file manager

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FLEXIBLE FILER FOR

SAM coupé

USER MANUAL

BETA SOFT

CONTENTS

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WARNING

[This pdf by Steve Parry-Thomas 27 Jan 2005]
[for Sam Coupe users Everywhere]

FILE MANAGER is a Sam Coupe filing program designed to give the greatest possible flexibility. File size is governed only by the size of ramdisc in use, and up to 26 fields are available per record. Fields may be of any size up to 248 characters and may vary from record to record.

The number of fields is determined when the file structure is created, but there is provision for spare fields, held in reserve, which can be brought into use at any time if it is found that new information categories need to be added to the records.

Any number of screen display layouts may be defined for information organization and presentation. Text labels may be added as required.

File printing uses the screen layouts, so the user can determine the presentation of information in hard copy. Individual records may be separated on paper by blank lines or by a line of dashes. Headers and page numbers may be added and single or multiple copies of printouts obtained. There is a special option for label printing using stationery with more than one label across the web.

Records are not sorted in the file, but sort lists may be prepared which will display records in order of a chosen field. A sort list may be fine sorted by taking into consideration other fields as specified by the user, if the main sort field is identical in any records.

Records may be selected and selected records sorted, displayed, printed, saved as a separate file, or deleted from the main file. The contents of one field in all selected records may be deleted, or filled with the same information in each record.

The whole program is written in MASTERBASIC and there is no program protection, to enable you to examine and modify the program to suit your own needs. Options have been left unused on the main and most other menus, to allow you to add your own facilities.

Because no machine code is used, search operations can be a little slow, especially in a long file. The MASTERBASIC SORT command is very fast, but sorting files and search lists is made slower because of the need to construct the data arrays, which SORT needs, from OPENTYPE files. A BASIC file "QUICKSEAR" is provided. This may be MERGEd into the main program to speed up searches on fields C and higher in many files. Full details are in the section on RECORD SELECTION AND SEARCHING.

The choice of flexibility rather than search/sort speed is deliberate, so that the program may be tailored to the individual user's precise requirements

BACKUP WORKING COPIES

Your program disc is valuable and should not be used as a working copy. FORMAT a new disc, put your MasterBASIC/MasterDOS onto it and copy all the files from the FILE MANAGER disc to it. This is now your working copy. Write protect the original and keep it in a safe place as your master copy.

LOADING THE PROGRAM

Switch the Sam Coupe on and off to reset it. Put your working disc in drive 1 and press key F9.

SAM Coupe SETUP REQUIRED

The program will only run under MasterBASIC combined with MasterDOS. The best results are obtained when a 1Mb external RAM module is fitted. The program will not then need modification.

If no 1Mb extension is fitted and a 256K Sam Coupe is used, twin disc drives are essential. Load the program from disc and use MAIN MENU option 9 to exit to BASIC. Change line 5 of the BASIC:-

      5 ALTER DEVICE 3 to 2

Re-save the program:-

      SAVE OVER "FILEPROG" LINE 5

You must also make changes to the loading program "AUTO". LOAD

      "AUTO" LINE 200

Delete line 80, and re-save the program:-

      SAVE OVER "AUTO" LINE 10

With an unexpanded 512K machine and only one drive, change lines 10 and 80 of "AUTO" to:-

      10 OPEN TO 10: CLEAR 16384*10-1
      80 FORMAT "D3",4,30

This will greatly limit the size of file which can be used with the program, and if twin drives are available when no 1MB extension is fitted it is better to use DRIVE 2, delete line 80 of "AUTO" and make the change to "FILEPROG" as for the 256K machine, but leave line 10 of "AUTO" unchanged.

If drive 2 is used, file operations will be slower than with the ramdisc drive 3, because OPENTYPE files are used, and disc operations are much faster with the ramdisc where no drive motor operations or head movements are involved. Always make sure you have a FORMATTED BLANK DISC IN DRIVE 2 when you load FILE MANAGER if you are using drive 2 in place of the ramdisc.

PRINTER CONFIGURATION

LINE 11060 of the main FILEPROG program contains Epson printer codes which reset the printer and set up the following parameters:-

    Lines per page - 70 (true A4) Elite type
    Characters per line - 95
    Left margin - 8
    Line spacing - 1/8"
    Skip over perforations - 3 lines.

The line may be altered to suit your own requirements, and the program re-saved:-

    SAVE OVER "FILEPROG" LINE 5

This line will be overwritten when the file printing operation SET UP PRINTING PARAMETERS is used. Any changes to number of lines per page, typeface in use, margin and line spacing will replace those set in the program as loaded from disc. The number of characters per line will be changed to suit the chosen typeface. The settings you put in this line before re-saving your working copy should be the ones you regard as normal. You will then only need to use SET UP PRINTING PARAMETERS when you wish to depart from your normal use.

If your printer does not use Epson 9-pin printer codes you should also change the codes in lines 13670, 13730, 13780, 13860, and 13920 to those your printer requires.

Printer codes are enabled automatically before each printing operation, but they can also be enabled from BASIC if you have lost them by resetting your printer. Use MAIN MENU option 9 to exit to BASIC. Enter "printcodes" as a direct command and GOTO MENU1 to re-enter the program

You are prompted first for the filename. Then you must specify the number of fields per record. You should add a few to the total you require now, so that you have some in reserve if you need to add new fields to your records later. Spare fields do not appear in your records or layouts until you bring them into use, but you cannot add fields at a later date unless you have spare ones in reserve. The maximum number of fields per record, including spares, is 26.

The number of fields you have specified is displayed on screen. Each field has an identification letter, and is described as (spare).

You must now give names to the fields you wish to use. Give the letter of the field, and type in its name in response to the prompts (maximum 10 characters per name). If you make a mistake, give the field letter again and type in the correct name. To designate a field as spare enter (or). Any fields you do not name will remain as spare. In an address file you might have:-

                        A: NAME SORT
                        B: ADDR1
                        C: ADDR2
                        D: ADDR3
                        E: ADDR4
                        F: POSTCODE
                        G: PHONE NO.
                        H: NAME USE
                        I: (spare)
                        J: (spare)
                        K: (spare)
                        L: (spare)

In the records, you would store names in the form BLOGGS, Fred in field A, so that they could be sorted by surname, but in field H you would enter "Mr F.Bloggs" for use on address labels.

You should ensure that all the fields in use are at the start of the block, and spare ones at the end. Do NOT have, for instance, Fields A, B, D, E in use and field C spare.

When all the fields you wish to use have been named, give one more field letter and reply * when prompted for the filename.

