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: THE CCA DATA MANAGEMENT SYSTEM :
: VERSION 4.1 in ATARI BASIC :
: MANUAL OF OPERATIONS :
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SPECIAL CONSIDERATIONS

This version of the CCA Data Management System is for use with the ATARI CX-810 Disk Drive Unit. ATARI Inc. has released a number of DOS systems. The CCA DMS is supplied with DOS 2.0S and must be used to FORMAT your DATA diskettes. Do not use DOS 1.0 which is supplied with the CX-810 disk drive unit.

Serial No. _____

LIMITED WARRANTY

The CCA DATA MANAGEMENT SYSTEM and the accompanying documentation are sold on an "AS IS" basis, without warranty as to their performance or fitness for a particular purpose. For a period of one (1) year from the date of purchase, CE SOFTWARE, will replace software storage media which fail if such software storage media are returned postage prepaid, to CE SOFTWARE DIVISION of CUSTOM ELECTRONICS INC., 238 Exchange Street, Chicopee, MA., 01013, U.S.A. and if in the sole opinion of CE SOFTWARE, that the failure was not due to accident, mishandling, or inability of the purchaser to apply the software or the documentation to a particular purpose.

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ENHANCEMENTS FOR ATARI VERSION 4.1 CCA DMS

The major changes in the 4.1 release of the CCA DMS for ATARI PERSONAL COMPUTER users are within the SORT/MERGE modules. In the 4.0 version the user was informed as to the number of records to be sorted but had no idea of how many passes between the disk drive and the computer memory would be required. Also, those users who have two disk drive units, were required to sit at the computer and verify by hitting the RETURN key that the WORK disk and the DATA disk were in the proper drive. All of these problems have been resolved in this 4.1 version.

The REPORT WRITER program and the documentation did not agree in regard to the suppression of the record numbers upon printout. The manual indicated that you would use the command REC#=N but the program required you to enter REC#=NO in order to achieve the suppressed result. The new 4.1 version will work with either entry. This should permit ease of use regardless of the method that you are used to using.

The following NEW messages have been ADDED to the system:

Within the SORT module

SM09 xxx records per substring

REASON FOR MESSAGE..The CCA DMS is informing you as to the number of records that can be held in the computer memory within one pass of the diskettes. If this number is greater than the number of records to be sorted than you will only have to insert your DATA diskette and WORK diskette once.

ACTION REQUIRED.....NONE, information only.

SM10 xxx substrings to process

REASON FOR MESSAGE..If the xxx portion of the message is greater than 1, then your DATA file is bigger than the allotted area within computer memory for the SORT operation. The CCA DMS SORT module will have to break the job up into several passes from the disk. This message informs you of the number of passes that will be required.

ACTION REQUIRED.....NONE, if you are using two disk drives. However, if you only have one disk drive, you will know that you will have to exchange your DATA diskette and your WORK diskette xxx times. The program will inform you when to make the diskette swaps.

SM20 Sorting sub-string # xxx ...

REASON FOR MESSAGE..As the sort operation progresses the system will inform you of which sub-string is being sorted. This is convenient information especially since large sorts may scroll the SM09 and SM10 messages off the screen.

within the MERGE module

SM20 Merging substring # xxx ...

REASON FOR MESSAGE..As the merge operation progresses the system will inform you of which sub-string is being merged. This is convenient information. The merge operation will require the same or possibly one additional sub-string as you were informed by message SM10.

ACTION REQUIRED.....NONE, information only.

We have received a number of questions regarding the proper use of the sort module. Most users of the system, who have a problem, do not understand the concept of the DATA diskette, WORK diskette, and OUTPUT diskette. These next few paragraphs should help in that problem.

DATA DISKETTE

This is the disk to which you entered both your definition and the actual data files. The definition is held in the file called MAINTFLE.DEF and your DATA file is held in EXAMPLE.DMS (the word EXAMPLE would be the name of a DATA file which you entered).

WORK DISKETTE

The reason for a WORK diskette is that the ATARI disk drives have 707 sectors available to write records to. If you have defined a data record length of 128 characters and have written 400 or more records to the DATA diskette then there will not be enough room on the DATA disk for the temporary file. This is the reason for the WORK diskette. Also be aware that the WORK diskette must be FORMATTED with the DOS supplied with the PROGRAM diskettes. A number of versions of the DOS have been released by ATARI. We use DOS II version 2.0S. If you use a different version you may have problems.

OUTPUT DISKETTE

The reason for the OUTPUT diskette is that you may choose to retain the DATA intact without changing the order of the DATA file. This is not necessary (if not desired) but allows more of a choice when outputting your sorted DATA files.

There are a number of choices when performing a SORT and/or MERGE. We will try to outline them for you along with the requirements for each.

1) If DATA diskette file is very small and there many sectors free on the diskette, you may use the DATA diskette as the DATA disk, the WORK disk and the OUTPUT disk. Very careful planning must occur with this method. If during the SORT or MERGE phase you get a disk full condition, your DATA file may be damaged. This method requires that the free sectors be greater than three times the size of the DATA file.

2) A safer choice would be to use a separate WORK diskette. In this manner, the temporary file will be written to the WORK diskette. Then if you use the DATA diskette as the OUTPUT diskette the requirement for free sectors will only be twice the size of the DATA file. So far we have assumed that you will be renaming the DATA file. If you use the same name then the requirements for storage are reduced by a factor of one.

3) The third method would be to use three diskettes, one for the DATA diskette, one for the WORK diskette and one for the OUTPUT diskette. This is the safest method but is the one which confuses most users. If you use this method then you must prepare the WORK diskette and the OUTPUT diskette in advance of the SORT.

- a) Format both the WORK diskette and the OUTPUT diskette.
- b) Use the DUPLICATE file or the COPY function to move the MAINTFLE.DEF from the DATA diskette to the OUTPUT diskette.
- c) If you intend to use the same name for the file on the OUTPUT diskette as on the DATA diskette then you may proceed to the SORT.
- d) If the name will be different but your intention is to only use the sorted file for a printout then after sorting the file you may proceed to the REPORT WRITER module. For Example, assume that you named the DATA file "FIRST" and after the sort you named the OUTPUT file "SECOND". Your intention is to print out labels and then delete the file called "SECOND". Upon entering the REPORT WRITER section you would specify the following to FM50:

PFIL=SECOND,FFIL=FIRST

This will allow you to print the file "SECOND" from the definition "FIRST" (within MAINTFLE.DEF). The file called "SECOND" is a sorted variation of the file called "FIRST" but you did not enter a definition for this file. Normally the CCA DMS would not know the elements of this file. This is a special condition to allow a quick printout of this temporary file.

- e) If you wish to use the file on a permanent basis then you must proceed to the FILE DEFINITION module and enter an exact duplicate of the definition which you used for the file called "FIRST". Then proceed to the FILE MAINTENANCE section to build a pointer file. At that point the file named "SECOND" is a totally valid file and may be used by any section of the CCA DMS.

As you may have assumed by now the SORT/MERGE is a very versatile and powerful tool. We have not discussed the concepts of it's multi-key SORT/MERGE capability, nor it's APPEND rather than REPLACE function. Those topics seem to be clear in the manual. Although this SORT/MERGE function is very sophisticated, you will find that the power to organize your files in the manner you desire is available with this function.

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We wish to congratulate you on your purchase of the powerful CCA Data Management system. You have joined the ranks of thousands of users. We would appreciate any comments concerning the documentation or the operation of the software. We do listen to the users of the system and will be ready and willing to assist you in whatever way we can. Call us or write and we will respond!

The Creative Computer Applications Data Management System (DMS) for Atari Personal Computers is written in Atari BASIC and is supplied on two floppy diskettes. This version is level 4.0. All of the standard functions of the Data Management System for use on other brand computer systems (at level 4.0) have been implemented in this version. In addition, some special enhancements have been added, which utilize the unique capabilities of the Atari Personal Computers.

Your computer system should have a 40K memory as a minimum or the CCA DMS will not operate. We recommend the use of two disk-drive units although this is not a requirement. The use of one disk-drive may limit the amount of data you wish to store on a single disk. All versions of this system are distributed on two diskettes. This type of distribution was required because your disk-drive is limited to 707 sectors of storage on a single diskette. The CCA DMS will inform you when to change diskettes, if this condition is necessary. The use of two disk drive units in this situation will allow one drive to function as the system files drive (the CCA programs) and the other to serve as the data drive (your information to be stored on disk).

This manual will refer to ATARI BASIC which is one of the computer languages used with the ATARI Personal Computers. ATARI BASIC is the copyrighted property of the ATARI CORPORATION. Some necessary commands have been referenced from the ATARI BASIC REFERENCE MANUAL published by the ATARI CORPORATION. References to ATARI DOS will refer to the disk operating system which is used with this version of the CCA DMS. References to some ATARI DOS commands are used in this manual. ATARI is the trademark of the ATARI CORPORATION.

Some portions of the software contain the MACROTRONICS printer drivers. We wish to acknowledge the cooperative spirit of MACROTRONICS INC. for supplying these drivers.

The CREATIVE COMPUTER APPLICATIONS DATA MANAGEMENT SYSTEM is a copyrighted system. Improper use of this system may ensnare you in legal complications (see page# iii). We urge you to read and sign the enclosed license agreement. Any use of this system constitutes an acceptance of the terms of the software license agreement and binds you to the protection of the software and of the documentation.

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 * NOTES ON USING THIS MANUAL *

Most of this manual applies to all versions of the DMS. Some parts, however, apply to only one or two versions. You will find that the MESSAGES section of this manual contains much of the detailed information that is required to operate this system. Consult this section often when using the system.

The entire DATA MANAGEMENT SYSTEM (DMS) is menu-driven. The only program that is ever loaded and executed by the user is DMS. DMS - the menu program - will then allow the user to select which function is to be run, and it will then load and execute the proper program. When any subsequent function has completed, the menu program is automatically reloaded and executed. Note that the DMS program is on each disk. This is a requirement of the system.

The following sequence is used to initiate the CCA DMS:

- (1) Insert disk #1 into disk drive #1.
- (2) Turn on the computer. The ATARI DOS will load and display the READY message on your monitor.
- (3) The AUTORUN.SYS will then load and check for the ATARI or the MACROTRONICS printer interface used with your system.
- (4) The DMS module will be loaded and display the sign-on.
- (5) The Menu program will be loaded and executed.
- (6) Begin operation by selecting from the following options:

<u>NUMBER</u>	<u>FUNCTION - DESCRIPTION</u>
0	Terminate processing - return to ATARI BASIC
1	File maintenance - add, update, delete, search, inspect.
2	Report generator - print reports or labels
3	Compact files - record deletion, file resequence/backup
4	File definition - create, list, delete, or check files
5	Sort a file

 * N O T E *

All DMS messages are numbered. This includes not only error messages but also normal messages and questions from the system. The messages will soon become second nature, and this manual will not be needed very often. In the meantime, however, be sure to look up the messages in the MESSAGE section of this manual whenever you are in doubt. The messages are in numerical order and are easy to find and use.

A good way to start is to mimic the sample execution log. This will acquaint you with the basic features of the CCA DMS.

GETTING STARTED

Before running the system for the first time, we recommend that you make a work copy of the CCA DMS. The diskcopy function requires that the diskette be formatted. Use the ATARI DOS function I to perform this job and then Use the diskcopy (DOS function J) program supplied with your ATARI DOS. There are four special files on each of your diskettes associated with the automatic boot-up process. They are DOS.SYS, DUP.SYS, AUTORUN.SYS, and APORTP. We suggest that you do not use any other DOS or associated files other than the one supplied with your system. You may activate the MEM.SAV function if desired, however the CCA DMS has the BREAK key inactivated, preventing a disorderly exit from a program. The MEM.SAV function will serve no useful purpose with this system.

Since you have received more than one diskette, you will have to make a copy of each one. Label these disks "CCA DMS SYSTEM DISK 1", "CCA DMS SYSTEM DISK 2". Do not use a pencil when you write on the label because graphite can cause disastrous results at a future date. Then carefully apply the label to your diskettes. Then apply write/protect tabs to the work system diskettes.

The CCA DMS requires that the CCA DMS system program diskettes be inserted into disk drive #1 and that Disk Drive #2 is normally the drive for the data diskettes. If you are only using one drive, it is unnecessary to precede every file name with "1:". Single disk-drive users will be prompted to insert either program diskettes or data diskettes as needed.

We want you to understand from the very beginning exactly what a data management system is and also some of the general use concepts. The CCA DMS knows how to perform the most common functions that a user might need. When you collect a group of programs together (as we have done here) it permits you to instruct the DMS about the elements necessary to satisfy your data requirements. For example, you may wish to keep track of names, addresses, and telephone numbers. The various elements in a data file as we have described would be the first name, last name, street address, city, state, country, zip code and telephone number. The process of your THINKING of these elements is most of the work necessary to make use of this system. We refer to this process as "defining the file". After you have determined the elements of the data, you use the file definition section to tell the CCA DMS about the file you wish it to create. This is a simple description of how you tell the CCA DMS to perform a given task, and actually it is really that easy! If you need a name and address file you may not be able to purchase one that meets your needs. The CCA DMS allows you to create your own version. The only limitation that the system has is based on your ability to think of different jobs for the system to perform. This is, in effect, a programmable software package that can be used by anyone, not just programmers, to allow a custom application of your choosing to be performed on your computer.

