Family History System
Extensions Manual
Contents

Section 1: Introduction

I want to thank you again for registering as a user of the FAMILY HISTORY SYSTEM. The extended functions provided by the programs on the accompanying diskette (as well as future additions) represent the primary benefit that you receive from your registration. Among these enhancements you will find options which permit you to:

Create Indexes for your family files based upon combinations of surname (with optional substitution of husband's surname for wife's), givenname, birth & death dates, latest marriage date, sex and ID numbers; these index files are used to produce sorted listings of information in your family files. You may also create an index file which sequences the ID's in a relationship work file (that is an ancestor/descendant/relative work file) in the order that they would appear when printing an ancestor, descendant or relative report. The purpose of such indexes is to permit you to print Family Group Reports in relationship order.

Produce printed indexes for Ancestor, Descendant and Relative reports showing the page and line numbers of each reference to an individual in the report;

Produce printed indexes for the merged Family Group Report listing showing the page and line numbers as well as the type of each reference to each individual in the report;

Produce printed indexes for sets of ancestor charts showing the chartID and entry # for each reference to an individual on any of the charts;

Produce printed indexes for Ancestor MAPs showing the line number of the "MAP" on which a reference to an ancestor occurs;

Produce printed indexes for Descendant Charts and the Generalised Box charts showing the line number and generation level for each name mentioned in the chart;

Search the family files using up to 9 selection rules and produce lists of information concerning selected individuals including family relationship, marriages, comments, and latest residence address. Search strategies may include soundex searches of names & places;

Produce surname grouped summary reports of information for selected records. Summarized information includes numbers of males, females and total records, ranges of birth, marriage and death dates, and numbers of birth, marriage and death places recorded in the file;

Produce generation level grouped summary reports of information for all or selected descendants or ancestors recorded in a work file. The information summarized is the same as for the surname summary report above;

Produce a Relationship Table showing the number of relatives on file in each relationship category, based upon information in a RELATIVE work file;

Determine the relationship between any two name records without having to create a relative work file;

Produce "Tiny Tafel" reports or files containing summary information in a format that has become popular for indicating research interests on electronic Bulletin Boards;

Transfer information between family files using an ASCII dataset in GEDCOM format; (NOTE: Although an export/import program was introduced within the publicly distributed portion of the FHS software in Sept 1988, that program only supports information that is common to FHS family files and the GEDCOM definition in the Personal Ancestor File software of the LDS Family History Department. The export/import program in these extensions was prepared using an early definition of GEDCOM which was not widely supported, but this program does process all types of information in a FHS family file. Therefore this export/import program is the preferred one for transferring information between FHS family files.);

Create a MailMerge format file containing most recent residence addresses and phone numbers;

Convert between Long and Short Format Address Records.

The programs which support these options must be installed "on top of" an existing working copy of the basic set of FAMILY HISTORY SYSTEM programs. Further, the basic set of programs must be from a "January 1993" (or later) update of these programs.

Additional information concerning the installation of the programs is displayed when you place the X1 diskette in the default drive of your computer and enter: GO INSTALL

Although you are encouraged to share the basic Family History System with others by providing them with a DISKCOPY of the distribution diskette(s) containing the Basic Set of programs and documentation, the programs that make up the extended part of the system are to be distributed only by the author to persons who have registered their use of the programs. Therefore you are requested to not permit others to have access to the distribution diskette containing the system extensions or to have copies of the programs that support the extended options of the system. Of course you may make unlimited copies of the programs for your own use. (Please note that the privileges of registration extend to all members of your immediate family willing to abide by these restrictions.)

See Appendix A for a list of some additional enhancements that I have planned. You will be notified as new options become available. You may then receive the latest diskettes of extended functions by sending a request to me with a $15.00 duplication fee. All updates contain cumulative enhancements to date, so if you skip one update you will receive all of its enhancements with a later order.

Please send all requests, comments and suggestions concerning these programs to:

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Section 2: Creating INDEX Files (Main Menu: F3-F)

For all files of information, there is a natural order for processing records in the file. The "natural" order is usually the order in which the information was originally entered. For your family files this is the order of the ID numbers assigned to each name record. In addition, the family files have been designed to permit following lines of ancestry and descendancy and listing information in these orders as well. However you have no doubt found yourself wanting to list your family information in other orders; for instance in alphabetical sequence of last name (surname) and given name, or in birthdate sequence.