Your fields will be displayed. If you wish to make any changes, reply N to the "ARE THESE OK (Y/N)" prompt, and you will be returned to the field naming procedure. If you reply Y, there will be a brief pause while the fields are saved, and then you will proceed to the layout design procedure.

LAYOUT DESIGN

(Entered automatically during file creation or via MAIN MENU
OPTION 2 - ADD/UPDATE RECORDS/LAYOUTS, which gives access to the
MODIFY FILE MENU.)

You may present your records on screen in as many different ways
as you wish, by designing screen layouts. Apart from in layout 1,
you may include or omit any fields. Layout 1, which you design
immediately after setting up the field names, must include all
the fields you have named, because it is used for adding and
updating records.

The field names are presented in order, and you are invited to
define a window to display the information in each field in turn,
by giving the column and row co-ordinates for the window. If you
do not wish to include a field in a layout, reply 255 to the
prompt for left column number. Ensure that windows are large
enough to display all the information in the field. Whereas a
postcode window need be no larger than 1 row of about 10
characters, a book title window might have to be several rows
deep and over 40 columns wide to accommodate the longest title
you might have to enter.

In layout 1 you MUST label each field window with its letter
and/or field name. This is useful when updating records, and the
number of field labels is used as a counter by the program during
updating. You will be able to define text windows when you have
finished the field windows, so you should leave spaces for any
text windows when placing the field windows. Text windows may be
up to 12 columns wide, and so can accommodate the field letter, a
colon, and a field name up to 10 letters.

Field windows may be from 1 to 63 columns wide (using columns 0-
62). To specify a 1-column window, give the same column number
for right and left. They may be from 1 to 17 rows deep (using
rows 0-16). To specify a window 1 row deep, give the same row
number for top and bottom. The area below row 16 is reserved for
messages and inputs.

In layout 1, you may find it helpful to reserve columns 0-12 for
text windows, and assign columns 13-62 for field windows.

When you have given a window's dimensions it will be highlighted
on screen and you will be asked whether it is OK. If not, it will
be wiped out and you may give new co-ordinates. If you confirm
that it is OK you will proceed to the next window.

You may find it helpful to make a note of the co-ordinates you
set as you go along, especially when you are new to layout
design, so that you can keep windows in line or make changes
easily.

```
A:NAME      A:FIRM/NAME          B:LABEL  B:LABELNAME
C:ADDR1     C:ADDR1              J:CONT1  J:CONTACT1
D:ADDR2     D:ADDR2              K:EXT    K:EXTENSION
E:ADDR3     E:ADDR3              L:CONT2  L:CONTACT2
F:ADDR4     F:ADDR4              M:EXT    M:EXTENSION
G:ADDR5     G:ADDR5              O:DISC%  O:DISCOUNT
H:POSTC     H:POSTCODE
I:TEL       I:PHONE              P:SEL    P:SELECT
N:PURCH     N:PURCHASES
```

FIG 1

```
A:NAME     MAYOR'S OFFICE           B:LABEL  THE MAYOR
C:ADDR1    MAYOR'S PARLOUR          J:CONT1  MR H. LESSING
D:ADDR2    TOWN HALL                K:EXT    1020
E:ADDR3    HIGH ST                  L:CONT2  MISS B. BRIGHT
F:ADDR4    NEWTOWN                  M:EXT    1021
G:ADDR5    NEWCOUNTY                O:DISC%  5
H:POSTC    NN1 1AB
I:TEL      123-8010                 P:SEL
N:PURCH    DINNER MENUS 91.12.6 £179.50

FILE POINTER FOR THIS RECORD 372

U TO UPDATE/¼ TO EXIT/ANY OTHER KEY FOR NEXT RECORD
```

FIG 2

When the co-ordinates for all fields have been entered, the field layout is displayed on screen, with each field letter and name at the start of its window. You will be asked if the window is OK, and if you reply N you will be prompted for the letter of the field to be changed. If the window has been defined it will be wiped out and replaced by the new window you specify now. If the letter you give is for a window not previously defined, it will be added to the existing ones in the layout. After each change, the layout will be redrawn and you will be asked if it is OK. When you are satisfied with it, reply Y and you will proceed to add text windows.

If you wish to add text windows reply Y to the first prompt. (Text windows are not essential in layouts other than layout 1.) You will then be asked for the total number of text windows to be added. Windows are defined exactly as field windows were, except that a width of more than 12 columns will not be accepted. When you approve the window position you are prompted for the text to be placed in it (up to 12 characters). This text will appear in that window on every record when this layout is used for display. The field windows display the .information specific to each record.

You are given an opportunity to change text if it is incorrect, but if you change your mind about text window size or position after you have confirmed that it is OK you must complete the layout and then use the VIEW/CHANGE LAYOUT option to alter it.

When you have entered all the text windows, the layout is saved. If you were creating your first layouts after setting up the file you are asked whether you wish to create another. N will return you to the main menu, or Y will repeat the layout design procedure.

Fig. 1 shows a typical "layout 1". The white background shows the field windows. The field letter and name appear at the start of each field window, and each is labelled by placing a text window alongside it, with the field letter and an abbreviation of the field name. Text windows are displayed in white on blue. Fig. 2 shows the same layout used to display a record. The text windows are unchanged, but the field windows now display the information for that particular record. The window marked SELECT in these examples, field P, is a useful extra field to add if you are likely to want to mark records for selection. See the section on RECORD SELECTION AND SEARCHING for its use.

Extra layouts may be added at any time. Select option 2 from the main menu, which will take you to the MODIFY FILE MENU. Option 2 from this menu will take you into the layout design procedure. The only difference is that when your layout is complete you will not be asked if you wish to design another, but will be returned to the MODIFY FILE MENU, from which you can select option 2 again if you have more layouts to design.

You will be asked which layout you wish to check, and it will be
loaded and displayed, with all field windows showing their letter
and field name, and all text windows displayed. If' you reply Y
to the OK? prompt you are returned to the MODIFY FILE MENU. If
you reply N, you are asked which window you wish to change. You
may reply with any named field letter, even if it was not
previously included in the layout, or * to proceed straight to
text window changes. If you give the field letter of spare or
non-existent fields you will be told the field does not exist. An
existing window will be rubbed out and you will be prompted for
new co-ordinates. To delete a field from a layout, reply 255 to
the left column prompt. When you have finished changing field
windows, reply * to the next prompt to proceed to change text
windows.

You are asked first whether you wish to add new text windows. The
procedure is exactly the same as adding windows in the layout
design option.