The rest of the menu functions will use your definition of the file to allow you to:

- (1) Enter data.
- (2) Update existing data.
- (3) Delete old data.
- (4) Compact the file (remove data you have said to delete).
- (5) Use math formulas to compute field numeric values.
- (6) Search for and retrieve data.
- (7) Inspect individual data records.
- (8) Print out general or customized reports using either vertical or horizontal broadcasting (columns).
- (9) Total, sub-total, or edit numeric data in these reports.
- (10) Print mailing labels.
- (11) Sort the data into a form which will meet your needs.

All of the above functions can be performed simply by using the menu functions with this system.

NUMERIC FIELDS

The CCA DMS permits the definition of any field to a maximum of 110 digits, however, this is not a practical application for numeric only fields. The ATARI personal computer handles numbers to a length of 12 digits depending upon whether the number is an whole number or contains a fractional part. Beyond these limits the number is an approximation using scientific notation.

For Example, the answer to:

- (1) PRINT 1/73 would be 0.0136986301.
- (2) PRINT 3/10³⁰ would be 3E-30 using scientific notation or .0000000000000000000000000000003

The CCA DMS will revert to scientific notation for fractional numbers beyond 3 places to the right if the value of the number is less than one. This method of number storage and display will also occur if the number has in excess of 10 significant places. We recommend that you use a definition of 12 digits maximum for the length definition of numeric only fields. If you define the field to a length where the number may not be stored by a computed field the system will fill the entire field with "?" symbols. This will also be printed on your report to indicate that there is not enough room to output the size of the number.

SEQUENCE OF OPERATIONS

The following sequence of operations occurs for new files:

(1) Using Menu Function 4, the file is defined to the system. This involves entering the name of the file and, for each item (field) of the file, entering the ID, name, and length. Up to 24 items may be defined for each file. We shall refer to these items as fields. After you have entered the information for the last field and the computed fields have been defined, the file information is saved in the system work file "MAINTFLE.DEF". The largest record you may define is 249 characters. The largest field you may define is 110 characters. **** NOTE **** You are not entering data at this time, merely defining what the file looks like.

(2) Using Menu Function 1, the file is created and maintained. Records may be added, updated, inspected, or flagged for deletion. The file may be scanned for specified data. When a record is added the user is prompted for each field with the 1-15 character field name. When a record is updated, the user specifies the 1-5 character field ID (ID=identifier) and the new data for the field. Whenever a record is updated or flagged for deletion, the user is shown the record and must verify that it is the desired record. [If you want to add many records at a time, you may request the ADD LOCK feature (AL). The system will stay in ADD mode until you type ":CANCEL:"]. Another feature is SCAN & MARK (SM). This allows you to scan for records and create a special file consisting of just the record numbers that contained the data you scanned for. The report writer can then accept this special file as input to print selected records from the file. Also possible is the BROWSE feature to allow you to inspect continuously sequential records.

(3) Using Menu Function 3, the user may physically delete any records flagged for deletion. This is known as "compacting" a file. As a file is compacted, it is also resequenced. The user may also request that a backup of the file be made, either while compacting or as a separate function.

(4) Using Menu Function 5, the user may sort the file into a particular sequence. You may need the file to be printed out in different ways, so the sorting function is extremely useful. You may sort a file using up to 10 sort keys, either in ascending (up) or descending (down) sequence. A sort key for a payroll file, for example, might be the department number. Within a department, you may want the file sorted by employee name. This would require two sort keys.

(5) Using Menu Function 2, reports or mailing labels are printed out. The user selects which fields are to be printed and in what order. Also, totaling and editing options are selected. The report is automatically formatted according to user specifications with page headings, page numbers, and column headings. (The record numbers, which are normally printed at the beginning of the line can be suppressed. If you have a SCAN & MARK file, you can specify it to print selected records.)

Frequently throughout the use of this DMS, you will be asked for the name of a file, a field ID/name, or the name of a report format. To save you the inconvenience of writing all of this information down, you may enter a "?". The system will then display the possibilities that are available to you. If you have not defined a definition, then you may receive an error message.

Now that you have a better understanding of the functions available and some of the terms (which may appear confusing at first), we suggest that you continue through this manual either by defining a simple application or, even better, by mimicing the sample execution log at the back of this manual. Actually enter the definitions and the data to get a feel for what is happening and what you must do to operate the system. If you are ever unsure of the meaning of a message, or the possible responses to a message, then refer to the MESSAGES section of this manual. Since every message is numbered, you will find each message easily. We have tried to indicate why the system is asking for information and what you may answer. We have also indicated what will happen next after you have answered the computer's request. If you receive an ERROR XXX at LINE XXX (where: XXX is a number) prompt, then this is an error message from ATARI BASIC. Generally, you have asked for something that the system is not capable of providing. If this occurs, your data file may possibly be left in a damaged state. We have taken every step possible to ensure that this will not occur, however, if this does happen to you then you may wish to contact us and let us know the exact steps you took to achieve this undesirable result. We may be able to advise you of preventive steps to take and, therefore, also help others who may make a similar error.

 * NOTE *

NEVER PRESS THE SYSTEM RESET KEY TO EXIT A PROGRAM !!!!!

NEVER REMOVE A DISKETTE WITH THE BUSY LAMP ON !!!!!

NEVER SHUT OFF THE COMPUTER WITH A DISK IN THE DRIVE !!!!!

YOUR DATA FILE WILL PROBABLY BE DAMAGED IF THIS OCCURS.

DEFINING A FILE - Menu Function 4

To maintain a file with the DMS, it must first be defined to the system. This requires giving the file a unique name and identifying all of the fields in the record. The file definition information for each file is saved in the system work file "MAINTFLE.DEF". The following information is required for each file:

(1) The name of the file, which may be from 1 to 8 characters long. This is the name of the file as it is defined to the ATARI operating system. All ATARI BASIC naming restrictions apply. Include the disk drive (2:) to place the definition on the proper disk drive, if you are using more than a single disk drive.

(2) Three pieces of information for each of the up to 24 fields of the record are also required. They are:

- (a) Field ID (1-5 characters). The field ID is used by the operator when updating a record, scanning for a record, or sorting a file. A field can have one of three attributes. If the first character of the field ID is not "*" or "!", then the field is considered an alphanumeric field. Any valid ASCII character may be entered into the field. If the first character of the field ID is an asterisk (*), then the field is a numeric field. Only numeric data and one decimal point may be entered into the field as data. Also, only numeric fields may be edited or totaled. If the first character of the field ID is an exclamation point (!), then the field may only be added at the time the record is initially added to the file - it may never be subsequently updated. The last use of the field ID is that if the field name is too long for the column heading then the field ID is printed as the column heading. Following are some examples of field ID's:

N	Valid - this is an alphanumeric field.
*A	Valid - this is a numeric field.
!GP	Valid - this is a permanent field.
ADDRESS	Invalid - more then 5 characters - will be truncated.
*5TAX	Invalid - numeric field may not start with a digit.
*T+C	Valid but trouble if used with computed fields. We do not recommend operators within field ID's.

- (b) Field name (1-15 characters). The field name is used to prompt the user when a record is being added to the file. Also, the field name is used as the column heading when printing a report. If the field name length is longer than the field length, however, the field ID will be used as the column heading.

- (c) Field length. This is the length of the field. No data longer than the specified field length may ever be entered into the field.

If when defining fields, a mistake is made, just type ^ and press RETURN. This will cause the system to back-up to the previous prompt. The ^ may be specified as many times as needed.

*****> ANY FIELDS BACKED-UP OVER MUST BE RE-ENTERED <*****

After the last field definition has been entered, the system will ask for the computed field formulas via message FM42. If there are no computed fields for this file, just hit the return key. If one or more fields that have been defined are to be computed fields, then now is the time to enter the calculation information.

(3) The last piece of information needed for each file is the computed field information. A computed field is a field computed by the system from a formula specified when a file is defined to the system. The field is recomputed each time a record is added or updated. More than one computed field may be specified. Other than the special treatment by the file maintenance portion of the DMS, computed fields may be used just as any other numeric field. They are expressed as a simple algebraic expression. Expressions may contain the operators +, -, *, /, and ^. These symbols refer to addition, subtraction, multiplication, division, and exponentiation. The formulas are evaluated strictly left to right and may not contain parenthesis. It is not required to enter the * symbol preceding the ID because the system assumes that all formula entries have been defined as numeric fields. If you make this error then the system will assume that you wish to perform a multiplication function. You may enter constants (as a number), the defined numeric ID codes, temporary numeric variable names, or any of the above mentioned arithmetic operators in your computed field formulas. Also, multiple successive computed fields may be specified. You do not have to use this function at all if you do not wish to specify computed fields in your definition. You skip this function by just hitting the RETURN key without any entry.

The calculation information is entered as a simple formula. For example, suppose that three of the fields that have been defined in the system are HOURS WORKED (ID=*HW), PAY RATE (ID=*PR), and GROSS PAY (ID=*GP). You can have the system calculate gross pay by multiplying HOURS WORKED by PAY RATE. The formula for this would be "GP=HW*PR". It's that simple! The field specified on the left of the formula (the calculated field) can also be specified on the right side. For example, suppose you want to keep track of how often each record has been updated. You can define a field called, "*UC" and provide the formula "UC=UC+1". This will add 1 to "UC" each time the record is updated. Note that the numeric constants can be used in a formula. For example, suppose that you want a file containing retail and wholesale prices. The wholesale price field (ID=*WP) is to be 85% of the retail price (ID=*RP). The formula "WP=RP*0.85" will accomplish this. If, in the previous example, you wished the percentage to vary for each item, you would simply add a field to the file into which the operator would enter the percentage for each record and change the formula to use that field instead of the constant "0.85".

Formulas may have as many operations as required. For example, "ER=GT/RI+2.33*ER^0.5" is a valid formula. The allowable operators are "+" for addition, "-" for subtraction, "*" for multiplication, "/" for division, and "^" for exponentiation.

If, in calculating a field, the system detects a division by zero, that particular operation is suppressed. The rest of the calculations for that field would still occur. No error message results.

All computation is performed left to right. Parenthesis are not allowed. Since the fields are calculated in the order that they are specified, formulas may include previously computed fields. All of the formula information is placed on a record in the system file "MAINTFLE.DEF". The total length of all computation formulas may not exceed 245 bytes. As you enter each formula, you are appraised as to how much room remains.

Computed fields are still requested during record add functions, and they can be modified during a record update in case the field also appears on the right side of a formula. The computed fields are not calculated until just before the record is stored on disk. The computed field function is a unique feature of the CCA DMS. A simple example of this feature could be illustrated where, you have a file that contains a field that you want to be able to add into or subtract from. This might be the current inventory of an item. With the addition of an extra field, you could perform the calculations as follows:

Assume that you have defined a current inventory field with an ID of "CI". You will need an additional numeric field with an ID of, "ADJ". Then add the formulas: CI=CI+ADJ and ADJ=0.

The first formula says to take the current inventory and add the adjustment value to it. The second formula then zeros out the adjustment value. From now on, every time an adjustment is to be made to the inventory, simply update the "ADJ" field. Use a plus value (no sign) or a minus value (minus sign) as needed. The system will then compute the new inventory automatically. The purpose of the second formula is so that if the record is subsequently updated without entering an adjustment value (for example, to correct the vendor name), then, when the new inventory is calculated, a zero will be added.

After a file is defined to the system, a report is given to the printer or the terminal showing all of the field IDs, names, start locations, and lengths.

A file can also be deleted from the system. When a file is deleted, only the definition in the "MAINTFLE.DEF" file is deleted. The physical file must be deleted by the user with the ATARI DOS (command D).

FILE MAINTENANCE - Menu Function 1

This function is used to add, update, delete, inspect, or scan for records in a file. When a record is added, the user is prompted for each field with the field name. Added records are always appended to the end of the file. When a record is added, the record number assigned to it is the actual record number within the file. If you are going to enter more than one record, you may specify "AL" instead of "A". This ADD LOCK features tells the DMS to suppress the FM11 message and continue in ADD mode. To exit the ADD LOCK mode, type ":CANCEL:".

* When a record is updated, the system displays the record and the user must confirm that the displayed record is the desired record. If so, then the user enters the field ID and the new data for each field to be updated. If you are unsure of the ID's you may enter a "?" and your options will be displayed.

When a record is deleted, the system displays the record and the user must confirm that the displayed record is the desired record. Deleted records are not actually deleted from the file. They are only flagged for deletion by placing an asterisk (*) in position 5 of the record. The records are physically removed from the file when the file is compacted. If a record is updated after it has been flagged for deletion (but before it is removed by compaction), then it is undeleted and recovered.

When a record is inspected, the system displays it. After selecting a record for inspection, you may use the "BROWSE" function of the DMS. To browse forward, just hit the RETURN key without any entry and the next record will be displayed. To browse backward, type a "-" (minus symbol) followed by the RETURN key. The previous record in the file will be displayed.

When a record is scanned, the user specifies the starting record number, the field ID, and the data to scan for. The system then prints out the record numbers (and the record) of all records containing the desired data. Note that the data being scanned may appear anywhere in a field. For example, if a field contained "Palm Drive" and the scan data was "alm", the record would be listed.

The SCAN AND MARK feature is used to scan the file for data and create a special file consisting of the record numbers of those records that were found in the scan. This special file can then be used by the report writer to print out only those records found in the scan.