There are two approaches to writing a program to list information in an "unnatural" order. One is to reorder or "sort" the information each time the listing is produced. For small sets of information, such as one's ancestors on file, this is a reasonable approach. However for larger groups of information, such as for all descendants of a 6th or 7th generation ancestor, or for all relatives of a given individual, this becomes unsatisfactory because of the time required for the "sorting" of the information. The second approach is to sort all records in the file into the desired order, and then build a second file, called an index file, containing nothing but the original ID number of each record stored in the sorted order. This "index" file may then be used to process all or part of the records in the sorted order, and may be re-used many times for different reports. These extensions to the Family History System have been designed to use the latter approach.

The program for creating index files is invoked by selecting Main Menu option F3-F. Upon entry to the program you will note that there are only four datasets used. The one containing the Name records of your family file, the one containing Miscellaneous information in your family file, a relative work file (to produce an index in "relationship" sequence), and the index file itself. Program option "F1" allows you to respecify the names of the datasets to be used.

To the right of the screen you see a list of names for data items that may be used as sequence fields for the index file. They include: Surname, Given name, Birthdate (in Year-Month-Day or "chronological" order), Birthdate (in Month-Day-Year order, more suitable for "birthday" lists), (latest) Marriage date (in Month-Day-Year order), Deathdate, Sex and ID number. Next to each field name are three pieces of information describing how the sequence data is to be used. First is a number indicating the order of precedence when more than one sequence field is used. (You will find that you cannot change this for the ID-number field. The ID-number is always the last sequence field for each index.) The second piece of information is an "A" or "D", depending on whether the sorting is to be in "ascending" or "descending" order on that field. (Normal alphabetical or chronological sequence is "ascending".) Finally, the length of the sequence data is given. This "length" is fixed for all sequence fields except surname and givenname. Because the use of disk workareas slows the sort procedure when it is not possible to hold all sequence data in the program workarea, you are permitted to adjust the length of the name fields to reduce the size of the sequence data and therefore permit sorting more records at a time in memory. (I find that the first 8

characters of the name fields are sufficient to uniquely sort the information in my own family files which now contain almost 2200 name records.)

A. Creating SORTED Indexes

If you are creating an INDEX in a sorted sequence, then after setting up the sort field descriptive information as you wish (using program option "F2"), you begin the index building procedure by selecting program option "F3" and choosing index option "1". You will then be asked whether you want to substitute the (latest) husband's surname for the wife's when reading the sequence data from the family files. This option is provided to allow you to build indexes for birthday or anniversary lists in which the more familiar married name of female relatives will be used, rather than the person's maiden name. Other programs which use the index for producing reports will also make the substitution of surnames in the report if that option is selected here. (Note: a field was added to the name record in Feb 87, a surname "Use" field, which can be used to override this surname substitution. If a value of "Y" is found in this field for a married woman then her own surname will always be used both when creating indexes and when printing indexed reports.)

While creating an index, you will be given a "progress report" showing the starting time for each of the major processes:

Creating arrays in memory for holding the sequence data (this is the phase during which any limitations in the size of the program's workarea in memory will show up);
Reading sequence data from the family file (this is a surprisingly long running procedure...and it will take longer if you have chosen a descending sort on any of the fields);
Sorting the data;
and Creating the index file.

It is while "Creating the Arrays" that memory limitations (of BASIC, not of the machine) show up when building indexes for very large family files. If you receive the message:

"Insufficient space for reading sequence data...(Continue Y/N)"

you may elect to continue the procedure, using a disk workarea to hold the overflow data, by pressing the "Y" key, or terminate the process by pressing any other key. If you elect to continue, then you will be asked to:

Enter drive ID (A,B,C,...) for sort workarea of ..... bytes

This workarea will exist only for the duration of the index building procedure. For best performance, you should consider placing it on a RAM disk.

During each of the first three phases of the index building process you can get a "mini" progress report by pressing the "space bar". The entire procedure can be terminated during any of the first three phases by pressing the ESCape key. If an index is being rebuilt, the existing index will not be affected until the last phase of the process when the sorted ID#'s are written to it.