You will then be asked if you wish to change any existing
windows. If you reply Y, you will be asked for the existing text.
You must give the text EXACTLY as it appears in the text window
you wish to change. The window will be wiped out and the text
will appear at the foot of the screen for editing. Short text is
bulked out to 12 characters with spaces, and if you insert
letters into the text you must delete some of these spaces to
compensate. If you want to change the window rather than the
text, simply press RETURN. You will be asked for the window co-
ordinates and the new window and text will be displayed in the
usual way. You will be asked if it is OK. Reply N to change it.
If you reply Y you will be prompted for the next text window to
be changed. When you have completed the changes, reply * and you
will be returned to the MODIFY FILE MENU.

The procedure is exactly the same as naming fields when creating
a file. Bring spare fields into use in order, so that any
remaining spare fields are at the end. NEVER designate a field as
spare if it has been named previously and is not the last named
field, though you can rename any field. If the last named field
has not been used in any of the records in the file, it can be
designated as spare by entering (or) as the field name.

After you exit the option you will be taken straight to the
layout modification option and layout 1 will be presented for
updating. This is because any new fields brought into use must be
given windows and text labels in layout 1. If you wish to modify
any other layouts to incorporate new fields, use the VIEW/CHANGE
LAYOUT option.

ADDING RECORDS TO FILE
(MODIFY FILE MENU option 1)

Layout 1 will be loaded. Text windows will be displayed, but
field windows will be invisible. Enter the information for each
field as the field names are presented. There may be up to 248
characters in a field. The first character may not be a space,
but other than that there are no restrictions on the characters
which may be used. Press RETURN when you have completed a field,
and the information will be transferred to the appropriate window
and the next field name displayed. To leave a field empty, simply
press RETURN.

When all fields have been entered the full record is displayed
and you will be asked if the record is OK. If you reply N you
will be asked which field you wish to alter. Give the field
letter and the information will be presented for editing. When
you are satisfied the record will be added to the file.

You will be asked if you require another copy of the record. If
you reply Y, you will be asked if you wish to make any changes to
this copy. This facility allows you to enter several records,
when most of the information is identical, without retyping the
whole record each time. To make records for people living at the
same address you would make several copies, changing only the
name on each record.

When you reply N to the "ANOTHER COPY?" prompt, you are asked if
you wish to add another record. Y offers you another blank record
to fill. N returns to the MODIFY FILE MENU.

UPDATING RECORDS
(MODIFY FILE MENU option 5 used only as described below)

Record updating is normally done while displaying records using
layout 1. Whenever layout 1 is in use, the chance to make changes
is offered with every record displayed.

MODIFY FILE MENU option 5 is only used if you spotted something
which needed correcting when displaying records using a layout
other than 1, so that no alterations were possible at the time.
The record file pointer is always displayed on screen with every
record. Make a note of the file pointer for any record you wish
to change using MODIFY FILE MENU option 5.

You are first asked if you need to check file pointers. Reply Y
and you are sent to the RECORD HANDLING MENU so that you can
display records and find the file pointers. If you already have a
note of the file pointers, reply N and layout 1 will be loaded.
You will be asked for the file pointer of the record concerned,
it is then displayed with the update menu below it.

When records are being displayed using layout 1, a menu below the
record offers U to update, * to exit display, any other key to
display next record. Selecting U enters update mode.

Record updating is the same from this point, whether entered from MODIFY FILE MENU option 5 or in the normal course of displaying records using layout 1.

The menu options are: -

COPY/DELETE/ALTER FIELD/COPY FIELD TO FIELD/EXIT

To select one, enter C D A F or X.

COPY

COPY adds a duplicate of the record to the file, and the file pointer of the new record is displayed. You can still alter the original copy which is displayed on screen, or make a note of the file pointer of the new copy if you wish to call it up for modification. COPY will only copy the original unmodified record. If you select COPY after you have made changes to the displayed record but before it has been resaved to the file, the changes will not be present in the copy, though they will be present in the updated original record, which will be deleted from its current position and added as the record immediately after the copy when you select X.

DELETE

DELETE marks the record as erased from the file. The record itself remains in the file, but will be ignored by all file operations. There is a FILE HOUSEKEEPING option which remakes the file omitting deleted records, effectively shortening the file. (See section on DISC OPERATIONS).

ALTER FIELD

ALTER FIELD allows the information in the individual fields to be changed. There is a brief pause the first time ALTER FIELD is selected for any record, while the full record is loaded into memory, and then you are prompted for the field name to be changed. The current information is displayed for editing, and when RETURN is pressed the new information is displayed in the record, with the update menu below.

COPY FIELD TO FIELD

COPY FIELD TO FIELD copies the information from one field to another. Give the field letter of the field to be copied, and then the field to which is to be copied. Any existing information in the second field will be lost and replaced with an exact copy of that in the first.

If changes have been made to the record, selecting EXIT will delete the current copy, the revised copy will be added to the end of the file and its new file pointer displayed. If the record

has only been copied, or EXIT selected straightaway, the record
will not be moved.

If update mode was entered from MODIFY FILE MENU option 5, you
will be asked if there are any more records to update and
returned to the MODIFY FILE MENU if the reply is N, or prompted
for a new file pointer if Y.

If update mode was entered from display using layout 1, the next
record will be displayed.

EXIT OPTIONS

Option 9 on all menus is the exit option. The MAIN MENU option 9
exits to BASIC (see section on EXIT TO BASIC). On all other
menus, option 9 returns to the menu from which the current one
was called. The MODIFY FILE MENU is called from MAIN MENU option
2 (ADD/UPDATE RECORDS/LAYOUTS) so 9 returns to the MAIN MENU.

RECORD SELECTION AND SEARCHING
  (RECORD HANDLING MENU option 1, accessed from MAIN MENU
  option 3, SEARCH/DISPLAY RECORDS.)

Searches may be on the whole file, or on lists of records
produced by earlier searches. Each search produces a list of file
pointers of the records which match the search criteria. You may
make as many lists as you wish, provided each is given a
different number. If you give the same number to two searches,
the later one will overwrite the first which will then be lost.

Updating records or file housekeeping will render existing search
lists out of date, because record positions in the file change in
these operations and the file pointers no longer apply. Deleting
records will also affect a search list if any of the listed
records are deleted. If you try to display records using an out
of date search list, the program may stop with an error message,
or display part of a record, when it reaches an obsolete file
pointer. If the program stops, use GOTO MENU1 to re-start it and
repeat the search to get an up to date list of file pointers.

Option 1 on the RECORD HANDLING MENU calls up the SEARCH MENU.

If searches are to involve only one field in each record, you are
asked whether you wish to view the fields before being prompted
for the field letter. If you already know the field letter, reply
N to proceed straight to the prompt. If you do not know the field
letter, reply Y and the list of fields in use will be displayed.
Give the appropriate field letter in response to the prompt.

In all searches, you are prompted for the search list number, and
asked whether the search is to be case sensitive.