If calculated fields have been specified, then they are calculated at this time. The presence of calculated fields may impact the speed of this function.

The CHECKPOINT function is provided to permit you to ensure that your efforts in entering data to this system will not be lost by a failure of your computer system or any other disastrous situation. This function will write all data to the file, the file will be closed, and then will be reopened automatically. If an interruption should occur while you are working, the only data you will lose would be from the last CHECKPOINT. Therefore, we recommend that you make liberal use of this function.

To continue your file maintenance on a different data file without exiting this section, you specify the EXIT function and then reply NO to message FMI4. You will then be asked for the name of the file. At that point you may change data disks, re-open the file, and then continue to enter data. In order to exercise this function you must have written the file definition to this second diskette. This is useful in the case where you have a data file larger than the capacity of drive 2. The CCA DMS does NOT span disk drive units with a single file name. You may, however, use the same file name on various diskettes and the system will permit use of a common definition to maintain each of them.

If you use the described method above, when you open the file on disk drive 2, the message "FM26 nnnnn is a New File - continue ?" will be displayed. Do not be alarmed by this message. The system is indicating that your file nnnnn is not on this particular diskette and is only making sure that you wish to begin to place this file here. The proper definition for the file is on this diskette.

When a new file is placed on a diskette or after either an ADD function or an UPDATE function is performed upon an existing data file, the FMI50 Building Pointer File... message or the FMI51 Updating Pointer File... message, will be displayed to the screen. The CCA DMS must maintain these files so that it will know exactly where your data is to be placed upon the disk. This file has the same name as your data file on the disk but the extender is ".DMP". The operation of this function is completely automatic and will require no action on your part except to wait for a moment while this necessary function takes place. If you should delete a .DMP file in error when using the ATARI DOS DELETE function, the situation can be recovered by using Menu Function 1 - File Maintenance. The CCA DMS will automatically rewrite this pointer file to the diskette.

FILE COMPACTING - Menu Function 3

This function will allow the selection of the following options:

- (1) Compact a file in place. (Remove records flagged for deletion and resequence the record numbers.)
 - (A) Since the FILE MAINTENANCE section does not eliminate records which you have deleted, a method to get rid of them must be used. This is the prime function of this section. The reason for using this method is to increase the speed of record deletion within the FILE MAINTENANCE section. The file would normally have to be completely rewritten each time you deleted a single record and this would be very impractical as the size of your file increased.
 - (B) After SORT operations the REC# is not changed within the records themselves. This situation could be confusing if you produce a report immediately after a SORT operation. The reason for not realigning the REC# is to allow a reference between the standard file and a temporary file. This COMPACT section will automatically realign the REC# within the records each time it is used.
- (2) Create a new file consisting only of records not flagged for deletion. The original file is not altered in any way. The new file will have resequenced record numbers.
- (3) Either as a separate function or in conjunction with either of the first two functions, create a backup file consisting of all records (deleted and undeleted) in the input file.
 - (A) Using the Back-up function you may duplicate any file but the '.DMB' extension will be part of the filename. You must change this with ATARI DOS to '.DMS' to access the file.

The advantage of compacting a file in place instead of creating a new file (consisting only of records not flagged for deletion) is that of convenience versus safety.

If option 1 is used, no additional work need be done.

If option 2 is used, when processing is complete, the old file must be given a new name and the new file must be renamed, using the ATARI DOS RENAME function, to that as defined to the system.

The disadvantage of option 1 over option 2 is that if the program is interrupted while performing option 1, the file may be left in a damaged state. If the program is interrupted while performing option 2, no damage is possible.

SORTING - Menu Function 5

The sort program will resort a file into any sequence needed. Many times several reports will be needed for the same file but in different sequences. For example, a payroll file might be printed in employee number sequence, department number sequence, and zip code sequence (for mailing labels). To sort a file, you merely specify the file name and the fields you want to sort on. Multiple sort fields are permitted, for example, if you want employees sorted by last name within a department. Up to 10 sort keys may be specified. After completion of the SORT we recommend that you select the FILE MAINTENANCE section to restore the pointer file, and then select the COMPACT section if you wish to realign the REC# sequence.

For Example, a five key sort would accomplish this:

Top Sales Executives for 1981

<u>1st Key</u> <u>State</u>	<u>2nd Key</u> <u>City</u>	<u>3rd Key</u> <u>Company</u>	<u>4th Key</u> <u>Department</u>	<u>5th Key</u> <u>Employee</u>
Alabama	Ada	C'Sales	1	Kearney
Alabama	Ada	C'Sales	1	Smythe
Alabama	Ada	C'Sales	2	Brown
Alabama	Quicks Mill	C'Sales	1	Thompson
Arizona	Gu Vo	C'Sales	9	Lester
California	Sunnyvale	Atari	755	Doe
California	Sunnyvale	Atari	755	Jones
Iowa	Saude	G'Machine	3	Abraham
Massachusetts	Chicopee	CE Software	1	Burr
Oregon	Halsey	Lang Equip.	44	Iverson
Texas	Bald Prairie	Semilogic	7	Kent
Wyoming	Afton	FW Sales	3	Cuffe
Wyoming	Frannie	FW Sales	4	Abel
Wyoming	Frannie	FW Sales	5	Aacker
Wyoming	Frannie	FW Sales	5	Benton
Wyoming	Frannie	FW Sales	9	Ziebit
Wyoming	Walcott	FW Sales	1	Dunn
Wyoming	Walcott	FW Sales	6	Best
Wyoming	Yoder	FW Sales	2	Herman

If the file is too large for available memory, a disk work file is used. For these large files, the system creates, uses, and deletes a file on the work diskette. This file is "SORTSEQ.DMW". If you have a large file, the system may prompt you to insert a work diskette. This is an automatic function of the system and will not always be needed.

The SORT may also be used to append one file to another. For example, you may have a transaction file consisting of details for a month (or similar period). If at the close of business for each month you wish to clear this file and save the details in a history file containing year-to-date transactions, then sort the details and append them to the history file with the use of the APPEND function.

PRINTING REPORTS - Menu Function 2

The report generator may be used to generate reports for any file defined to the system or for any file not defined to the system that is in the same format as one that is defined to the system.

Reports may be generated either in REPORT format (fields printed horizontally across the page in columns) or in LABEL format (fields printed vertically for mailing labels).

When printed in REPORT format, the totals, subtotals, and editing may be requested for numeric columns.

The first column printed, occupying four print positions, is the record number, which is the number actually in the record. If a file has been resorted, the record numbers printed are those in the original file. This means that the record numbers on reports from sorted files can be used when updating a file. Printing the record numbers may be suppressed.

At execution time, the user specifies such options as input file name, formatting file name, paper width and depth, report title, terminal or printer output, and whether or not to print deleted records.

The user also specifies which fields are to be printed and in what order, how much of each field to print, totaling and editing of numeric fields, and the location of the break field. The break field is used to indicate when subtotals are to be printed. Whenever the data in the new record break field is different from the data in the previous record's break field, subtotals are printed. Thus if a file has been sorted into department number order, then subtotals could be printed for each department.

A portion of a file can be printed through the use of the RANGE feature. For example, you can request that all records with ZIP codes from 50000 to 67000 be printed. Messages FM59 to FM62 document this feature.

Since some reports may be taken frequently, a method of reducing the amount of typing required to generate a report has been provided. After a report has been printed, you are given the opportunity to save your report parameters. The next time the report is to be printed, you may use these saved parameters. To use the saved report parameters, when the system requests the first FM50 information, enter an exclamation point (!) followed by the name you saved your parameters with. For example:

FM50 Please enter the Run Options? !REPORT1

Before you may use the convenient method as shown above you must enter a report using your specifications. The procedure for a simple report is shown on the next page.

In our example below, the @ symbol indicates that you depress the RETURN key on your ATARI Personal Computer.

The computer requests.....	Your entry is.....
FM50 Please enter the Run Options?	TITLE=sample run,ROUTE=P@
FM50 Please enter the Run Options?	FORCE=Y,DEPTH=51,WIDTH=132@
FM50 Please enter the Run Options?	PFILE=1:DATA@
FM50 Please enter the Run Options?	@
FM51 Enter column 1 controls?	N@
FM51 Enter column 2 controls?	GP,E2,TOTAL@
FM51 Enter column 3 controls?	N(1),BREAK@
FM51 Enter column 3 controls?	@

LABEL PRINTING - also Menu Function 2

In addition to the other responses to FM50, enter "TYPE=L". This will tell the report generator that labels are to be printed which is simply a vertical report method without headings. You may choose to use this method if you have a narrow width carriage on your line printer. Breaks, Sub-totals, and Totals will not be permitted.

Each line of the label may consist of from 1 to 24 fields. The entire label may consist of up to 24 fields.

Message FM57 is used to specify the fields to print on each line of the labels. More than one field may be printed on each line. Respond to message FM57 with each field ID you wish printed on the line. If no more fields are to be printed on the current line, just hit the RETURN key and if no more lines are to be printed on the label, just hit the RETURN key again. For example, suppose the labels are to be printed as follows:

Line 1 is the customer name (ID=N).
 Line 2 is the address (ID=A).
 Line 3 is the city/state (ID=C) and the ZIP code (ID=Z).

The file name is "CUSTOMER", the depth of each label is 9 lines.

In our example below, the @ symbol indicates that you depress the RETURN key on your ATARI Personal Computer. The responses would be:

```

FM50 Please enter the Run Options? PFILE=CUSTOMER@
FM50 Please enter the Run Options? TYPE=L,DEPTH=9@
FM50 Please enter the Run Options? @
FM57 Enter line 1 field ID? N@
FM57 Enter line 1 field ID? @
FM57 Enter line 2 field ID? A@
FM57 Enter line 2 field ID? @
FM57 Enter line 3 field ID? C@
FM57 Enter line 3 field ID? Z@
FM57 Enter line 3 field ID? @
FM57 Enter line 4 field ID? @
  
```

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*****
*           The following section is for ADVANCED PROGRAMMERS           *
*           None of this information is REQUIRED to use the system        *
*****

```

DMS RECORD FORMATS

Records maintained by the CCA DMS have the following format:

POSITION	DESCRIPTION
1-4	Record number. This is the actual number printed by the report generator. Therefore, if the file has been sorted prior to printing, the correct record number will still be printed.
5	Record deletion flag. "*" = deleted record.
6-255	User defined fields.

FILE INPUT/OUTPUT

The DMS uses random record access for all data storage and sequential files for interprogram communication. DMS files are created with a file extension in the form of ".Dxx". All files that contain user data are directly created and updated by the user and are distinguished by the extension ".DMS". The various extensions and their meaning are:

- .DMS Data entered and maintained by the user.
- .DEF Control file (MAINTFLE.DEF).
- .DMX SCAN & MARK index file.
- .DMP Pointer File for random access of records. The Name is the same as the source file.
- .DMW Work file for SORT.
- .DMB Backup files created by COMPACT function.
- .DMR Report parameter files.

Most applications that wish to interface with CCA DMS files will deal with the (.DMS) DATA, (.DMX) SCAN & MARK, and (.DMP) pointer files.

GENERAL DATA FILE CONSIDERATIONS

Data files are random files with a minimum record length of 6 characters and a maximum length of 255 characters. Each 255 byte segment is seen as a physical record to the random access protocol. However, the actual length of a record stored on disk is a function of the ATARI disk operating system.

The first logical record in every .DMS file is reserved for file control data. This consists of a record count of the logical records that follow (4 characters), a comma, and a three character number which specifies the length of the data records in the file. Most DMS programs expect to find this record. However, the COMPACT (Menu Function 3) will rebuild this record if the record count does not match the actual logical record count. However, the COMPACT function will not create this record if it does not exist.

Data representation in all .DMS records is ATASCII. Numeric fields are represented as ATASCII character strings, with leading spaces.

SCAN FILE STRUCTURE

Scan files are created by the SCAN & MARK function. These files are sequential with four character record lengths. All records consist of a logical record number that relates to the corresponding (.DMS) data file.

Data representation in all .DMX files is ATASCII character. The range of each record is 0001 to 9999.

POINTER FILE STRUCTURE

The Pointer File can be created by the FILE MAINTENANCE section if it does not exist. This file is absolutely crucial to the proper access of the individual data files. For this reason, we do not recommend that satellite systems try to create or to maintain these pointer files.

POINTER FILES have the same name as the as the data file, however, the extension will be ".DMP" rather than ".DMS". It consists of a series of 300 byte logical records. Each logical record is stored on the disk as two 150 byte physical records. The first 300 byte logical record in the file functions as an index to the remaining records in the pointer file. The rest of the 300 byte logical records in the pointer file function as indexes to the records in the data file. Each record pointer in this file is 3 characters long consisting of a two character sector pointer followed by a one character relative byte pointer.

The character representing the relative byte pointer is a one byte binary digit ranging in value from 0 to 128.

The character sector pointer consists of two, one byte binary digits ranging in value from 0 to 128.

The values used for the sector and byte pointers are obtained by using the NOTE command. (An ATARI DOS command in BASIC).

The value of the byte pointer is obtained by applying the CHR\$ function to the byte value returned by the NOTE function.

The first byte of the sector pointer is obtained by applying the CHR\$ function to the sector value returned by the NOTE command divided by 128.

The second byte of the sector pointer is obtained by applying the CHR\$ function to the remainder of the division performed previously.

For Example:

```
NOTE #1,PSEC,PBYT
SH=INT(PSEC/128)
SL=PSEC-(SH*128)
BY=PBYT
PTR$(1,1)=CHR$(SH)
PTR$(2,2)=CHR$(SL)
PTR$(3,3)=CHR$(BY)
```

Where: PSEC = Current disk sector#.
PBYT = Current byte within the sector.
SH = High portion of the sector pointer.
SL = Low portion of the sector pointer.
BY = Byte pointer value.
PTR\$ = The 3 character record pointer.

Each logical record in the pointer file can contain up to 100 record pointers. The first logical record of the pointer file can index up to 100 records within the pointer file itself. Each of which can in turn, index up to 100 records in the (.DMS) data file. This method provides the capability of random access to a maximum of 10,000 records in the (.DMS) data file. The actual path taken by this method will require the same number of steps regardless of the record number and thus offers significant advantages.

We encourage you to use the pointer files to perform random access within satellite routines. If you have a requirement to ADD records to an existing data file or to change the location of information within the data file, in any way that would require a change to the information in the associated pointer file then we recommend that you actually DELETE the existing pointer file and allow the CCA DMS File Maintenance section (menu function 1) to rebuild the pointer file for you.

* This is the end of the ADVANCED PROGRAMMERS section *

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MESSAGES

All DMS messages are numbered as:

FM00 to FM62	Common general messages to most versions.
FM10 to FMI90	Unique general messages to the ATARI version.
SM02 to SM56	Common sorting messages to most versions.

Any ERROR at line xx messages are ATARI BASIC messages.

 * N O T E *

Whenever the system prompts you for a field ID or a file name, you may respond with a question mark (?) for a list of valid IDs/names.

Portions in brackets are optional. The brackets are not entered. Bracket characters are [].

When examples are given, they are shown enclosed in single or double quotes. The quotes are not entered unless explicitly stated.

I		I
I	The FMnn messages are common to most versions of the CCA DMS	I
I		I

FM00 xxxxxxxxxxxxxxxxxxxxxxxxx TYPE n

REASON FOR MESSAGE..The menu program has been invoked.

ACTION REQUIRED.....Enter the digit corresponding to the function desired.

PROGRAM RESULTS.....The specified program is loaded and executed.

FM01 Which file do you want to process?

REASON FOR MESSAGE..The program needs the name of the file that you are going to process.

ACTION REQUIRED.....(1) Press RETURN to cancel the run and return to the menu. (2) Enter the file name. If the file is not on drive 1, prefix the file name with the single digit drive number and a colon. For example, '2:DATA'.

PROGRAM RESULTS.....If no filename was entered, message FMI4 is issued. Otherwise, the file is opened and processing continues.

FM02 That File is NOT DEFINED

REASON FOR MESSAGE..The file name entered in response to message FM01 has not been defined to the system.

ACTION REQUIRED.....Reenter the corrected file name or press RETURN to receive message FMI4.

PROGRAM RESULTS.....Message FM01 is reissued.

FM11 (A)dd/L This message also appears in the short form of:
 (D)delete
 (S)can/M > FM11 A,AL,D,S,SM,U,I,C, or E? <
 (U)pdate
 (I)nspect
 (C)heckpoint
 (E)XIT?

REASON FOR MESSAGE..The program is ready for your next request.

ACTION REQUIRED.....Enter x[,nnnn] where.....

x = A to add a record.
 x = AL to lock the program into ADD mode.
 x = U to update a record.
 x = D to delete a record.
 x = S to scan for data sequentially.
 x = SM to scan for data and mark the records found to disk.
 x = I to inspect a record.
 x = C to checkpoint the file.
 x = E to terminate processing and return to the menu.
 x = RETURN KEY to browse forward from the present record.
 x = - to browse backward from the present record.

nnnn is the record number for U, D, S, and I requests.
 Optionally follow the letter with a comma and the 1-4 digit record number.

For example, to add a record, type A
 to update record 37, type U,37
 to scan for data starting with record 8, type S,8
 to inspect record 106, type I,106

Note, the letter may be UPPER case or lower case.

PROGRAM RESULTS.....If "E" was entered, the files are closed and the message FMI4 is issued. Otherwise, the specified action is taken.

FM12 Enter Record Number?

REASON FOR MESSAGE..The user entered "U", "D", or "I" in response to message FM11 but did not specify the record number.

ACTION REQUIRED.....Enter the 1-4 digit record number of the record to be updated or deleted.

PROGRAM RESULTS.....Processing continues.

FM13 Is this the record?

REASON FOR MESSAGE..The record specified in the update or delete has just been displayed and verification by the operator is required.

ACTION REQUIRED.....Enter "YES" or "Y" if the record displayed is correct. Enter anything else (or just hit the RETURN key) if the record displayed is not the correct record.

PROGRAM RESULTS.....If "YES" or "Y" was entered, processing continues with the displayed record. Otherwise, message FM11 is reissued with no action being taken on the displayed record.

FM14 Record nnnn is a DELETED record

REASON FOR MESSAGE..The record specified in the update, delete or inspect request has been previously flagged for deletion.

PROGRAM RESULTS.....Processing continues. If any update is made to a deleted record, then the record is reclaimed.

FM15 Enter Field ID , Data

REASON FOR MESSAGE..The user has requested an update and has verified the record. The program now is waiting for the update information for the record.

ACTION REQUIRED.....Enter the 1-5 character field ID, followed by a comma, followed by the new data for the field to be updated. If there are no more updates for the record, just hit the RETURN key. To cancel the update, enter ":CANCEL:". To obtain a list of valid field ID's and names, enter "?". For example, to update a field that has a field ID of "SD" with the new data "Freedom", you would type "SD,Freedom". For numeric fields (those with an asterisk in the first position of the field ID), it is not necessary to enter the leading asterisk of the field ID. Thus to update a numeric ZIP code field with an ID of "*Z", enter "Z,91001".

PROGRAM RESULTS.....The record is updated (in memory) and the message is reissued for additional updates. If ":CANCEL:" was entered, the record is not updated and message FM11 is reissued. If nothing is entered (just the RETURN key), the updated record is written to disk and message FM11 is reissued.

FM16 UNDEFINED Field Code

REASON FOR MESSAGE..The field ID entered in response to message FM15 or FM25 is not a valid field ID.

PROGRAM RESULTS.....Message FM15 or FM25 is reissued.

FM17 'xxxxx' is an UN-UPDATEABLE field

REASON FOR MESSAGE..An attempt was made to update a field designated as a permanent field ("!" in the first position of the field ID).

PROGRAM RESULTS.....Message FM15 is reissued.

FM18 Please enter the following fields:

REASON FOR MESSAGE..The user has indicated that a record is to be added. The user will now be prompted for each field.

PROGRAM RESULTS.....Message FM19 will be issued for each field in the record.

FM19 xxxxxxxxxxxxxxxx

REASON FOR MESSAGE..This is the prompt message for each field during a record ADD function. "xxxxxxxxxxxxxx" is the field name.

ACTION REQUIRED.....Enter the field information.

PROGRAM RESULTS.....If this is the last field of the record, the record is written to disk and message FM22 is issued. Otherwise, if this is not the last field, message FM19 is issued for the next field.

FM20 The field must be NUMERIC

REASON FOR MESSAGE..An attempt was made to enter nonnumeric data in a field specified as a numeric field ("*" in first position of field ID).

PROGRAM RESULTS.....The request for the field is reissued.

FM21 Field TOO LONG

REASON FOR MESSAGE..An attempt was made to enter data longer than allowed for a field.

PROGRAM RESULTS.....The request for the field is reissued. If the record is being updated, message FM15 is reissued.

FM22 Record nnnn ADDED
FM22 Record nnnn DELETED
FM22 Record nnnn UPDATED

REASON FOR MESSAGE..Information only. The action was successful.

PROGRAM RESULTS.....The program issues message FM11 for the next action.

FM23 Record nnnn

REASON FOR MESSAGE..An update, deletion, or inspection has been requested for record nnnn. The record is about to be displayed.

PROGRAM RESULTS.....The record is displayed via message FM24.

FM24 xxxxxxxxxxxxxxxx yyyyyyyyyyyyyyyyyyy

REASON FOR MESSAGE..This is the display of records for update, deletion, or inspection."xxx...xxx" is the field name and "yyy...yyy" is the field data.

PROGRAM RESULTS.....Processing continues.

FM25 Enter Field ID , DATA

REASON FOR MESSAGE..The system is ready to accept the data you wish to scan for.

ACTION REQUIRED.....Enter the field ID, a comma, and the data you wish to scan for. Or enter "?" for a list of possible field IDs and names. When data in a field is scanned, the data does not need to be in any particular position of the field. Thus if you scan for "alm" and the field contains "Palm Drive", the record would be listed.

PROGRAM RESULTS.....Beginning with the specified record number, the system will scan for the data requested and will display those records containing the data.

FM26 'xxxxxxxxxx' is a New File -
continue?

REASON FOR MESSAGE..The file indicated does not currently exist on the diskette. If you are sure that this is NOT a new file, check to make sure that you have the proper disk mounted.

ACTION REQUIRED.....Enter "YES" or "Y" to create the new file and continue processing. Enter anything else to cancel the run and receive message FMI4.

PROGRAM RESULTS.....If "YES" or "Y" was entered, the file is opened as a new file and processing continues. If anything else was entered, the program issues message FMI4.

FM30 Which file do you want to process?

REASON FOR MESSAGE..The program needs the name of the file that you are going to process.

ACTION REQUIRED.....Enter the file name. If the file is not on drive 1, prefix the file name with the single digit drive number and a colon. For example, "2:DATA".

PROGRAM RESULTS.....The file is opened and processing continues.

FM31 Enter:

C to Compact the file in place, or
N to Create a New Compacted File, or
B to Create a Backup Copy only

REASON FOR MESSAGE..The program needs to know what type of run you need.

ACTION REQUIRED.....Enter one of the following responses:

- (1) Enter "C" to condense the file in place.
- (2) Enter "N" to create a new file consisting of all undeleted records from the input file. The input file is not altered in any way.
- (3) Enter "B" to do neither of the above. This is used when a backup of the file is being made. The backup file will consist of ALL records from the input file, including deleted records.

PROGRAM RESULTS.....Processing continues.

FM32 Enter new file name?

REASON FOR MESSAGE..The user responded "N" to message FM31 and the system needs the name of the new output condensed file.

ACTION REQUIRED.....Enter the name of the new condensed file. The program expects this to be a new file and to not already exist. If the file is to be placed on other than drive 1, prefix the file name with the single digit drive number and a colon. For example, "2:DATA".

PROGRAM RESULTS.....The file is opened as a new file and processing continues.

FM33 Enter Backup File name?

REASON FOR MESSAGE..The system wants to know if you want to create a backup file, and if so, the backup file name. A backup file may be made regardless of which option was selected in response to message FM31. The backup file will consist of all records from the input file, including deleted records.

ACTION REQUIRED.....If a backup file is desired, enter the name of the backup file. The program expects this to be a new file and to not already exist. If no backup file is desired, just hit the RETURN key.

PROGRAM RESULTS.....If a file name was entered, the file is opened as a new file.

FM35 nnnn records to process

REASON FOR MESSAGE..Information only. The input file consists of nnnn records.

PROGRAM RESULTS.....Processing continues.

FM36 nnnn RECORDS deleted

REASON FOR MESSAGE..Information only. nnnn records were deleted from the input file.

PROGRAM RESULTS.....Processing is done. Message FMI4 is issued.

FM37 nnnnn records put to Backup File

REASON FOR MESSAGE..Information only. 'nnnnn' records were written to the backup file.

PROGRAM RESULTS.....Processing is done. Message FMI4 is issued.

FM38 That file ALREADY EXISTS - Action?

REASON FOR MESSAGE..The file name specified in response to message FM32 or FM33 is a duplicate. It already exists on the specified diskette.

ACTION REQUIRED.....Enter one of the following responses:

- (1) "AGAIN" to reissue message FM32 or FM33 in order to specify a new name.
- (2) "DELETE" to delete the existing file and open the new file.
- (3) "CANCEL" to cancel the run and receive message FMI4.

PROGRAM RESULTS.....The specified action is taken.

FM39 NO SUCH FILE exists

REASON FOR MESSAGE..The file specified in response to FM30 does not exist.

PROGRAM RESULTS.....Message FM30 is reissued.

FM40 Please enter the File Name?

REASON FOR MESSAGE..The system needs the name of the file that you are defining to the system, listing, or deleting.

ACTION REQUIRED.....Enter the name of the file.

PROGRAM RESULTS.....Processing continues.

FM41 That File is ALREADY DEFINED

REASON FOR MESSAGE..You are creating a new file and the file specified in response to message FM40 is already defined to the system.

PROGRAM RESULTS.....Message FM40 is reissued.

FM42 Enter Computed Field Formula nnn left?

REASON FOR MESSAGE..You have completed entering the individual field information and the system now needs the computed field formulas. The "nnn" is the amount of storage available for your formulas. You may enter more than one formula as long as space is available.

ACTION REQUIRED.....If there are no computed field formulas, just hit the RETURN key. Otherwise, enter the computed field formula in the form rrrrr=fff...fff where rrrrr is the receiving field ID and fff...fff is the formula for computing that field. See the section "DEFINING A FILE" for additional information.

PROGRAM RESULTS.....After a formula has been entered, the message will be repeated for another formula. When there are no more, just hit the RETURN key. The "nnn" in the message will keep you apprised of the amount of computed field storage area remaining.

FM43 Field nn ID ?
Name ?
Length?

REASON FOR MESSAGE..The system is ready to accept the field definition information for field nn of the file. Three pieces of information are needed for each field:

- (1) The field ID.
- (2) The field name.
- (3) The length of the field.

ACTION REQUIRED.....Respond as follows:

ID - Enter the 1-5 character field ID. The field ID is used by the report generator when updating a record if the field name is too long for a column. If there are no more fields, just hit the RETURN key. If the field ID starts with an asterisk (*), then the field is numeric and only numeric data may be entered. For numeric fields, two additional restrictions apply:

- (1) The character immediately following the "*" must be alphabetic.
- (2) No arithmetic operator (+, -, *, /, or ^) should be used within the field ID.

If the field ID starts with an exclamation point (!), then the field is a permanent field and may never be updated. It may only be entered when a record is being added.

NAME - Enter the 1-15 character field name. The field name is used by the report generator when a record is being added for column headings. Try to keep the length of the field name shorter than or equal to the length of the field. This will ensure that the field name can be used when printing reports.

LENGTH - Enter the field length. This length must be the length of the largest possible entry for this field. For example, if a "NAME" field is being defined as 15 characters long, then no name longer than 15 characters may ever be entered. If the field being defined is a numeric field, don't forget to include room for the decimal point and negative sign. The maximum field size is 110 characters.

PROGRAM RESULTS.....If nothing was entered in response to the ID query (you hit the RETURN key), or if 24 fields have been defined, then the system begins prompting for the computed field information. Otherwise, the messages are reissued up to 24 times.

FM46 Field extends past END OF RECORD

REASON FOR MESSAGE..The end of the field just defined would extend past position 255 of the record.

PROGRAM RESULTS.....The FM43 field length message is reissued.

FM47 (C)reate, (L)ist, (LN)listnames,
or (D)delete a file?

REASON FOR MESSAGE..The system needs to know what action to perform.

ACTION REQUIRED.....Enter "C" or "CREATE" to define a new file. "L" or "LIST" to list the field IDs, names, start locations, and lengths of a file already defined. "LN" or "LISTNAMES" to list the names of all of the files currently defined to the system. "D" or "DELETE" to delete the file information from the system work file "MAINTFLE.DEF".

PROGRAM RESULTS.....The specified action is taken.

FM48 NO SUCH FILE

REASON FOR MESSAGE..The user entered "LIST" or "DELETE" in response to message FM47, but the file specified is not defined to the system.

PROGRAM RESULTS.....Message FM40 is reissued.

FM49 List on (T)erminal or (P)rinter?

REASON FOR MESSAGE..A list of the field IDs, names, start locations, and lengths is about to be printed. The program needs to know whether the report is to be outputted to the terminal (display console) or the hard-copy printer.

ACTION REQUIRED.....Enter "T" for terminal or "P" for printer.

PROGRAM RESULTS.....The report is written to the terminal or printer.

FM50 Please enter Run Options
?

REASON FOR MESSAGE..The report generator needs the run options.

NOTE: See the section "REPORT GENERATOR" for information on how to save and recall the responses to this and the next message on a disk file.

FM50 (cont'd)

DEFINITIONS

ACTION REQUIRED.....Enter the following information:

PFILE=xxx...xxx where xxx...xxx is the name of the file to be printed. If the file is not located on drive 1, then prefix the file name with the single digit drive number and a colon. For example, "PFILE=2:DATA".

FFILE=xxx...xxx where xxx...xxx is the name of the file defined to the DMS, whose field definition information is to be used to print the file specified in the PFILE parameter. The main purpose of this parameter is to be able to print record sorted files. When a file is record sorted, the sorted output file name will normally be different than the name of the input file, which is the one defined to the DMS. The problem, then, is that the file is defined to the system under one name but the file to be printed is a different name. For example, suppose you have a file named "PAYMAST", which is defined to the DMS and maintained by it. You sort the file and create a new file called "PAYMAST1". If you just use the PFILE=PAYMAST1 parameter, the DMS will say that PAYMAST1 is not defined to the system. To resolve this problem, specify the name of the file to be printed with the PFILE parameter and the name of the file as it is defined to the system with the FFILE parameter. In the above example: PFILE=PAYMAST1,FFILE=PAYMAST.

NOTE: When only one of the PFILE or FFILE parameters is specified, the other is assumed to be the same and on the same disk drive.

TITLE=xxx...xxx is used to specify the title of the report. This title (with the page number), appears at the top of every page. The length of the title may be from 1-120 characters.

WIDTH=nnn is used to specify the width of the paper (nnn=number of characters per line). This parameter is only used to center the heading and for the total separator line. If omitted, the width is calculated based on the number and sizes of fields printed.

DEPTH=nnn is used to specify the number of print lines that will fit on a page (or terminal screen). The number specified should be the actual number of lines that will fit from the very top of the page to the very top of the next page. The system will allow for some space at the top and bottom of the page. If omitted, the depth is assumed to be 24 for terminal output or 66 for printer output.

ROUTE=x is used to specify where the output is to be directed. Enter "P" for printer output or "T" for terminal output. If omitted, ROUTE=T is assumed.

(FM50 cont'd next page)

FM50 (cont'd)

FORCE=x is used to specify whether deleted records are to be printed. Enter "N" to bypass deleted records or "Y" to print active and deleted records. You may alternately enter "D" to print deleted records only. If deleted records are printed, they are indicated as such on the report with an asterisk (*) immediately following the record number. If omitted, FORCE=N is assumed.

TYPE=x is used to specify the report type. Enter "R" for the normal horizontal column report or "L" to print labels. If omitted, TYPE=R is assumed.

REC#=N is used to suppress the record numbers from the left of the report.

The parameters may be entered one at a time or in groups on a line. If more than one is entered at once, they are separated by commas. The following example is a typical run:

```
FM50 Please enter Run Options
? TITLE=Sample Run,FORCE=Y
```

```
FM50 Please enter Run Options
? DEPTH=63,WIDTH=80,TYPE=R
```

```
FM50 Please enter Run Options
? PFILE=2:DATA
```

```
FM50 Please enter Run Options
?
```

If an option is entered more than once, the last entry is used.

PROGRAM RESULTS.....The message is reissued until no data is entered (just the RETURN key is pressed). If the response is in the form "!nnnnnnnn", then the report parameter file nnnnnnnn is used for all report specifications.

FM51 Enter column xx controls

REASON FOR MESSAGE..The system needs to know what field is to be printed for column xx (column 1 to 24).

ACTION REQUIRED.....For each field to be printed, enter each of the following parameters in the order that they are to be printed:

The first entry is the field ID. If the entire field is not to be printed, then enter the length, in parenthesis, after the ID. For example, to print the NAME field, enter "N". To print just the first 10 characters of the NAME field, enter "N(10)".

(FM51 cont'd on next page)

FM51 (cont'd)

The following parameters, separated by commas, may be entered in any order.

En is used to request editing of numeric fields. This parameter may only be specified for numeric fields. When edited, commas and a decimal point will be automatically inserted. The n is used to specify the number of decimal positions to the right of the decimal point. Enter a number from 0-5. For example, to specify editing to 2 decimal places, enter "E2".

TOTAL is used to request that totals and subtotals be accumulated and printed for this field. If totals are requested for a field, then editing must also be specified.

BREAK is used to indicate that this is the break field. This parameter is used only to control the printing of subtotals. The subtotals are printed whenever the new record's break field is different from the previous record's break field. For example, if a file is sorted by department, then you might want to specify the department as the BREAK field, thus printing subtotals for each department. NOTE: When BREAK is specified, the field selected as the BREAK field is NOT printed. This allows you to specify a break field without printing it. If the break field is to be printed then specify the field again, without the BREAK option. Only one field may be selected as the BREAK field.

Tnn is used to tab a column to a position on the report. You may not tab to the left of previous columns. If the program determines that the tab you wish is not at least two print positions to the right of the previous field specified, it is ignored. The "nn" is the number of the tab position.

Here are some examples of various options:

Print the name field:	N
Print the first 10 characters of the name field:	N(10)
Set the 1st char. of the name field as the BREAK field:	N(1),BREAK
Print the gross pay, and total this field:	GP,E2,TOTAL
Print the amount and edit with 3 decimal places:	AM,E3
Print gross pay with totals in column 85:	GP,T85,E2,TOTAL

PROGRAM RESULTS.....The message is repeated until nothing is entered (just hit the RETURN key).

FM52 'xxxxx' is NOT DEFINED

REASON FOR MESSAGE..The field ID 'xxxxx' just specified is not a valid field ID.

PROGRAM RESULTS.....The message is reissued.

FM53 Only ONE BREAK ALLOWED

REASON FOR MESSAGE..In the last response to message FM51, the "BREAK" option was specified but the "BREAK" option has already been specified. Only one field may specify the "BREAK" option.

PROGRAM RESULTS.....Message FM51 is reissued.

FM54 EDIT OPTION INVALID for
non-numeric field - ignored

REASON FOR MESSAGE..The "EDIT" option (E0-E5) has been specified for a non-numeric field.

PROGRAM RESULTS.....The "EDIT" option is ignored, the rest of the entry is accepted, and message FM51 is issued for the next field.

FM55 TOTAL OPTION INVALID FOR
non-numeric field - ignored

REASON FOR MESSAGE..The "TOTAL" option has been specified for a nonnumeric field.

PROGRAM RESULTS.....The "TOTAL" option is ignored, the rest of the entry is accepted, and message FM51 is issued for the next field.

FM56 EDITING REQUIRED for total fields - 'E0' assumed

REASON FOR MESSAGE..The "TOTAL" option has been specified but the "EDIT" option was omitted for the field just entered. All fields that are TOTALed must be EDITed.

PROGRAM RESULTS.....The entry is accepted, an edit option of "E0" is assumed, and message FM51 is issued for the next field.

FM57 Enter line nn field ID?

REASON FOR MESSAGE..The system needs to know which fields are to be printed on line nn of the label.

ACTION REQUIRED.....Enter the field ID for each field to be printed. If no more fields are to be printed on line nn, hit the RETURN key. If no more lines are to be printed, depress the RETURN key again. If you enter:

? the identifiers and names are displayed.

(See the section "PRINTING LABELS" for more information.)

PROGRAM RESULTS.....If a field ID was entered, the message is reissued for the next field on the same line. If just the RETURN key was hit, the message is issued for the next line. If just the RETURN key was hit for the first field of a line, then the system assumes that there are no more lines and label printing begins.

FM58 Hit RETURN when ready

REASON FOR MESSAGE..A new page is about to be started on the terminal. Before the old page is scrolled out of sight, the system pauses to allow the user time to read it.

ACTION REQUIRED.....When you have read the current page, hit the RETURN key.

PROGRAM RESULTS.....The system pauses until the RETURN key is hit. Then blank lines are put to the terminal until the old data is scrolled off the top and then the next page is printed.

FM59 Enter range ID?

REASON FOR MESSAGE..The system needs to know what range of records you wish printed out. This applies to both TYPE=R and TYPE=L reports.

ACTION REQUIRED.....If the entire file is to be printed, just hit the RETURN key. Otherwise, enter the field ID that is to be used as the range field. For example, if you want to print all records with ZIP codes from 60000 to 81500, enter "Z" (assuming "Z" is the ID for ZIP code). The special field ID "REC#" will allow the selection of data by record number for any file. This is useful for printing several records as a test or new records that have been added to the file.

PROGRAM RESULTS.....If a field ID was entered, messages FM60 and FM61 will be issued. Otherwise, printing of the report begins.

FM60 Enter FROM value ?

REASON FOR MESSAGE..The system wants to know what record you want to start printing from.

ACTION REQUIRED.....Enter the value from which printing is to begin. For example, if you want to print all records with ZIP codes from 60000 to 81500, enter "60000". If you want to start printing from the beginning of the file, just hit the RETURN key. For example, to print just those records with a ZIP code of 65549, enter 65549 as both the FROM and TO values.

PROGRAM RESULTS.....Processing continues.

FM61 Enter TO value ?

REASON FOR MESSAGE..The system wants to know what record you want to stop printing at.

ACTION REQUIRED.....Enter the value to which printing is to occur. For example, if you want to print all records with ZIP codes from 60000 to 81500, enter "81500". If you want to print to the end of the file, just hit the RETURN key.

PROGRAM RESULTS.....Processing continues.

FM62 FROM data length MUST EQUAL TO data length

REASON FOR MESSAGE..The length of the data entered in response to FM60 does not equal the length of the data entered in response to FM61. This message only applies to non-numeric fields.

ACTION REQUIRED.....When specifying the from and to range, the range data from and to must be the same length. For example, if the from data is "AABBC", then the to data must be exactly 5 characters long.

PROGRAM RESULTS.....Message FM59 is reissued.

----- * End of the Common Messages * -----

I	FMInn are unique messages to this ATARI version of the DMS	I
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FMIO Insert Program Disk and hit RETURN

REASON FOR MESSAGE..The CCA DMS program disk must be in disk drive 1.

ACTION REQUIRED.....Verify or insert the diskette into drive 1.

PROGRAM RESULTS.....Processing continues.

FM11 Insert Data Disk and hit RETURN

REASON FOR MESSAGE..Single disk drive users must swap program and data diskettes on command. Multi-drive users should verify that the data diskette is in drive 2.

ACTION REQUIRED.....Verify or swap diskettes as proper for your system.

PROGRAM RESULTS.....Processing continues.

FM12 Insert output diskette & hit RETURN

REASON FOR MESSAGE..The DMS is ready to output the file to a diskette.

ACTION REQUIRED.....Insert the data diskette of your choice into the data drive.

PROGRAM RESULTS.....The data file is output to disk and processing continues.

FM13 Rcd Len Spec NOT EQUAL to Rcd Len

REASON FOR MESSAGE..The file definition record length specification is not equal to the actual length of the records in the data file.

ACTION REQUIRED.....The message is to provide information only.

PROGRAM RESULTS.....The SORT process can not proceed. You must provide a proper definition of the file using the DEFINITION section. The old definition must be deleted and the new definition must match the data file exactly. When properly defined the file may then be SORTED.

FMI4 Do you want to return to Menu

REASON FOR MESSAGE..The DMS will allow you to re-use the same section again, without returning to the menu. For example, you have selected the report generator section. The report has been printed and this question is displayed. If you wish to print another report then reply "NO" to this question. The system will then begin at the start of this section.

ACTION REQUIRED.....If you enter "Y", "YES", or hit the RETURN key (without any other entry) then the MENU section will load and execute. If you enter "N" or "NO" then the DMS will begin operation at the beginning of this section.

PROGRAM RESULTS.....The appropriate action is taken.

FMI5 DUPLICATE ID - Re-enter

REASON FOR MESSAGE..The ID just entered has already been used in this definition.

ACTION REQUIRED.....Select another ID for the field and re-enter that specification.

PROGRAM RESULTS.....The FM43 message is output to allow your re-entry.

FMI6 Insert Work Disk in drive x

REASON FOR MESSAGE..The DMS needs additional disk space to complete the SORT process.

ACTION REQUIRED.....Insert a formatted blank diskette into the disk drive indicated by the 'x' in the message.

PROGRAM RESULTS.....The SORT process will proceed.

FMI7 Insert Backup Disk and hit RETURN

REASON FOR MESSAGE..The DMS is ready to output the backup data file to disk.

ACTION REQUIRED.....Insert the backup diskette into the data disk drive.

PROGRAM RESULTS.....The file is output and processing continues.

FM18 DISK ERROR = xxx AT xxxxx
or
FM18 ERROR = xxx AT LINE xxxxx

REASON FOR MESSAGE..An ERROR has occurred as the result of an improper entry, or a problem with the diskette. The x's in the messages above indicate an error number or a program line number.

ACTION REQUIRED.....Recheck the method of your entries and try again. If you continue to receive the same ERROR message then try another diskette. You may possibly be attempting something which the CCA DMS cannot do. Since the same task may be performed in other ways, try another idea.

PROGRAM RESULTS.....Processing generally continues subject to the type of ERROR the system encounters.

FM19 Continue scanning (Y/N)

REASON FOR MESSAGE..The DMS wants to know if you wish to continue the SCAN process for your specified data.

ACTION REQUIRED.....Enter "Y" to continue the SCAN. Enter "N" to stop the SCAN process.

PROGRAM RESULTS.....If "Y" is selected the DMS will continue to SCAN for your data specification. If "N" is selected the system will return to the FM11 message.

FM110 Output File Name for record index

REASON FOR MESSAGE..A SCAN & MARK function has been specified and the DMS is now ready to output the file to disk. DMS needs to know the name for this file.

ACTION REQUIRED.....Enter an 8 digit filename.

PROGRAM RESULTS.....The record index file will be written to disk using your entered filename.

FM112 Index file NOT FOUND - action