You may of course build multiple index files to process the name records in different orders. I use three indexes: one in Surname,

Given name, Birthdate (YMD) sequence; a second (BIRTHDAY.NDX) in Birthdate (MDY), Surname (with substitution of husband's surname), Given name sequence; and a third (ANNIVERS.NDX) in Marriage date, Surname (with substitution of husband's surname) sequence.

B. Creating RELATIONSHIP Indexes

In Oct 1987 the Family Group Report was enhanced to permit the "batch" printing of many family group reports. It also introduced a "merged" family group report which was intended to simplify the creation of family booklets. The family group reports printed could be either in ID # or INDEXed sequence of the subject of the report. In the year that followed, it became apparent that many users of the system were wanting to print family group reports in an order that was not provided by either of those options.

In response to those requests the INDEX Building program now allows you to create an index in "relationship" order. That is, you can create an index which will sequence the ID's found in one of the system's ancestor/descendant/relative work files in the order that they would be printed when producing an ancestor, descendant or relative report. The ID #'s for all other name records in a family file will just be in ID sequence and will follow those recorded in the work file.

To create a "relationship index", you should first make sure that the RELATIVE file in the FILE NAMEs section of the INDEX program display refers to the work file that you want to be indexed. You may also want to change the name of the index file itself to something like "RELATIVE.NDX" to avoid overlaying your usual sorted index. Then select program option F3 and select sub-option "2" for creating a relative index.

If the work file is a descendant or relative work file, you will be asked whether you want to sequence descendants by generations or by families. The "generation" sequence will place all brothers, sisters and same-generation cousins before any of their children. The "family" sequence will place all descendants of one individual before any of that individual's younger siblings. You will probably want to use the same option that you usually feel more comfortable with when printing a descendant or relative report.

The program will then create the relative index, a process which is generally much quicker than that required for creating a sorted index.

C. Printing a List of Names in INDEXed order

A fourth option "F4" permits you to produce a simple full file listing using the index. Although this report should prove convenient for verifying the results of the index building procedure, more useful indexed listings are produced by other options of the extended system. In particular, Main Menu option F2-E, described in Section 4 below, is the option that I've provided for printing most listings that you are likely to want, such as ID sequenced lists of all or selected records or Birthday or Anniversary lists. That option allows you to include such information as relationship, number of children, places of birth/marriage/death, comments and most recent residence address.

Section 3. Producing Report Indexes (Main Menu: F2-D)

If you have been patiently adding name records to your family files, you should have been gratified to find your set of ancestor charts growing to encompass several subcharts, all nicely "chained" together. You have probably also observed the descendant report for that very remote ancestor growing to several pages filled with all manner of vaguely familiar names of distant cousins. Although direct lines of ancestry or descendancy are easy enough to follow on each of these reports, you have probably had some problems locating particular individuals whose relationship to you is not well known. (I sometimes have problems finding myself on the descendant report of one ancestor which now extends to more than 25 pages with spouses.) The program described in this section is intended to make it easier to overcome this problem.

Main Menu option F2-D invokes the Report Index Program which makes use of the index files described in Section 2 to produce printed indexes for ancestor, descendant or relative reports, sets of Family Group reports (in ID# sequence), merged family group reports, sets of ancestor charts and ancestor "maps", descendant charts, and the generalised "box" charts. For most reports, references to an individual are noted by the page and line number on which the reference occurs. Indexes for ancestor charts note the chart-ID and entry number of each reference to an individual. Entries in the "Box" charts are identified by the column number and line number where the indexed name appears.

The references for family group reports show both the page and line number of the report as well as a short "symbol" indicating the type of family group report entry that is occupied by the individual. These symbols include:

*	when the individual is the "subject" of the family group;
F	for a Father of the "subject" of the report;
M	for a Mother of the "subject" of the report;
C	for a Child;
SP	for a SPouse;
SF	for a Spouse's Father;
SM	for a Spouse's Mother;
and CS	for a Child's Spouse.

The information concerning an individual that is listed in the report index includes the formatted name. Please note that if you chose to substitute a husband's surname for a wife's when creating the index file that is being used, then this procedure will also be followed when producing the index report unless the wife's "Surname Use" field has a value of "Y". If a husband's surname is used for a woman, then her own surname will be appended to her given name.