CASE-SENSITIVE searches

CASE-SENSITIVE searches, if you reply Y, will select only those
records in which the upper and lower case letters exactly match
what you type when prompted for the string. If you type "Smith",

only records containing "Smith" will be selected. Those
containing "SMITH" will be ignored. If you reply "N", all
occurrences, "Smith", "SMITH", "SmItH" etc. will be selected.

You are then prompted for the string to be used and the search
proceeds. If matching records have been found the program will
return to the SEARCH menu. If there are no matching records, the
message "NO OCCURRENCES FOUND - ANY KEY TO CONTINUE" is
displayed, and you are returned to the SEARCH MENU after a
keypress.

STRING SEARCH - WHOLE FILE

SEARCH MENU option 1, STRING SEARCH - WHOLE FILE searches every
record in the file and lists all records which contain the string
being searched for in any position in any field.

STRING SEARCH - SELECTED RECORDS

SEARCH MENU option 2, STRING SEARCH - SELECTED RECORDS will
search only the records in an existing search list. In addition
to the usual prompts you are asked for the number of the list to
be searched. Records not in the original list will be ignored,
even if they contain the string, but any records in this list
which contain the target string in any field will be entered

into the new list, which must have a different number. If you
give the new list the same number as the one being searched the
program will stop with an error message, and the original list
will have been lost.

FIELD IN USE - WHOLE FILE

SEARCH MENU option 3, FIELD IN USE - WHOLE FILE, will list all
the records in the file which have information in a particular
field. Any records in which this field is empty will be ignored.
In Figs. 1 and 2, field P: SELECT is included specifically for
use with this and the next option. The field is normally empty,
but when you are viewing records with layout 1 you can mark a
record for selection by putting a character in this field. This
option will then select the records you have marked if you
specify field P. You could also use such a field to place records
in various categories, using, say, C for Customers, S for
Suppliers, etc., but you would then have to use options 7 and 8
(see below) for selection.
FIELD IN USE - SELECTED RECORDS
SEARCH MENU option 4, FIELD IN USE - SELECTED RECORDS, will
perform the same search, but only on those records already listed
in a given search list.

FIELD EMPTY searches

SEARCH MENU options 5 and 6, the FIELD EMPTY searches, will
select only those records in which there is no information in the
target field, from the whole file or from a search list
respectively.

STRING IN FIELD searches

SEARCH MENU options 7 and 8, the STRING IN FIELD searches, search
for a string in only one field in each record. You are offered a
choice of four search methods.

Any occurrence of the string in the field

Method 1) Any occurrence of the string in the field. All records
in which the string appears anywhere in the field will be
selected.

Comparison with start of field - select if string is higher.

Method 2) Comparison with start of field - select if string is
higher.

The string is compared with the start of the target field. The
record will only be selected if the start of the field is lower
than the string. This can, for example, be used to select records
in which the target field falls in the first half of the
alphabet. If the string is "M", all records in which the field
starts with A-L will be selected. If the search is not case
sensitive, records starting a-1 will also be selected.

Comparison with start of field - select if string is lower

Method 3) Comparison with start of field - select if string is
lower.

The string is compared with the start of the target field. The
record will only be selected if the start of the field is higher
than the string. If the string is "L" and the search case-
sensitive, all records starting M-Z and a-z will be selected. If
the search is not case-sensitive, records starting M-Z and m-z
will be selected.

Comparison with start of field - select if string is the same

Method 4) Comparison with start of field - select if string is
the same.

The target string is compared with the start of the field. Only
those records in which the string and the start of the field are
identical will be selected.

 SEARCH MENU option 9, EXIT, returns to the RECORD HANDLING MENU.

Searches on the later fields

Searches on the later fields can be slow, because the fields are
not fixed length and the program must search for the end of field
markers and field identification letters to find target fields. A
BASIC program "QUICKSEAR" is provided on the disc, which may be
used to speed up searches on the later fields. It should be
merged with FILEPROG. Exit to BASIC.

DEVICE Dl: MERGE "QUICKSEAR": DEVICE D3: GOTO MENU1

Do NOT use the MasterBASIC quick merge command MERGE *.

There are certain limitations to using this facility.

It can only be used for searches on fields C upwards. Use the
unmodified program to search fields A and B.

It must NOT be used if spare fields have been brought into use
after some records have been added to the file, because the new
field will not be present in records added before it was brought
into use. QUICKSEAR finds the target field by jumping over a
certain number of end of field markers. If a record does not
contain all the fields, this jump would land on the wrong field
and corrupt the search. The normal search checks each field in
turn and, though slower, will find the correct field even if some
fields are missing from any records.

To return to normal searching after using QUICKSEAR, exit to
BASIC.

          DEVICE Dl: MERGE "NORMSEAR": DEVICE D3: GOTO MENU1

Again, MERGE * must not be used.

                        VIEWING RECORDS
  (DISPLAY RECORDS MENU reached via RECORD HANDLING MENU option 2)

The menu offers three choices,

     1) DISPLAY ALL RECORDS UNSORTED
     2) DISPLAY SORTED RECORDS
     3) DISPLAY SELECTED RECORDS UNSORTED

DISPLAY ALL RECORDS UNSORTED

Option 1 will display the whole file from the start, omitting any
marked as erased. You are prompted for choice of layout. If
layout 1 is used the UPDATE option is offered. (See UPDATING
RECORDS for its use). If you update records, the revised records
will be displayed again when you reach them because they will
have been added to the end of the file. The file pointer of each
record is displayed whatever layout is used. If you need to
change a record, but are not using layout 1, make a note of the
file pointer and, use MODIFY FILE MENU option 5. (see UPDATING
RECORDS above). * exits the viewing option and returns to the
DISPLAY RECORDS MENU. Any other key displays the next record.
When the end of the file is reached an END OF FILE message is
displayed briefly before returning to the DISPLAY RECORDS MENU.
It is not possible to move backwards through the file when
viewing from option 1

DISPLAY SORTED RECORDS

Option 2 can only be used after SORT (see below) has been used. You are prompted for the sort list and layout to be used. Again, layout 1 permits record updating, and when viewing with sorted records, "\" (SHIFT/INV) will display the previous record. You can continue to view the rest of the records after updating a record, but the revised one will not be displayed again at the end, and if you are stepping backwards through the list, the program may stop with an error message if you reach a record which you have updated. Again, use * to exit the viewing option before reaching the end of the file, or END OF FILE will be displayed before returning to the DISPLAY RECORDS MENU if you view the whole file. The same sort list may only be used again if you did not update any records. If you did, the program will stop with an error message if you try to use the list again. If you have updated or deleted any sorted records you should erase the obsolete sort list from the ramdisc or floppy discs to prevent this happening.