REASON FOR MESSAGE..The SCAN & MARK filename entered is not on the data disk. The DMS wants to know if you wish to try again by entering another name or if you wish to cancel this operation.

ACTION REQUIRED.....Enter "A" to try again with another filename or enter "C" to cancel this operation.

PROGRAM RESULTS.....The specified action is taken.

FM113 Enter Index filename

REASON FOR MESSAGE..The specification of the index filename was not correct when you entered the XFILE= parameter. You selected the "A" option in message FM112 and are now being asked for the SCAN & MARK index filename.

ACTION REQUIRED.....Enter the correct index filename.

PROGRAM RESULTS.....The DMS will check for this new entry and then proceed to print your report.

FM114 DUPLICATE FILENAMES not allowed

REASON FOR MESSAGE..The 'N' (New Compacted File) option was selected in message FM31 and a name already in use was entered to message FM32. This combination is not permitted.

ACTION REQUIRED.....Enter a different filename.

PROGRAM RESULTS.....The DMS will re-output message FM31.

FM117 NO SUCH FILE

REASON FOR MESSAGE..The file name specified is not on the data disk.

ACTION REQUIRED.....The usual situation is that you have inserted the wrong data disk or have incorrectly typed the name of your data file. Re-enter the proper data file name.

PROGRAM RESULTS.....The DMS will return to the FM14 message. You will have to completely re-specify your report or label format.

FM118 Xfile 'yyyyyyyy' INVALID - re-enter

REASON FOR MESSAGE..The filename specified for the index file either started with a space, a number, or a symbol. All index filenames must start with a letter. For example:

SPECIAL is valid.
1:SPECIAL is valid.
2:SPECIAL is valid.

1SPECIAL is non-valid.
1::SPECIAL is non-valid.
2:#SPECIAL is non-valid.
1:7SPECIAL is non-valid.

ACTION REQUIRED.....Re-enter the proper index filename.

PROGRAM RESULTS.....Processing continues.

FM119 Parameter File name yyyyyyyy
INVALID - re-enter

REASON FOR MESSAGE..The filename specified for the parameter file either started with a space, a number, or a symbol. All parameter filenames must start with a letter after the ! symbol or the form where a disk drive number is specified (!1:filename).

For example:

!SPECIAL	is valid.
!1:SPECIAL	is valid.
!2:SPECIAL	is valid.
!1SPECIAL	is non-valid.
!1::SPECIAL	is non-valid.
!2:#SPECIAL	is non-valid.
!1:7SPECIAL	is non-valid.

ACTION REQUIRED.....Re-enter the proper report parameter filename.

PROGRAM RESULTS.....The parameters will be read from the file and the report will be printed.

FM120 The LAST RCD# of this file is xxx

REASON FOR MESSAGE..The record number that was entered in response to message FM11 or FM23 is greater than the total number of records in the data file.

ACTION REQUIRED.....Enter a valid record number between one and the number indicated by the xxx within this message to the FM11 message which will be immediately displayed.

PROGRAM RESULTS.....This is a harmless error message and will allow you to check the total number of records within a data file.

FM121 Do You want to append to it ?

REASON FOR MESSAGE..The index file name selected for your SCAN & MARK file exists from a previous operation. The DMS needs to know if you have made an error in your choice of name or if you wish to append this scan index file to the file you have selected.

ACTION REQUIRED.....If you enter "Y", "YES", or hit the RETURN key (without any other entry) then the scan file will be appended to your previous scan file. If you enter "N" or "NO" then the message FM113 will allow you to select another name for this scan & mark file.

PROGRAM RESULTS.....The specified action is taken and the program will return to the FM11 message.

FM122 ILLEGAL file name

REASON FOR MESSAGE..A filename must consist of no more than 8 characters and may be preceded with a drive number and a colon. A filename may not use an extender with DMS nor may it start with a numeric digit. For example:

1:FILENAME	acceptable.
2:TEST	acceptable.
TEST	acceptable with default to disk drive 1.
1TEST	ILLEGAL, starts with numeric digit.
1:FILENAME	ILLEGAL, FILENAME is greater than 8 characters.
FILENAME.DAT	ILLEGAL, an extender of '.DAT' was used.

ACTION REQUIRED.....Enter a proper file name.

PROGRAM RESULTS.....Processing continues.

FM123 File 'yyyyyyyy' is an EMPTY FILE

REASON FOR MESSAGE..The report can not be printed as the data file contains no records.

ACTION REQUIRED.....Information only.

PROGRAM RESULTS.....The message FM14 is output.

FM124 Report Format parameter file
yyyyyyyy DOES NOT EXIST

REASON FOR MESSAGE..The yyyyyyyy filename does not exist on the data disk specified.

ACTION REQUIRED.....Information only.

PROGRAM RESULTS.....The system will return to the FM50 message.

FM125 Do you want to save this Format

REASON FOR MESSAGE..If the report specified is taken frequently then an affirmative reply will save the report format to disk. The next time you need the same report you may use the filename specification to produce the report. (Where 'filename' is the report specification filename.)

ACTION REQUIRED.....Enter "Y" or "YES" to save the report format.

PROGRAM RESULTS.....The processing continues.

FMI26 Enter name of Report Format

REASON FOR MESSAGE..The DMS needs the name of the report format.

ACTION REQUIRED.....Enter a name up to 8 characters. If you wish to store the format on drive two then enter 2:filename. (Where 'filename' is the filename of your choosing.)

PROGRAM RESULTS.....The report format will be saved to disk.

FMI27 Do you want to see this format

REASON FOR MESSAGE..The DMS will display the saved format if you wish. This is a verification process of the data saved to disk.

ACTION REQUIRED.....Enter "Y" or "YES" to view the format or enter "N" or "NO" to skip this function.

PROGRAM RESULTS.....The specified action is taken.

FMI28 Display on (T)erm or (P)rinter

REASON FOR MESSAGE..The DMS is ready to display the file and is requesting where to output the contents of this file.

ACTION REQUIRED.....Enter "T" to see the display on your terminal screen or "P" to output the data to the printer.

PROGRAM RESULTS.....The specified action is taken.

FMI29 That file ALREADY EXISTS - Action

REASON FOR MESSAGE..The filename which you have selected has been used for this function. A choice of action is now available.

ACTION REQUIRED.....Enter one of the following:

- (1) "A" to enter the name AGAIN as a different filename.
- (2) "C" to cancel the saving of the file entirely.
- (3) "D" to delete the old definition and save the new one.

PROGRAM RESULTS.....The specified action is taken.

FMI30 File Name is INVALID

REASON FOR MESSAGE..A filename must consist of no more than 8 characters and may be preceded with a drive number and a colon. A filename may not use an extender with DMS nor may it start with a numeric digit. For example:

1:FILENAME acceptable.
2:TEST acceptable.
TEST acceptable with default to disk drive 1.
1TEST ILLEGAL, starts with numeric digit.
1:FILENAMER ILLEGAL, FILENAMER is greater than 8 characters.
FILENAME.DAT ILLEGAL, an extender of '.DAT' was used.

ACTION REQUIRED.....Enter a proper file name.

PROGRAM RESULTS.....Processing continues.

FMI31 Xfile drive # INVALID - re-enter

REASON FOR MESSAGE..The disk drive specified does not exist or is greater than drive 2. This is an invalid condition.

ACTION REQUIRED.....Enter one of the following:

- (1) 1:filename selects disk drive one.
- (2) 2:filename selects disk drive two.

PROGRAM RESULTS.....The disk drive number and the index filename are checked for a valid condition and then your report will be printed.

FMI32 Disk Drive # INVALID - #n assumed

REASON FOR MESSAGE..A disk drive number other than 1 or 2 was entered. The DMS expects the file to be on either drive 1 or 2.

ACTION REQUIRED.....Information only.

PROGRAM RESULTS.....The processing continues.

FMI34 'SORTSEQ' file NOT FOUND

REASON FOR MESSAGE..The 'SORTSEQ' file which was written to the disk can not be located by the DMS. The system needs this information to perform the MERGE function.

ACTION REQUIRED.....Insert the data disk or the work disk which was used during the previous SORT process.

PROGRAM RESULTS.....Processing will continue.

FMI36 File Definition and Data File
NOT COMPATIBLE

REASON FOR MESSAGE..The actual data in the file does not agree with the definition within the MAINTFLE.DEF file. This could occur if you perform an append operation of one file (with a length of 100 characters per record) with a differant file (with a length of 200). This could also occur with an improper operation by a non-DMS program which had improperly written the data file.

ACTION REQUIRED.....The solution to the problem generally will require the examination by a programmer. This is a situation which will not occur often but this time you need professional help.

PROGRAM RESULTS.....The data file may not be used until the reason for the message has been determined. The possibility exists that due to your operation the data file may not be able to be used at all. The best solution at this point is to get your back-up copy and make a new copy of the back-up. Check your operation carefully to avoid this situation again.

FMI44 File 'yyyyyyyyy' ALREADY EXISTS

REASON FOR MESSAGE..The filename specified was used previously.

ACTION REQUIRED.....Information only.

PROGRAM RESULTS.....The system will go to message FMI21 and ask if you wish to append this index file to the file just named.

FMI45 Ready Printer and press RETURN

REASON FOR MESSAGE..The report or labels printout is ready to begin. Insure that the printer is in the line mode and that the paper alignment is correct.

ACTION REQUIRED.....Hit the RETURN key when your printer is prepared to begin the printout.

PROGRAM RESULTS.....The printer begins to print immediately.

FMI46 Alignment Pattern (Y/N)?

REASON FOR MESSAGE..The LABEL option was selected. You may check the alignment of your labels with a sample top line Pattern.

ACTION REQUIRED.....The Y option will print a single line pattern to your label and then the message will be repeated. The N option will begin the immediate label printout of your data file.

PROGRAM RESULTS.....The specified action is taken.

FMI50 Building Pointer File...

REASON FOR MESSAGE..The ATARI DOS uses a pointer file to allow random access of records written to disk. This message appeared as the DMS was unable to find a pointer file on the data disk.

ACTION REQUIRED.....None, other than to wait for a moment.

PROGRAM RESULTS.....The Pointer file is written to disk and then processing continues.

FMI51 Updating Pointer File...

REASON FOR MESSAGE..A Change has occurred to the data file. An update to the pointer file must be performed to allow future random access of this file.

ACTION REQUIRED.....None, other than to wait for a moment.

PROGRAM RESULTS.....The Pointer file is updated and then processing is resumed.

FMI52 Beginning Merge...

REASON FOR MESSAGE..The SORT process has completed but the data file is larger than the available memory in the computer. The merge process is about to begin in order to complete the total physical reordering of the data file to the disk drive.

ACTION REQUIRED.....None. Information only.

PROGRAM RESULTS.....The MERGE program will load and execute.

FMI60 Insert Index disk in drive x

REASON FOR MESSAGE..The system requires that you insert the disk containing your index file into disk drive x. (where x is the number 1 or 2.)

ACTION REQUIRED.....Insert the diskette and hit RETURN.

PROGRAM RESULTS.....Processing continues.

FMI61 Insert file definition disk
in drive one

REASON FOR MESSAGE..The SORT process requires the information contained within the MAINTFLE.DEF file. You are being instructed to insert that disk into drive one.

ACTION REQUIRED.....Insert the proper disk and hit RETURN.

PROGRAM RESULTS.....Processing continues.

FMI70 NO DATA FILE has been specified

REASON FOR MESSAGE..The PFILE=filename parameter was not entered into message FM50. (Where "filename" is the name of a data file). You must always enter a data file name.

ACTION REQUIRED.....Re-enter your specification using the PFILE=filename.

PROGRAM RESULTS.....Processing continues with message FM51.

FMI71 INVALID WIDTH specified
DEPTH