The report indexes may include a literal describing the relationship of the individual being indexed. This relationship may be determined from the reference file (if the report being indexed is one of the "relationship" reports or charts) or it may be determined from the RELATIVE work file identified in the upper left part of the screen. If it is determined from the REFERENCE file, then it is based upon the first reference to the individual that appears in the report...if this is a spouse entry (designated by a "(sp)" preceding the reference), then the relationship is an "in-law" relationship rather than a

"blood" relationship. For instance, the spouse of a sister will show up as a "Brother" in the index, but the "(sp)" before the REFerence should make it clear that this is a "Brother-in-law". Other report indexes may also include a relationship literal. In those cases, the relationship is based upon the previously created RELATIVE work file that appears in the File Name section in the upper left part of the screen.

Upon entry to the report index program, you will note that 5 different datasets may be used in producing report indexes. They are:

a. The dataset containing the NAME records of your family file;
b. The dataset containing Miscellaneous data in your family file;
c. The INDEX file to be used;
d. The RELATIVE workfile used to determine relationships;
e. The Report Index REFERENCE workfile, a work file created during the printing of the report being indexed to store the location of all references to individuals in the report or charts being indexed.

Of course, it is important that the datasets that are used in producing a report index "match" (you wouldn't want the index for one family file to be used to print an indexed report for another family file), therefore the program will check for matched files and report any discrepancies found. Option "F1" of the report index program allows you to respecify the names of the datasets being used.

In the middle of the screen is a line indicating the type report index that is to be produced. This is based upon information taken from the REFERENCE work file. This file must have been previously created during the printing of the report being indexed.

NOTE:If you have already printed the report without creating the Reference work file, you may still create the Reference work file without actually having to print the report again. Return to the option for printing the report, set up all printer parameters and report options as before and select the option to print the report again. When it asks whether you wish to:

Start at Beginning? (Y/N)

reply "N" and when asked the page or line number to begin printing, enter 9999. Also request that the Reference work file be created. When the program begins "printing" the report, it will process all information in the report, placing all appropriate information in the Refernece work file, but nothing will actually go to the printer (unless your report is more than 9999 pages). The process for creating a Reference work file for ancestor charts, without actually printing the charts is a little different. In this case, when you are asked whether you wish to print each chart, you may now respond with "Y", "N", "A" or "R". The "R" indicates that you do NOT want to print the chart, but that you want to Record all references in the Reference work file. You will have to respond "R" for each chart that you want indexed but not printed.

REPORT INDEX OPTIONS

In the lower right corner of the screen are some options for printing the report indexes. You may indicate the amount of space to be allowed for the formatted name. (The maximum size that a formatted name might be is 72 characters, in the case that the option for substitut-

ing a husband's surname for a wife's was used when creating the index.) You may include, or exclude the printing of ID #'s, Sex and relationship. You may also optionally number the pages of the report index. If you decide to number the pages, you may indicate the value with which the page numbering is to begin. The "default" value for beginning is the page number following the last page of the report being indexed, as determined from the REFERENCE work file. You may want to change this if you expect to insert other reports or descriptive information between the report being indexed and the report index.

Program option F4 is used to make changes to the menus of "Index Report Options" in the lower right portion of the screen. Actually, there are three "frames" of options that may be sequentially viewed by pressing the PGUP/PGDN (or Page Up/Page Down) keys. Any changes you make to the options will be "remembered" for the duration of the FHS working session. You may SAVE your changes using the "F2 File" selection in the Option viewing area. The saved values will become the default values for the Report Index Options in future FHS sessions.

Each of the frames of Report Index Options is shown below. The meaning of most options is apparent from the descriptive label. A few are described in more detail in text following the option display.

```
Option FRAME #1:
                __ = Name Field Width
                 _ Show ID's                (Y/N)
                 _ Show Sex Code            (Y/N)
                 _ Show Birth Date          (Y/N)
                 _ Show Death Date          (Y/N)
                 _ Show Relationship Label (Y/N)
                 _ Print Page Numbers       (Y/N)

Option FRAME #2:
                 _ Surname First            (Y/N)
                 _ Surname in CAPS          (Y/N)
                 _ Rel Rules  (1=Common,2=Civil)
                ___ First Page Number
```

The first two options allow you to control the formatting of the Name field in the report index. The surname may be placed first or last and it may printed in all capital letters for emphasis.