DISPLAY SELECTED RECORDS UNSORTED

DISPLAY SELECTED RECORDS UNSORTED is similar to option 2, except that a search list must be present before it can be used. In all other respects it is exactly the same as viewing sorted records and the same conditions and warnings apply.

BLOCK HANDLING
(RECORD HANDLING MENU options 3-7)

DELETE SELECTED RECORDS

Option 3 – DELETE SELECTED RECORDS. You will be prompted for a search list number, and all the records in that list will be marked as erased. They will still be physically present in the file unless FILE HOUSEKEEPING (see DISC OPERATIONS below) removes them, but they will be ignored by all record handling and viewing operations.

SAVE SELECTED RECORDS

Option 4 - SAVE SELECTED RECORDS. A separate file will be constructed, by copying the selected records, and saved to a disc in drive 1. You will be prompted for the name of the new file, which should be different from the original filename.

Usually it is desirable for all files to have a separate disc.

After the file has been made, you will be given the opportunity to copy the layouts from your original file onto the new file's disc. The files have the same structure so the layouts can be used with the new file. If you opt to copy the layouts they will be copied from the ramdisc to the disc in drive 1.

At the end of the operation the original file remains unchanged on the ramdisc. If you wish to delete the records which comprise the new file from the original, use DELETE SELECTED RECORDS (see above).

ADD TO SELECTED RECORDS

Option 5 - ADD TO SELECTED RECORDS. This option allows you to do several different searches which add records to the same list. You will be prompted first for whether you wish to start a new list. If you reply N, you must give the number of an existing list and the records which match the search criteria you specify now will be added to the ones already listed. If you reply Y, you will be prompted for the number of a new list, and records matching the first search will comprise the first in the new list. At the end of each search you will be asked if you wish to add more. If you reply Y, new search criteria will be required and the records which match will be added to the same list. If a

record is already in the list, but it also matches the new
criteria, it will be listed again. The searches are always on the
whole file, and on one field only. The search methods are the
same as those described in RECORD SELECTION AND SEARCHING, SEARCH
MENU options 7-8 above. When you reply N to the prompt asking if
you wish to add more, the program will return to the RECORD
HANDLING MENU.

If you wish to combine existing lists made by other searches use
the FILE MERGING option (see DISC OPERATIONS) to combine them.

CLEAR FIELD - SELECTED RECORDS

Option 6 - CLEAR FIELD - SELECTED RECORDS. This option will erase
the information from the same field in all the records in the
search list you specify. The main file and search list must
already be on the ramdisc, and you will be asked if you wish to
view the field names before specifying which is to be cleared.
After the operation, the search list, and any other search or
sort lists listing the records involved, can no longer be used
because the records are moved in the file and the file pointers
are different.

FILL FIELD - SELECTED RECORDS

Option 7 - FILL FIELD - SELECTED RECORDS. This option is similar
to the previous one, except that the field you specify will be
filled with the string you give, in every record in the list. Any
existing information in the field already will be overwritten and
lost. Again, this search list, and any other lists listing the
records involved, will be made obsolete.

If you wish to use the last two options to empty or fill a field
in the whole file, first use a search which will select every
record. FIELD IN USE - WHOLE FILE is usually suitable. Specify a
field which holds information in every record.

RECORD HANDLING MENU option 9 returns to the MAIN MENU.

LOAD A FILE

Option 1 - LOAD A FILE. You will be asked if you wish to save an
existing file before proceeding. You should do so if you have
made changes to a file already present on the ramdisc. You will
then be asked whether you wish to clear the ramdisc (if drive 2
is being used instead of the ramdisc, all operations involving
the ramdisc will be performed on the disc in drive 2). You should
reply Y if there is a file present in the ramdisc, so that no
layouts which are unsuitable for the incoming file are left on
the ramdisc. You will then be prompted for the name of the file
to be loaded, and the file and all layouts will be copied from
the disc in drive 1 to the ramdisc.

SAVE A FILE

Option 2 - SAVE A FILE. You will be asked to put the disc for the
file in drive 1 and press a key. All files on the ramdisc are
copied to the disc in drive 1, overwriting any files of the same
name on the disc. If you have temporary sort or search lists on
the ramdisc which you do not wish to keep permanently, erase them
before selecting this option. If you are using the ramdisc, no
changes to your file are permanent until you use this option.
They would be lost if the machine were switched off.

FILE HOUSEKEEPING

Option 3 - FILE HOUSEKEEPING. Erased and updated records are not
removed from the file until this option is used. The file may
grow to an unwieldy length which will slow down search, sort and
viewing operations, so from time to time this option should be
used to clear out the file. It renders all existing search and
sort lists obsolete.

You will be prompted to put a disc for temporary storage in drive
1. It should have sufficient space to hold the file, and should
not have a file of the same name already on it. There will be a
pause while the file is reorganized, its length depending on the
file size. The revised file will be constructed on the disc in
drive 1, the original deleted from the ramdisc and the revised
file copied to the ramdisc. It must be saved to your file floppy
disc in the normal way to make the changes permanent.

<u>CLEAR RAMDISC</u>

Option 4 - CLEAR RAMDISC. You will be asked if you are sure, and if you reply Y the ramdisc will be cleared. If you are using drive 2 instead of the ramdisc, the disc in that drive will be wiped.

<u>DISC DIRECTORY</u>

Option 5 - DISC DIRECTORY. You will be asked for the drive number and the disc directory will be displayed.

<u>ERASE FILE</u>

Option 6 - ERASE FILE. You will be prompted for the drive number and the short catalogue of the disc will be displayed. Give the name of the file to be erased. Wild cards may be used with part filenames. For example, to erase all search lists enter "SLIST*". To exit without erasing a file, reply "*". (For this reason you cannot use "*" alone to erase all files).

<u>MERGE FILES</u>

Option 7 - MERGE FILES. You will be asked whether the files to be merged are Search, Sort or Database files. Reply S, T, or D. If you are merging search or sort lists, you will be prompted for the two list numbers, both of which must already be on the ramdisc. The file pointers in the second list you give will be added to the end of the first. The second list will still be on the ramdisc unchanged, but the first list will now contain the file pointers for the records in both lists. If a record appeared in both lists it will now appear twice in the first one.

If the files to be merged are database files they must have the same file structure. The first file, to which the second one will be added, must be on the ramdisc, and the second file must be on a disc in drive 1. There will be a pause while the files are merged, its length depending on the size of the files involved. Erased records in the second file are not transferred during merging, so partial file housekeeping takes place on the merged file.