REASON FOR MESSAGE..The WIDTH as entered into message FM50 was alphanumeric, less than zero, or greater than 150. If this message indicated the word DEPTH, then the entry for that parameter was in error as alphanumeric or less than zero.

ACTION REQUIRED.....Re-enter the WIDTH or DEPTH parameter as appropriate with the width (1 to 150) or the DEPTH (greater than 1).

PROGRAM RESULTS.....The message FM50 is re-issued to permit the proper entry of the parameter in error.

FMI75 Parameter table OVERFLOW

REASON FOR MESSAGE..The number of options and functions which you have specified in your report is more than the DMS can accept at one time. This situation could also occur if you enter a number of parameters manually and then use the defined report file name capability of the DMS to complete your report.

ACTION REQUIRED.....Enter your report specification again but use less entries.

PROGRAM RESULTS.....The report specification you have entered is invalid and must be re-entered again from the beginning.

FMI76 Print line TOO LONG = xxx chrs.

REASON FOR MESSAGE..The print length of your report specification is in excess of 150 characters long or has exceeded the size of your WIDTH entry.

ACTION REQUIRED.....The entire column specification must be re-entered.

PROGRAM RESULTS.....The message FM51 will be output.

FMI90 Insert Alternate Program Disk

REASON FOR MESSAGE..The program for the function to be performed does not exist on the current disk in drive 1.

ACTION REQUIRED.....Insert the other program disk in drive 1.

PROGRAM RESULTS.....The desired program is loaded and executed.

_____ * END OF SPECIAL ATARI VERSION CCA DMS MESSAGES * _____

I	SMnn are standard SORT messages for most of the DMS versions	I
I		I
I		I

SM02 End of Sort

REASON FOR MESSAGE..The SORT phase has completed.A MERGE phase may be required if there is a large amount of file data.

PROGRAM RESULTS.....The menu is loaded or the MERGE phase begins.

SM03 Input file name ?

REASON FOR MESSAGE..The system needs to know which file is to be sorted.

ACTION REQUIRED.....Enter the name of the file to be sorted. If the file is not on drive 1, prefix the file name with the single digit drive letter and a colon. For example, 2:DATA

PROGRAM RESULTS.....The file is opened and processing continues.

SM06 Enter Key # nn Field ID
and Sequence (A OR D)

ACTION REQUIRED.....Enter the field ID and sequence in the format xxxxx,z where.....xxxxx is the field ID and z is "A" for ascending or "D" for descending. This message will be issued up to 10 times, once for each sort field. The ? symbol may be entered to list the defined ID codes. For example, to sort on the zip code (field ID=Z) and then to also sort on the last name (field ID=LN) follow the example:

SM06 Enter Key # 1 Field ID
and Sequence (A OR D) Z,A

SM06 Enter key # 2 Field ID
and Sequence (A OR D) LN,A

SM06 Enter Key # 3 Field ID
and Sequence (A OR D)

PROGRAM RESULTS.....If data was entered, the data is saved and the message is issued up to 10 times. If no data was entered (the RETURN key was hit) or if 10 keys have been entered, the program begins sorting. If the ? symbol is entered the valid ID codes are listed and the message is reissued.

SM07 SEQUENCE ERROR - 'A' OR 'D'

REASON FOR MESSAGE..In response to the previous SM06 message, a sort sequence of other than "A" or "D" was entered.

ACTION REQUIRED.....Reenter the SM06 response, using "A" for ascending or "D" for descending.

PROGRAM RESULTS.....Message FM06 is reissued.

SM08 nnnn records to sort

REASON FOR MESSAGE..Information only. The input file is nnnn records long.

SM11 Sort Work drive number

REASON FOR MESSAGE..The sort work files are about to be opened.

ACTION REQUIRED.....Enter the drive number that the sort is to use or its work files. The work files may be on the same drive as the input and/or output files.

PROGRAM RESULTS.....The program opens the work files and continues.

SM14 File yyyyyyyy DOES NOT EXIST

REASON FOR MESSAGE..The file name specified is not on the data diskette.

PROGRAM RESULTS.....Information only. The FMI4 message is output to the terminal.

SM18 What is the output file name?

REASON FOR MESSAGE..The sort program is now asking for the output file name.

ACTION REQUIRED.....Enter the output file name. If the file is to be placed on a drive other than 1, prefix the name with the single digit drive letter and a colon. For example, 2:DATA

PROGRAM RESULTS.....The program opens the output file and continues.

SM21 That file is NOT DEFINED

REASON FOR MESSAGE..The file specified in response to message SM03 is not defined to the system.

ACTION REQUIRED.....You may not sort a file under DMS that is not defined to DMS.

PROGRAM RESULTS.....Message SM03 is reissued.

SM22 That file ALREADY EXISTS - Action ?

REASON FOR MESSAGE..The output file specified already exists, so the system needs to know what to do.

ACTION REQUIRED.....Enter one of the following:

"AGAIN" to have message SM03 reissued.

"DELETE" to delete the existing file and create a new one.

"APPEND" to append the new data to the end of the existing one.

"CANCEL" to cancel the sort and return to the menu.

Hit the RETURN key to cancel the sort and exit to the menu.

PROGRAM RESULTS.....The specified action is taken.

SM23 UNDEFINED Field ID

REASON FOR MESSAGE..The field ID specified in response to message SM06 is not a valid field ID.

PROGRAM RESULTS.....SM06 is reissued.

SM52 Enter the Output file name

REASON FOR MESSAGE..The merge program is about to open the output file and needs the filename.

ACTION REQUIRED.....Enter the output file name. If the file is to be placed other than drive 1 then prefix the file name with the single digit drive number and a colon.

For Example; 2:FILENAME

PROGRAM RESULTS.....The output file is opened and processing continues.

SM55 nnnn records outputted

REASON FOR MESSAGE..The MERGE phase is complete. The nnnn records were written to the output file.

PROGRAM RESULTS.....The FMI04 message is output.

SM56 Sort Work drive number

REASON FOR MESSAGE..The MERGE program needs to know where the sort work files are located.

ACTION REQUIRED.....Enter the same drive number that you entered in response to SM11.

PROGRAM RESULTS.....The work files are opened and processing continues.

----- * ----- END OF MESSAGE SECTION ----- *

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This Page is not numbered and is intentionally blank

APPENDIX A - SAMPLE EXECUTION LOG

The following configuration assumes that you received two DMS system disks and that you have only one disk drive. If your system has two or more drives, then the operation will be the same except that you will precede data file names with a '2:'. The @ symbol will indicate that you hit the RETURN key on your terminal and will also serve to show you on which lines you must enter an answer and which lines are output by the computer.

I CCA DATA MANAGEMENT SYSTEM - 4.0 I

FM00 To Terminate Processing.....TYPE 0
 FM00 To Perform File Maintenance.TYPE 1
 FM00 To Print a Report.....TYPE 2
 FM00 To Compact a File.....TYPE 3
 FM00 To Define a File.....TYPE 4
 FM00 To Sort a File.....TYPE 5
 FM00? 4@

(NOTE: We select function # 4 from this MAIN MENU.)

 * @ = RETURN KEY *

FM40 Please enter the File Name
 ? SAMPLE@
 FM11 Insert Data Disk and hit RETURN?@
 FM47 (C)reate, (L)ist, (LN)listnames,
 or (D)eleate a file? CREATE@
 FM43 Field 01 ID ? N@
 Name ? Name@
 Length ? 15@
 FM43 Field 02 ID ? A@
 Name ? Address@
 Length ? 20@
 FM43 Field 03 ID ? C@
 Name ? City@
 Length ? 10@
 FM43 Field 04 ID ? S@
 Name ? State@
 Length ? 2@
 FM43 Field 05 ID ? *Z@
 Name ? Zip@
 Length ? 5@

FM43 Field 06 ID ? *AM@
 Name ? Amount@
 Length ? 10@
 FM43 Field 07 ID ? @
 FM42 Enter Computed Field Formula
 245 left ? @

FM49 List on (T)erminal or (P)rinter? P@

(The following will be typed on the printer)

ID	File: NAME	SAMPLE START	LENGTH
N	Name	6	15
A	Address	21	20
C	City	41	10
S	State	51	2
*Z	Zip	53	5
*AM	Amount	58	10

FM14 Do you want to return to Menu? YES@

FM10 Insert Program Disk and hit RETURN? @

I CCA DATA MANAGEMENT SYSTEM - 4.0 I

FM00 To Terminate Processing.....TYPE 0

(This is the MENU and we select function #1)

FM00? 1@

FM01 Which file do you want to process
 ? SAMPLE@

FM11 Insert Data Disk and hit RETURN ?@

FM26 'SAMPLE' is a New File -
 continue? YES@

 * @ = RETURN KEY *

FM150 Building Pointer File...

FM11 (A)dd/L
 (D)elete
 (S)can/M
 (U)pdate
 (I)nspect
 (C)heckpoint
 (E)xit

? ADDE@

FM18 Please enter the following fields:

FM19 Name N ALPHA 15
? John Jones@

FM19 Address A ALPHA 20
? 213 Freemont St.@

FM19 City C ALPHA 10
? Almont@

FM19 State S ALPHA 2
? CA@

* @ = RETURN KEY *

FM19 Zip *Z NUM 5
? 92334@

FM19 Amount *AM NUM 10
? 137.98@

FM22 Record 1 ADDED

FM11 A, AL, D, S, SM, U, I, C, or E?
? A@

FM18 Please enter the following fields:

FM19 Name N ALPHA 15
? Peter Smith@

FM19 Address A ALPHA 20
? 8856 Clayton Rd.@

FM19 City C ALPHA 10
? Norton@

FM19 State S ALPHA 2
? MA@

FM19 Zip *Z NUM 5
? 08755@

FM19 Amount *AM NUM 10
? 776.56@

FM22 Record 2 ADDED

FM11 A, AL, D, S, SM, U, I, C, or E?
? U@

FM12 Enter Record Number?1@

FM151 Updating Pointer File...

(We will make an update correction to this record now)

FM23 Record 1

FM24 Name John Jones

FM24 Address 213 Freemont St.

FM24 City Almont

FM24 State CA

FM24 Zip 92334

FM24 Amount 137.98

* @ = RETURN KEY *

FM13 Is this the record? YES@

FM15 Enter Field ID , Data
? C,Almount@

FM15 Enter Field ID , Data
? S,GA@

FM15 Enter Field ID , Data
? @

FM22 Record 1 UPDATED

FM11 A, AL, D, S, SM, U, I, C, or E?
? E@

FM14 Do you want to return to Menu? YES@

FM10 Insert Program Disk and hit RETURN
? @

(The menu is once again displayed on the screen)

I CCA DATA MANAGEMENT SYSTEM - 4.0 I

FM00 To Terminate Processing.....TYPE 0

(This time we select function #5 from the MENU)

FM00? 5@

FM190 Insert Alternate Program Disk
and hit RETURN?@

(The SORT program loads and executes)

SM03 Input file name? SAMPLE@

FM12 Insert Data Disk in Drive 1?@

SM06 Enter Key # 1 Field ID
and Sequence (A OR D)? 2,A@

SM06 Enter Key # 2 Field ID
and Sequence (A OR D)? @

* @ = RETURN KEY *

SM08 2 records to sort

SM18 What is the output file name
? SAMPLE@

SM22 That file ALREADY EXISTS - Action
? DELETE@

SM55 2 records outputted

SM02 End of Sort
FM14 Do you want to Return to Menu?YES@

FM10 Insert Program Disk in drive 1? @ (we inserted disk #1)

(The MENU program is loaded and executed)

I CCA DATA MANAGEMENT SYSTEM - 4.0 I

FM00 To Terminate Processing.....TYPE 0

(This time we select function #2 from the MENU)

FM00? 2@

(The Report Generator section is loaded and executed)

FM50 Please enter Run Options
? PFILE=SAMPLE@

FM50 Please enter Run Options
? TITLE=Short Report@

FM50 Please enter Run Options
? WIDTH=80,DEPTH=66,TYPE=R@

FM50 Please enter Run Options
? ROUTE=P@

FM50 Please enter Run Options
?@

FM11 Insert Data disk and hit RETURN ?@

FM51 Enter column 1 controls?

? 7@

N Name
A Address
C City
S State
*Z Zip
*AM Amount

FM51 Enter column 1 controls?

? AM,E2,TOTAL@

FM51 Enter column 2 controls?

? Z@

FM51 Enter column 3 controls?

? N@

FM51 Enter column 4 controls?

? C@

* @ = RETURN KEY *

FM51 Enter column 5 controls?

? S@

FM51 Enter column 6 controls?

? @

FM59 Enter range ID ? @

(This report will be on the printer)

Short Report PAGE 1

REC	AM	Z	Name	C	S
2	776.56	8755	Peter Smith	Norton	MA
1	137.98	92334	John Jones	Almount	GA
***2	914.54				

(These messages are now back on the terminal)

FMI27 Do you want to see this format ? NO@

FMI25 Do you want to save this Format? Y@

FMI26 Enter name of Report Format
? SAMPLE1@

FMI4 Do you want to return to Menu? YES@

FMI0 Insert Program Disk and hit RETURN?@

(The Menu program is loaded and executed)

I CCA DATA MANAGEMENT SYSTEM - 4.0 I

FM00 to terminate processing.....TYPE 0

(This time we will select function #0 from the MENU)

FM00? 0@

READY (NOTE: The computer is back to the system level)

The execution log just presented assumed that the user had only one disk drive. To demonstrate the difference between the messages and operation of the CCA DMS, we will present the next section as if the user had two disk drives. Those users who only have one drive may use this section, but the messages to prompt you when to mount program and data diskettes must be observed. Those single disk drive users should NOT precede the data file names with 2: or ERRORS will occur every time. The assumption is made that the configuration has been implemented and the user has defined the same files as shown in our previous examples.

