 14 characters in a field that will run the data into the next field, possibly causing

problems in sorting or searching. CFS does let you use any of the eight actual fields as one field of 28 characters but, during data entry, the cursor still skips to position 15 if the data entered into a 28-character field is less than 14 characters long. Thus, you find yourself pressing <ENTER> twice to advance to the next field. Program crashes when you try to save a file format to your data disk using a name that already exists on the disk, but you can edit an existing file so you don't have to redesign it from scratch. File merges and subfiles are supported. As many as 1,000 8-line records will fit on a DS/DD diskette, but the documentation does not tell you how many will fit on a SS/SD disk.

Can change the size of a file, meaning the number of records in it. Cannot have more than one file open or active at one time. Only supports the "equal to" relational operator when performing searches, but provides logical operator support for AND, OR and NOT. Searches may be performed in sequential mode by any field (in a single condition search) or by any two fields (in a multiple condition search). Sorted files may be searched in what is called the "Turbo" mode, which is a single condition search of an indexed field. Output is displayed to the screen or you may use the search routines to index records for sub-file creation. No individual record printing is provided. Screen display of records selected in a search scroll by so fast that it is difficult to see them. The program requires that a key be pressed to halt the scrolling, but the keyboard scanning routine is not fast enough to keep up. Thus, by the time you have pressed a key to stop the display of records, the one you wanted to see has already gone by. You can't go back to it except by starting the search all over again.

A horizontal bar chart program is provided (a la Craig Miller's Smart Programming Guide To Sprites book) that will allow one to chart numeric data by month. Date and money data, in a rigid CFS format, must be present in each record before the graph can be used. Even so, this is a nice feature and CFS is the only application to provide it. File sorting in version 8, is done on one or two fields, via J. Peter Hoddie's assembly language sort program. The routine is cryptic and not adequately documented, but fast and effective once you figure it out.

While one can find room for improvement in the record design data entry and data manipulation portions of CFS, an absolutely outstanding tabular Report Generator is provided that is simply the best of its kind. Though not as easy to use as the Navarone Report module, the CFS program outperforms all of the competition. Besides being extremely flexible, it supports what CFS calls priority fields, which means it has the ability to suppress printing of duplicate data (a feature no one else appears to even have considered). It also supports both horizontal and vertical column totaling of numeric data, allows you to insert custom heading information in the tabular report rather than limiting you to the headers built into the record format for the file being printed. For my purposes, a data manager's report generation is number 2 in importance, second only to a program's ability to pull out" only that data I want, for whatever task I'm dealing with, so that I can generate reports on it. The CFS report program alone just about makes up for any weaknesses found in the main program. It is that good. It supports custom-designed formats and allows them to be saved for future use, prints to disk or printer and more. CFS provides a host of other features or programs that have specific rather than general uses. There is a program that allows you to create a catalog file of your disks (that is used by other CFS programs, but which ones I could not discover), a Formatter program that allows you to print text along with data files (another feature unique to CFS), a utility program to create TI-Writer value files for form letters and such.

Overall, Creative Filing System is quite a program. While I have been critical of it in some areas, it offers more features than any of the other programs looked at. Because of this, it simply cries out for more adequate documentation. Some of the more complex operations that could use 3-4 pages of instructions by themselves are covered in one or two paragraphs. The 39-page, on-disk manual simply does not do justice to the utility that Creative Filing System can provide a user. That which is provided is cryptic for the most part, inaccurate in a couple of places because of the eight updates it has gone through and it reads like it was written by a programmer rather than a user. No doubt author Mark Beck understands how to use all the features CFS offers. The challenge in writing documentation though is to pass that information on to others so that they can figure it out too.

However, for the price and the utility offered, CFS is hard to beat. In fact, because of its many features and the Freeware price tag, it deserves to be a competitor to PR Base for your attention. That says a lot for Creative Filing System.

DATA BASE 1
Best suited for mailing lists or other LIST type data files. Cumbersome design setup requires records to be accessed by their relative position in the file (record number). You must first list the records by a specified field if you don't know the record number. Time consuming. Provides three pre-set mailing label report formats and one custom format for your own design. Will not do reports that have heading information. Includes several nice utilities, such as a form letter generator and disk file data base which creates a DB1 data base file out of the information on your library of disks. Does not provide for input checking or length of field entries. Looks only at the length of overall record. Does searches by "equal to" operator on only one data field at a time. Requires that you first create an index file and then search. To search by another field you must create another index file. Searches by a maximum of five characters in any field. Sorts are limited to 1,000 records no matter how many exist in the file, but both alpha and numeric sorts are offered. Sub- files can be created to a printer in the main program or to disk by using the Utilities options. Selection is by "equal to" or "between two values" which can be either alpha or numeric type.

DATA BASE 99
More emphasis put on copy protection than on program performance. Allows custom screen design and claims 28 fields of up to 28 characters each. Would be a neat trick to do since four of the 24 rows on screen are used by program prompts.

Fast assembly language interface for report generation. Cannot generate reports with headings and does not permit printer control codes to be inserted in report data. Does not save a format after design so you will have to re-create it each time you want a report. Data is printed in continuous format without regard to page breaks or anything else. Design of layout is cumbersome, requiring you to conceptualize how many colons or semicolons are needed to push the data across the page. Number of colons/semicolons is limited to 127 characters allowed in a LINPUT command. A terrible system.

Disk catalog accessed from main menu will crash program if you enter an alpha character instead of a number when it prompts for the disk drive number to be cataloged. Color is lost after a crash since it was CALLed from the LOAD program. Does not permit single record screen print (unless you buy the DB 99 Utilities), must use EDIT option to search for a record or search

sequentially. Cannot go directly to a record by its relative position in the file. Will create subfiles to disk allowing the search by "less than, equal to or greater than" operators. Search is limited to one field for all practical purposes.