When the merge is complete, the merged file will be on the ramdisc, under the filename of the original first file. The file whose records are now at the end of the merged file will be still on the disc in drive 1, unchanged. Use the normal DISC OPERATIONS - SAVE FILE and save the merged file to a floppy disc to make the merge permanent.

Option 9 - EXIT. Exit returns to the main menu.

SET UP PRINTING PARAMETERS

PRINTING MENU option 1 - SET UP PRINTING PARAMETERS. This option
need only be used if you wish to depart from the normal printing
parameters you set up when configuring your working copy. (See
PRINTER CONFIGURATION above)

You are prompted first for the number of lines on a page in the
stationery you use. True A4 is 70 lines, standard listing paper
66 lines. A common label size is 9 lines.

Print style is chosen next, the options being Pica, Elite and
Condensed. The number of characters per line is adjusted
automatically to suit the typeface you specify.

You should then specify the margin width. Margin settings which
will centre the three typefaces are given on screen as a guide.

You are then offered the choice of two line space settings, the
normal 1/6", or 1/8" which is acceptable with the smaller
typefaces.

There will then be a pause while the settings are inserted into
the program, before you are returned to the printing menu.

PRINT ALL RECORDS UNSORTED

Option 2 - PRINT ALL RECORDS UNSORTED. You are prompted first for
the layout to be used. All printing in options 2, 3, and 4 uses
text dumps of screen layouts. This enables you to see on screen
what the layout on paper will be, so you can design special
layouts intended for use in printing if you wish. Layouts to be
used for printing should take into account that there must be
separators between the records which will be added to the overall
record window, and a window must not exceed 18 lines. So, for
example, if you are likely to specify 3 blank lines to separate
your records on the page, the overall layout depth must not be
greater than 15 lines.

The next prompt is for the number of copies of the printout you
require.

You are then asked if you require a header printed at the top of
each page of your printout. If you reply Y you will be prompted
for the header text, and the column at which you wish it to
start. The text will be printed on the page exactly as you type
it in. If you wish to centre it, you should count the characters
involved, deduct the number from 64 and divide the result by 2.
This gives the starting column number which will centre the
header relative to your records. If your records are centred on
the page, the header will also be centred on the page.

You are then asked whether you require page numbers. If not, reply 0, or give the page number for the first page. You are then prompted for the column number at which the page number is to be printed. 31 will centre the number under your records.

You will then be told the number of lines in each of your records, and invited to choose the method of separating the records on the page. Reply 0 if you require a line of dashes, or give the number of blank lines you wish to have inserted. You should specify at least 2 lines for clear separation, but you must ensure that the record depth plus separators does not exceed 18 lines.

You are then shown your record depth, which will include the blank lines for separators if you have specified them. You must now calculate how many records you require per page, taking into account the lines needed for header and page numbers, and finally, you are asked for the number of lines between the end of the last record and the page number. If you are using a 70 line page, with header (2 lines) and page number (1 line), and normal 1/6" spacing, you will have 67 lines for records. If your records, including separators, are 9 lines deep, you can have 7 records on a page, which will occupy 63 lines. If you require the page numbers to be 3 lines above the bottom of the page, you should specify 1 line between last record and page number. If you have chosen 1/8" line spacing you should remember that the actual number of lines per page will be INT(normal number of lines/6*8).

You are now give the opportunity to print a test page. This will show the header and page number, if you are using them, and will print a running number at the position of the top left character of each record. If dashes are to be used as separators these will also be drawn in between each record position. This will show you the layout of your printed page.

You are then asked whether you are ready to proceed to printing. If you reply Y, all the records in the file will be printed. If your page layout is unsatisfactory, reply N, and you will be returned to the PRINTING MENU, so that you can change parameters if necessary, or recall option 2 if only your page layout needs changing.

If you are likely to need to use the same page layout again in the future, you should make a note of the parameters and layout values you used, so that you will then be able to go straight to record printing without printing a new test page.

After printing you are returned to the PRINTING MENU.

PRINTING SORTED RECORDS
PRINTING SELECTED RECORDS

Options 3 and 4 - PRINTING SORTED RECORDS and PRINTING SELECTED RECORDS UNSORTED.

These options are exactly the same as the previous one, except that after you confirm that you are ready to start printing you are asked for the number of a sort or search list respectively. The list involved must be already on the ramdisc. Only the records listed will be printed. Sorted records are printed in sorted order.

LABEL PRINTING

Option 5 - LABEL PRINTING. This option is only intended for use where there are multiple labels across the web. It does not use screen layouts for printing. (If 1-across labels are being used, use SET UP PRINTING PARAMETERS to set a page length of the number of lines per label, and one of the normal printing options. When setting up the printing page, refuse header and page numbers and allow 1 record per page. Use a screen layout with only name, address and postcode for printing.)

Before using option 5, you should set up the printing parameters with number of lines in your label depth, the typeface you require, and a margin of O. The option will give you a chance to exit if you have not already set up these parameters.

You are then asked for the number of labels across the web, and the column number at which printing is to start for each label.

You must now specify the fields in the order in which they are to be printed. You may opt to have the field letters and field names displayed while you do this. Enter * when you have listed all the fields you wish to print.

You are then asked whether you wish to print the whole file, a search list or a sort list (reply W, S or T). If you elect to print the whole file, printing will commence, but if a list is to be printed you will be reminded that the list must be on the ramdisc, and you will be asked to confirm that you are ready to proceed. If you try to print a non-existent list the program will stop with an error message. Use GO TO MENU1 to re-enter the program. If you confirm that you are ready, you will be prompted for the list number and printing will proceed.

There will be a pause before each row of labels is printed, while the array which is to be printed is constructed. The more labels across the web, the longer the pause will be.

When printing is complete, you will be returned to the PRINTING MENU.

This option can be used to print records in columns across the page, as well as for label printing. You must choose a number of lines per page for the records which will divide exactly into the number of lines in your page depth to ensure that records are not printed across the perforations. You cannot add headers or page numbers. You cannot have the records printed so that they read down the left column and then down the next - they will always read across all of the top row of records and then across the next row.

Option 9 - EXIT. Returns to the MAIN MENU.

SORTING
(MAIN MENU option 6)

The records are not kept in order in the file. Each new record is
added at the end of the file, as are the revised versions of
updated records. Sorting is very much a hangover from paper
filing, when records must be in order if they are to be found.
With electronic filing that is not necessary, because the
computer can search for and locate any record. However, it may be
necessary from time to time to display records in sorted order,
especially in printouts, so sorting facilities are provided.