I CCA DATA MANAGEMENT SYSTEM - 4.0 I

FM00 To Terminate Processing.....TYPE 0

(This time we select function #1 from the MENU)

FM00? 1@

* @ = RETURN KEY *

(The file maintenance section is loaded and executed)

FM01 Which file do you want to process
? 2:SAMPLE@

FM11 Insert Data Disk and hit RETURN ?@

FM11 (A)dd/L
(D)delete
(S)can/M
(U)pdate
(I)nspect
(C)heckpoint
(E)xit

?SM@

FM25 Enter Field ID , Data
? N,Smith@

FM10 Output File Name for record index
? 2:SAMPLE2@

(The computer scans and writes the index file)

FM23 RECORD 1
FM24 Name Peter Smith
FM24 Address 8856 Clayton Rd.
FM24 City Norton
FM24 State MA
FM24 Zip 8755
FM24 Amount 776.56

FM19 Continue scanning (Y/N)? Y@

FM11 A, AL, D, S, SM, U, I, C, or E?

* @ = RETURN KEY *

? E@

FM14 Do you want to return to Menu? Y@

FM10 Insert Program Disk and hit RETURN

? @

(The menu loads and executes)

I CCA DATA MANAGEMENT SYSTEM - 4.0 I

FM00 To Terminate Processing.....TYPE 0

(This time we select function #2 from the MENU)

FM00 ? 2@

(The report generator loads and executes)

FM50 Please enter Run Options

? PFILE=2:SAMPLE@

FM50 Please enter Run Options

? TITLE=SPECIAL SCAN/MARK REPORT@

FM50 Please enter Run Options

? WIDTH=65,DEPTH=55,REC#=NO@

FM50 Please enter Run Options

? ROUTE=P,XFILE=2:SAMPLE2@

FM50 PLEASE ENTER RUN OPTIONS?

? @

FM11 Insert Data disk and hit RETURN ?@

FM51 Enter column 1 controls?
? N@

FM51 Enter column 2 controls?
? Z@

FM51 Enter column 3 controls?
? AM,E2,TOTAL@

* @ = RETURN KEY *

FM51 Enter column 4 controls?
? N,BREAK@

FM51 Enter column 4 controls?
? @

FM59 Enter range ID ? @

(This report appears on the printer)

SPECIAL SCAN/MARK REPORT

PAGE 1

Name	Zip	Amount
Peter Smith	08755	776.56
		776.56
		776.56

FMI27 Do you want to see this format ? N@

FMI4 Do you want to return to Menu? N@

FM50 Please enter Run Options
? PFILE=2:SAMPLE,WIDTH=30,DEPTH=6@

FM50 Please enter Run Options
? ROUTE=P,TYPE=L@

FM50 Please enter Run Options
? @

FMI1 Insert Data disk and hit RETURN ? @

FM57 Enter line 1 field ID
? N@

FM57 Enter line 1 field ID
? @

FM57 Enter line 2 field ID
? A@

FM57 Enter line 2 field ID
? @

FM57 Enter line 3 field ID
? C@

* @ = RETURN KEY *

FM57 Enter line 3 field ID
? S@

FM57 Enter line 3 field ID
? Z@

FM57 Enter line 3 field ID
? @

FM57 Enter line 4 field ID
? @

FM59 Enter range ID ? @

FMI45 Ready Printer and press RETURN ?@

FMI46 Alignment Pattern (Y/N)? ?Y@

***** <----- The pattern is printed on the printer

FMI46 Alignment Pattern (Y/N)? ?N@

Peter Smith (The printer will begin printing immediately)
8856 Clayton Rd.
Norton, MA 08755

John Jones
213 Freemont St.
Almount, GA 92334

FMI27 Do you want to see this format ? N@

FMI25 Do you want to save this Format? N@

FMI4 Do you want to return to Menu? Y@

----- * ----- End of Sample Execution log ----- *

APPENDIX B - QUESTIONS AND ANSWERS ABOUT THE CCA DMS

Credit must be given to the thousands of users of the CCA DATA MANAGEMENT SYSTEM who were primarily responsible for asking the questions listed in this appendix. We appreciate important points to be discussed, because we know that the new users of this system must learn a considerable amount if they wish to be able to make use of its true power. This appendix will aid those users in their goal.

(1) What is a KEY?

A KEY is simply a field that you have chosen as the search field. For example, in a name and address file, you would probably choose the name field as the key field.

(2) What is scanning for a record?

When scanning for a record, the file is searched sequentially, starting at the beginning, until the record is found (or the end of the file is reached). This method is not the fastest way to find a record near the end of the file but is the best presently possible.

(3) What if I need more than a one KEY sort?

The CCA DMS allows you to use any or ALL of the data fields as KEYS (Up to 10 max.). Thus, a 9-field record can be sorted by 9 KEYS.

(4) What are GENERIC KEYS?

A GENERIC KEY is simply a portion of the entire key. For example, in a name and address file, you may want to find the first name that starts with 'JON'. Even though the field may be 20 characters long, you may specify a KEY that is shorter. When you do this, that is called GENERIC ACCESS. By searching for the first 'JON' record, you are specifying a GENERIC KEY. The DMS will not find the name if you have specified 'JON' and the name in the record is in lower case as 'jon' or if there is a mix of upper and lower case used such as 'Jon'. Each of these special combinations would require a special scan. The best way to avoid this situation is to always enter your data in the same format. You should plan your own methods of data entry and retrieval.

(5) What happens if I have more than one record with the same KEY?

This situation is referred to as DUPLICATE KEYS. The DMS supports duplicate keys by always returning the first record encountered and advising you that there are more.

(6) What happens if the record I want is not there?

The DMS tells you that the record is not there and returns the next record in the file (meaning the one following the record that isn't there).

(7) What if I want to sort a file in a DESCENDING sequence?

The SORT will allow you to order the file in descending sequence. This option is useful for sorting dollar values or quantities in order of decreasing value.

(8) How is a SCAN & MARK INDEX file created?

You create a SCAN & MARK INDEX file with an option of the SCAN function of file maintenance. It operates the same as the SCAN function, but creates an INDEX file of just those records that met the scan value. Also, you may scan a file more than once, and write all the SCAN & MARK indexes to the same INDEX file.

(9) Why would I want to put all those indexes into the same file?

One use for this feature is to create an index file for a report of just a portion of the file. For instance, in a name and address file, you wish to create labels for all names with 'JONES', 'SMITH', and 'OLIVER'. To do this, SCAN & MARK for 'JONES', 'SMITH', and 'OLIVER', then use the report generator to print labels by specifying that the SCAN & MARK file be used to select the records.

(10) What if the SCAN & MARK file is damaged or destroyed?

You can always delete the damaged file with the ATARI DOS utilities and then perform another SCAN & MARK function.

(11) What if the DATA file is damaged or destroyed?

You will have to use a copy of your last backup. Backup files should be made periodically in case you damage a file.

(12) How often should BACKUPS be made?

Only you can answer that question. How much time are you willing to gamble with? If you have spent 3 hours working on a data file since your last backup, then you must be willing (and able) to spend that same 3 hours to replace the data that is lost.

(13) What is the best method for BACKUP?

The best way is to have three diskettes for each file. Label them Backup2, Backup1, and Data copy. The "Data" diskette is your normal data diskette while "Backup1" and "Backup2" are your safety backup diskettes. When you backup your file from the Data copy, alternate between the Back-up1 and Back-up2 diskettes. In this manner your backup diskettes will have the same number of hours use. You can use Menu Function 3 (COMPACT) to backup an individual DMS file, or ATARI DISKCOPY to duplicate the entire data disk.

(14) Why use two diskettes for backup purposes?

If you only have one backup diskette, you can lose your entire data file. Suppose that during the backup process, the Data diskette fails and thus you have lost it. You have now also lost your Backup1 diskette since you were in the process of copying the Data diskette to it. The two-backup diskette approach reduces the chance of losing your entire data file. For critical files, you may want more than the two backup diskettes.

(15) What is the largest record the DMS can process?

The largest record the DMS can process is 249 characters of data. If you add the system control information, the total is 255 characters.

(16) What is the largest field the DMS can process?

The largest field the DMS can process is 110 characters of data. Since the largest record is 249 characters you may store two maximum length fields per record and still have room for a smaller field.

(17) How many records can I save in a DMS file?

The maximum number of records depends on several factors. First, if you have several files on a diskette, the file that gets records to it first is the file that may end up with the lion's share of the diskette, and there is no easy way to predict maximum number of records per file in that case. But if you dedicate a diskette to a single file, then you may store approximately 700 records with the ATARI CX-810 disk drive.

(18) Is there any restriction on the amount of disk space required by the DMS?

As with anything, yes. We recommend the use of two disk drives for convenient operation. A single drive system can be used but this will require some disk swapping, which is called for in system prompts. The DMS stores your data, the data dictionaries, report parameter files, scan & mark files, and then there are the program files themselves. Our suggested method will assign drive 1 for the program files and drive 2 for the other files. Since drive 1 is your primary drive, this must ALWAYS contain the program files diskette.

(19) May DMS diskettes be replaced with other DMS diskettes?

The only time you may safely replace a data diskette during a session with DMS is when prompted by the program to do so. Furthermore, you may not replace a diskette with another while a menu function is in progress. For example, you may NOT replace diskettes when the sort asks for the name of the output file or work file drives unless the sort specifically prompts you. If you do

(Question #19 cont'd next page)

(Question #19 Cont'd)

inadvertently replace a diskette at the wrong time, the ATARI operating system will take control and issue an error message. If this happens, the file you were processing may be damaged. You must not replace the program diskette, except with another program diskette. The only time you should do this is when the main menu is displayed on the screen and the cursor is positioned to accept a response. Never replace the program diskette at any other time!

(20) Can the diskettes remain in the drives when I shut off the computer?

Absolutely NO! This is especially a poor practice. First, the diskettes may become dimpled, which will cause a noncircular rotation of the diskette. This will make the disk unreadable. Second, the head may load very abruptly and damage the diskette at power on condition. Always store your diskettes in a clean, dry, and static-free place. Avoid high heat areas, such as in a window, where they will be baked by the sun or on the top of a steam radiator in the winter.

(21) What is a Data Dictionary?

A DATA DICTIONARY is a special file that DMS builds and maintains. Its purpose is to keep the definitions of fields, field descriptors, and field lengths that you have entered in the file definition process. Also, it contains the formulas for computed fields. These definitions and formulas are used by the DMS programs to control every aspect of data management. The data dictionary in this version of the CCA DMS is the 'MAINTFLE.DEF' file.

(22) May I access the DATA DICTIONARY?

Normally, you should not have to access the CCA DMS Data Dictionary for any reason. All DMS functions access the Data Dictionary as required. Of course, if anything happens to the Data Dictionary, the DMS may do very unpredictable things. We recommend that you leave the Data Dictionary alone.

(23) Where is the DATA DICTIONARY? It's not on the program disks.

The DATA DICTIONARY is created by the definition section and is written to each data diskette individually. For that reason you can not find this file until you have defined an application.

----- End of Questions and Answers -----