Sorts can be performed in ascending order, by any one field. Sort is an actual rewrite of the file. All data is considered string information. No number crunching (unless you buy the DB99 Utilities), no input checking. Documentation consists of two 8½" X 11', sheets of paper printed on both sides. Program is slow, inflexible, inconvenient in many ways and cumbersome to use. It might have been an advanced application some years ago. Today it is a dinosaur, even with the DB99 Utilities. Much too expensive.

DATA BASE X
Very modular, meaning that each function (adding, editing, printing, deleting, etc.) requires a separate program that must be loaded each time you want to use that function. Does statistical analysis of data. Record counter is inaccurate, code of program is jumbled and entirely unstructured. Does not sort data even though documentation uses the term "sort." What it means is 'select." When Data Base X "sorts" by a particular parameter it is really selecting records for dumping to a printer that meet that parameter.

Does allow selection between ranges. Cannot create subfiles, does not index existing records. Access of a record is done sequentially unless you know the record number. No way to tell the record number, you must guess. Supports 1 or 2 disk drives. Only program reviewed in this article that runs with only 16K. Excruciatingly slow. Requires that you name the data disk DBXDATA for no good reason that I can see, otherwise program errors out. Does not save report definition but does allow it to be printed in normal or compressed mode. Definition process is fairly simple but time-consuming. Documentation is the shabbiest I have ever seen. It is photocopied and put into booklet form with the pages not even cut straight, so that some information is missing off of some pages. Over all, this program is junk! As with the lUG's DATA BASE 300/500, it never really belonged on the market in the state that it is in. Unfortunately I didn't know that and paid out over $30 to find out.

PR BASE
Totally assembly language coded. The BEST all-around application in my opinion. Fast, flexible, does virtually anything a user would want in the way of data handling except number crunching. It will not do anything in that area. Treats all data as part of a big string just as DBMS and Data Base 99 do. As long as you own the PRB Utilities written by John Johnson you can create subfiles, otherwise you can't.

Has on-line help for commands, creates an index by any input field you choose and then accesses any record in about 1 second. Also has a Find feature to look at data sequentially in any single field and a Global option that searches for a single data entry anywhere in the record. Saves up to five report formats, V2.0 allows you to format a data disk. Custom screen layout with terrific graphics options for borders and windows, etc. is available. A tremendous program, well thought out, well-designed and artistically executed. Fairware!

PRB Utilities are free for the asking as long as you provide the disk and mailer. Report design routine is cumbersome and confusing. Prints single record from screen display in either 40- or

80-column mode. Program is very sensitive about I/O device names. My copies (V1.2 and V2.0) both require "PlO." to work rather than just PIO or PIO/1.

With number crunching abilities this program would be a perfect "flat-file data manager" for most TI users. As it is, the value and performance for a Fairware application, or a commercial application for that matter, is unsurpassed. If you don't have PR Base then you are missing out on one of the premier productivity tools available to the TI community.

TURBO DATAMAN
This is potentially the most powerful and useful data manager, taking a back seat only to PR Base. It runs slightly ahead of Acorn because it performs number crunching and is faster in operation. Like Acorn, Turbo Dataman allows you to create a dictionary of data items (fields) and then lets you choose from that library of fields to put a record together. Up to 30 fields are allowed per record. Twenty predefined records (file formats) can exist on one disk.

Allows custom screen layout design, complete with graphics for borders/windows, etc. Does input checking, allows secondary screen access like Acorn's Detail Records. Allows formulas to be created and saved that perform the four basic math functions. Report definitions can be saved. Allows wildcard type operators in searches. Will print single record from screen display. Provides "less than, greater than, equal to, not equal to, greater than or equal to, less than or equal to" operators in screen display and report generation modules. Permits sub-totals in reports that can be fomatted, like TI Extended BASIC does with the IMAGE statement.

Subfiles can be created through the report generator by sending the output selected to a disk file rather than a printer. However, the results must be converted back to INTERNAL FIXED from DISPLAY FIXED before you can use it in the program. Turbo Dataman does not provide you with that utility. The documentation instructs you to "write a program" to do it. Names used for different modules in the program are confusing: ETCH, SKETCH, SKETCHR. FETCH. Should change names to more accurately reflect function of module. Documentation acceptable but lacks adequate coverage in some areas. Utilities are provided to perform some mundane operations, such as counting the number of records in a database. Reformatting or restructuring of an existing file is not permitted unless the input field is appended to the end of a record format.

This program needs some fine tuning in some areas but is still an exciting productivity tool with immense possibilities. Its speed of operation is not fast but acceptable. It is faster than Acorn. One can set up the SKETCH program to auto-load if desired, but the whole application should he centered around a menu in my opinion. As it is, you must run each module from the READY prompt when you need to use it, because every module exits with an END statement. Whether you want to manage a mailing list or do accounting, Turbo Dataman is useful.

CONCLUSION
We are more fortunate than most orphaned computer communities, in that we have so much talent and loyalty in our ranks. Some of the programs that I have discussed in this article are certainly representative of that talent. When it comes down to making a choice on which program to buy, ("buy" includes paying the Freeware author his just reward), you pretty much have to make that decision on your own. PR Base is certainly the most professionally designed application of the group and also the fastest in virtually every respect. Acorn 99 is far and away

the most business-like with its relational capabilities and support for multiple files being open at the same time. Turbo Dataman (which I haven't seen on the market since Don Thompson exited the TI market) is the best number cruncher. Creative Filing System packs the most bang for the buck with its broad spectrum of features. No one program will address all needs, so your choice is likely to be made based upon what your needs are. And that is as it should be. Perhaps this article has helped to make that decision a little easier.