When a sort is complete, two lists are saved to the ramdisc. One
is the data array holding all the information from the chosen
sort field in each record plus that record's file pointer, sorted
into alphabetical order (ASCII order). This list will have the
filename "SORT" plus the sort number, a colon, and the field
letter used in the sort. It is used only for fine sorting. The
second list, filename "SORT" plus the sort number, will hold just
the file pointers in order. This is the list used for viewing and
printing the records in sorted order. These lists will be saved
to the floppy disc if they remain on the ramdisc when the file is
saved, but you should think of them as temporary, and remember
that any changes or additions to the file will render them
obsolete.

You may need to include a special field for sorting, especially
where names are involved and the sort must be by surname. (You
would not wish to address letters to "BLOGGS, Fred", but "Mr. F.
Bloggs" would be sorted under M.) Sorting will be faster if any
such special fields are fields A or B. Dates should be entered in
reverse if you wish to sort into date order. October 7, 1991
would be entered as 1991.10.07 or 91.10.07. Entering dates in
this way also allows you to search for dates before or after a
given one. Numbers for correct arithmetical sorting must all have
the same number of digits, as 001 057 105 etc.

You may have as many different sort lists as you wish, provided
each is given a different number. There is no difference in form
between the lists produced by sorting the whole file and those
produced by sorting the records in a search list. They are used
in exactly the same way for displaying and printing records,
though a sort made from a search list will only display the
records which were in that list.

SORT WHOLE FILE

SORT MENU option 1 - SORT WHOLE FILE. There is a pause while the number of records is read from the file and an array is set up to hold the data being sorted. You are then asked for the letter of the field to be used for the sort, and the sort number. The time taken by the sort will depend on the file length, and sorts on later fields will take longer then those at the start of the records.

If you are using an unexpanded Sam Coupe and a large file, there may not be room to sort it all at once, because there will not be room in memory for the large array being sorted. The program will then stop with an error message, and you must use the SEARCH and SAVE SELECTED RECORDS options to break the file down

into shorter ones, each holding a section of the alphabet in the field you wish to use for sorting. Even with a 512K machine and a 1MB external memory module fitted, so that the ramdisc does not use ordinary memory, it will not be possible to sort more than 500 records at once. After sorting shorter files, MERGE FILES can be used to assemble the sort lists into one file.

When the sort is complete you are returned to the SORT MENU.

SORT SELECTED RECORDS

Option 2 - SORT SELECTED RECORDS. Only the records in an existing search list will be sorted, and you will be asked to give the search list number. Sorting criteria are exactly as for sorting the whole file. If the search list contains more than 500 records or you are using an unexpanded Sam Coupe you may need to use one of the SEARCH options involving SELECTED RECORDS to break the list down into shorter lists which can be sorted.

LOAD SORT LISTS FROM DISC

Option 3 - LOAD SORT LISTS FROM DISC. When the LOAD FILE option is used, only the file and layouts are loaded to the ramdisc. If you have sort lists on a floppy disc which are still useable because the file has not been altered, this option will load them to the ramdisc.

FINE SORTING

Option 4 - FINE SORTING. Options I and 2 sort by one field, but if that field is identical in 2 or more records they are left in the order in which they appear in the file. This option allows other fields to be taken into account in determining the sorted order. For instance, a file of books may be sorted by author and fine sorted by title and publication date fields. This will result in all books by one author being in title order, and if there are two copies of the same book they will be sorted into date order. You may use as many fields as you wish in fine sorting. Fine sorting builds up very large arrays, especially if a number of fields are involved, so you may need to make shorter sort lists for fine sorting.

The sort lists to be fine sorted must be already on the ramdisc and you are given an opportunity to exit the option if you need to load them. At the end of the operation the original sort lists will be overwritten by the fine sorted lists.

You will be asked how many fields are to be involved in the sort. You will be asked to give the field letter of the first field, the one given the greatest priority after the original one by which the list is already sorted, and the number of characters you wish to have considered.

Perfect sorting accuracy is guaranteed by using 248 characters, but this is rarely necessary. Most files will be sorted accurately if as few as the first 40 characters in the field are compared. Since the number of characters being considered in each field affects the size of array being built up, and therefore the number of records which can be sorted at once, you should give the lowest number of characters which will give the degree of accuracy you require. The nature of your own files will determine what this will be.

You will be asked to give the field letters and number of characters to be considered for the total number of fields you

have specified. Give the fields in order of importance in the sorting.

Fine sorting will often take longer than the original sort, especially if there were many records with identical information in the first sort.

If the program stops with an 'out of memory' message, the array being built up became too big for the memory available. You must either split the list being fine sorted, and/or reduce the number of fields involved, and/or reduce the number of characters being considered in one or more fields.

But first, the existing array must be cleared out of memory and this is done from BASIC by using CLEAR. You must now reinstate your filename, which will have been lost.

    LET FILENAME$="filename" - whatever your filename was.

You must also enter DIM C$(250) after which GOTO MENU1 will re-enter the program.

Your file, layouts and any search and sort lists will still be on the ramdisc, and you can take whatever steps are necessary to make the fine sorting possible. Shortened lists may be rejoined into one list after the sorting is complete by using MERGE FILES.

Option 9 - EXIT. Returns to the MAIN MENU.

<u>EXIT TO BASIC</u>
(MAIN MENU option 9 exits to BASIC).

You should never use RUN to re-enter the program, because the
ramdisc will be cleared and your file lost unless you had already
saved it to a floppy disc.

Always use GOTO MENU1. This will make a tidy re-entry, closing
any files which were open if you made an accidental exit to BASIC
following an error message.

<u>USING THE PROGRAM-PRACTICE FILE</u>

There is a sample file on the disc called "CUSTOMERS", which
shows how a typical file might be organized. It is a short file
of the customers of a printing firm, with details of each
customer, names and phone extensions of contacts, discount given,
and the purchases they have made, with date and price of each. In
addition to Layout 1, which has all the record fields labelled
with their field letter and a shortened form of the field name,
there are two other layouts. Layout 2 is suitable for printing
address labels, as it contains only the address form of the name,
the address and postcode from each record. Layout 3 contains only
the sorting form of the name and the telephone number fields, and
could be used either for printing a telephone directory or for
displaying a telephone number on screen. Use this file to
practice viewing, printing, adding or deleting records, updating
them, searching, sorting, block operations, bringing in spare
fields, creating new layouts and file housekeeping after you have
made changes. (There are no records which file housekeeping would
remove in the file as it appears on the disc.) It will
familiarise you with record handling and give you an idea of what
fields and layouts you will need when you begin to create your
own files.

It is sometimes possible to make record handling easier in a very long file by creating shorter files of "active" records which need constant updating.

I use FILE MANAGER to maintain a library catalogue holding several thousand records. There is provision in the records for noting on the main entry who has a book on loan and the date it was borrowed. But to put this information in the full file would mean constant updating of a very long file, and consequently a great deal of file housekeeping. So after each opening of the library, I make a search list of the records for all the books which have been issued that day, and use SAVE SELECTED RECORDS to create a separate file. I then search this short file using a search which will select every record, and use FILL FIELD to put today's date in the "date borrowed" field in each one. I then use DISPLAY ALL RECORDS UNSORTED on layout 1 to enter the name of the borrower on each record. This file of today's issues is then MERGED with a file called "ONLOAN" which contains only copies of the main file records for books which are on loan at present. Before this merge I search "ONLOAN" and make a search list of all the books returned on the day, and use DELETE SELECTED RECORDS to remove them. Searching this shorter file is then much quicker than searching the long one, so I can easily discover which books are overdue for return, and whether a book is "out" when someone wants to borrow it. The full file is only altered when new books are bought or old ones thrown away. File housekeeping is hardly ever needed on the full file, and is quick and easy on the "ONLOAN" file which rarely holds more that 200 records. Producing monthly statistics of how many books are on loan is easy. Load "ONLOAN", exit to BASIC, enter the command "COUNTRECS: PRINT count" and a program procedure will tell me the number of records in the file.

ADDING YOUR OWN FACILITIES

The program is intended to be expanded by its users. MAIN MENU options 7 and 8 are free, and most of the other menus also have room for expansion. MAIN MENU options begin at 1000 * option number, so option 7 commands should begin at line 7000, option 8 at 8000. On other menus, the convention will be different, but the option number prompt is always followed by GET opt, and the convention for calling the option follows that command.

Most of the work of the program is done by procedures. The procedures begin at line 10000, and the existing program procedures continue to 28540. Others may be added if desired.

Line 40 of the main program includes the command OPEN BLOCKS 3. This allows up to 3 OPENTYPE files to be open at once. If your amendments would involve having more than that number of files open at once this line must be changed, or the program will be moved in memory when a new file is opened. This would cause the program to lose track of the procedure addresses, make returns to the wrong line after calling a procedure and eventually stop with

a seemingly ridiculous error message like "MISSING DEF PROC" when
the DEF PROC exists.

THE ORGANIZATION OF THE FILE

You may need to know the file organization when devising your own
options and procedures. The database files produced by the
program are OPENTYPE files. The following marker bytes are used:-

   END OF FIELD MARKER - CHR$ 128,CHR$ 13
   END OF RECORD MARKER - CHR$ 129,CHR$ 13
   END OF FILE MARKER - none, use EOF or LENGTH #
   ERASED RECORD MARKER - CHR$ 255 (replacing first byte of
record).
All CHR$ 13's are entered into the file automatically by the
program.

The first two bytes of the file, 0 and 1, are the number of
fields, including spares, held in the SVAL$ 2-byte string form.

        OPEN #4;filename$ RND: LET A$=INP$(#4,2): CLOSE #4: LET A=
        NVAL A$

will leave A holding the overall number of fields available.

Byte 2 is CHR$ 13. Bytes 3 and 4 are the number of active records
in the file, held in the same form.

        OPEN #4;filename$ RND: POINT #4;3: LET A$=INPS(#4,2): CLOSE
        #4: LET A=NVAL A$

will leave A holding the number of records in the file. Erased
records are not counted. Byte 5 is CHR$ 13. Any facilities which
involve adding or deleting records must update the figure held in
these two bytes, because several procedures make use of it. A
procedure "countrecs" will return the number of records - not
including deleted ones - in the file in the variable "count".

The field names, each preceded by its identifying letter and a
colon, start at byte 6. Each field name is terminated by CHR$
128, CHR$ 13. The list is terminated by CHR$ 129, CHR$ 13.

A procedure "fetchfields" returns the number of fields in use,
(not including spares), in "numfields", and an array B$ holding
the active field names preceded by the identification letter and
a colon. A procedure "getfields" returns the total number of
fields, including spares, in "fields" and the full list in
"fields$". A procedure "dispfields" will display the active field
names on screen.

The records in the file start immediately after the CHR$ 129,
CHR$ 13 terminating the fields list. Each field in a record
starts with the field letter and a colon followed by the field
information. If spare fields have been brought into use after a

record was added, those newly operational fields will not be present in that record. All fields current when a record was added, even if not used in that record, will be present in record, empty fields holding a space. In erased records, the identifying "A" of the first field is overwritten by CHR$ 255.

TECHNICAL INFORMATION

A layout produces three array files on the disc. They have the filenames shown below, with the addition of the layout number to each:-

  "LAYOUT": Numerical array of the information field window co-ordinates in the order LEFT RIGHT TOP BOTTOM. If the LEFT dimension is 255 the field is omitted from this layout.

  "textlay": String array of the text to be placed in each text window.

  "texwin":Numerical array of text window co-ordinates in same order as LAYOUT. If a previously existing text window has been deleted from a layout, LEFT will be 255.

A search list produces one number array, called "SLIST" plus the list number. It contains a list of file pointers for the records matched in the search, in the order in which they appear in the file.

A sort list produces two arrays.

"SORT" plus the number: a numerical array of the file pointers in the order in which the records must be displayed or printed to give the sorted list.

"SORT" plus the number plus ":" plus a field letter: A string array of 256 characters per string. The first 250 characters are the text of the field identified by the filename field letter, bulked out with spaces if necessary, and the last 6 characters are the file pointer in STR$ form, with zeros prefixed to pointers with less than 6 digits. The array is sorted alphabetically so the file pointers are in the same order as those in SORT. This list is only used for fine sorting. If SORT

lists are merged, the string arrays are not merged. They may be erased after fine sorting is complete if you wish.

There is no difference in structure between sort lists produced by sorting the whole file and those produced by sorting selected records. If the list has been fine sorted, the elements in the arrays will have been rearranged to produce a list in fine sorted order, but there is no other difference in the lists.

<u>SHARING YOUR ENHANCEMENTS</u>

It is hoped that FILE MANAGER users will share their ideas for extending the program through FORMAT - the premier magazine for the serious Sam user.

Please send your listings, with a brief explanation of their purpose to:-

        THE EDITOR,
        FORMAT PUBLICATIONS,
        34, BOURTON ROAD,
        GLOUCESTER, GL4 OLE.

Listings and text should be sent on a disc, but accompanied by a printout for quick evaluation. Text may be files from any of the word processors useable with Sam, or an ASCII file.

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If you have any problems with FILE MANAGER, or any suggestions for improvements, please do not hesitate to write to: -

                BETASOFT,
          24, Wyche Avenue,
        Kings Heath, Birmingham.
                B14 6LQ.
                England.