The "Rel Rules" option allows you to choose the set of rules to be used for constructing the relationship label (when you also choose to "Show Relationship Label" in the previous frame). The rules differ in the way that cousins are labeled. The "common" rules would denote the child of a first cousin as a "first cousin once removed", or "1C1R", whereas the "Civil Law" rules would denote such a child as a second cousin.

The initial value for the "First Page Number" is the page number following the last page number in the report being referenced (or "1" if a chart is being indexed). You may want to change this value if you are placing the report index somewhere other than immediately following the report being indexed.

Option FRAME #3:

```
___ Page Width (in Characters)
__ Inside Margin
__ Outside Margin
_ Blank Lines - Top       (0-9)
_ Blank Lines - Heading   (0-9)
_ Blank Lines - Footing   (0-9)
_ Blank Lines - Bottom    (0-9)
```

These "Page Formatting Options" are described in more detail in Section V.B.3 of the manual for the Basic Set of Programs. If the value of the Outside Margin is non-zero, then when the report index is printed, you will be asked whether you wish to:

PRINT 1) All Pages 2) ODD Pages or 3) EVEN Pages

You may use this to print the report index on both sides of the page by printing all ODD pages first, then turning the paper over and printing all EVEN pages on the back.

PRINTING REPORT INDEXES

Use option "F5" of the report index program to actually print the report indexes. (Please note that you must have previously created an INDEX File using MainMenu option F3-F.) You may wish to change the printer setup when printing a report index since the typical information line of 79-85 characters can probably be printed in a more conventional PICA or Elite type, whereas compressed print is usually required for printing the reports themselves.

If the Page Width is wider than required for the information that has been selected for printing in the report, then blanks will be placed between the columns of information so that the printed line will "fill" the area between the margins.

If you are printing the report on an impact printer, you may notice the lines of indexed reports being produced at uneven (time) intervals, especially for reports which include information from only a small portion of your total family file records. This results from the fact that all entries in the index are processed though report lines are produced only for entries which correspond to individuals listed in the report being indexed.

You may print the report index in different orders merely by changing the name of the INDEX file being used and re-printing the report index. It is not necessary to rebuild the report REFERENCE work file.

Section 4: Search/Select/LIST Program (Main Menu: F2-E)

The Family History System's Search/Select/LIST program is called up when you choose Main Menu option F2-E. This program has been provided to permit more extensive file searching than is currently available using the search option of the file maintenance program, and to allow you to produce printed lists of individuals that meet the search criteria. The results of the "search" procedure may also be stored in a work dataset, "SELECT.WRK", which is used in the "EXPORT" utilities to identify the individuals whose information is to be written to an "external" dataset, in the Family Group Report program for the "batch" printing of reports, and in the Summary report program for summarizing information for the SELECTed records.

There are three steps for printing one of the reports in this program:
(F3) Selecting the records to print;
(F4) Choosing the Options for the Report;
and (F5) Printing the reports.

Each of these steps is described below.

A. SELECTING RECORDS TO PRINT (F3)

When you begin using the Search/Select/LIST option, all records in the name file are selected for processing in a report. The number of records in the file appears near the right side of the screen, under the label: "Selected Records". Program option F3 permits you to restrict the records to be printed in a variety of ways. When you press the F3 key, the viewing area in the lower right corner of the screen is cleared and reformatted with the fields that are used to define selection rules. At the bottom of the screen the following message is displayed:

Select 1) Choose BASE 2) Change RULEs 3) Apply RULEs

The three steps for selecting records to print are to: choose the "base set" of records; define a set of "selection rules"; and apply the rules to the "base set". The rules may be restated or redefined and reapplied to the previously selected records until the final "selection set" (the set of records to be printed) is determined. At that time, pressing the ESCape key terminates the selection process and you may go on with printing the report.

Each of the steps in the selection process is described in more detail in the following paragraphs.

1. CHOOSING THE SELECTION BASE

The first step in selecting records for printing is to simply decide upon the "major" group of records from which any further selection may be made. This may be the entire file, or it may be restricted to those individuals recorded in an ancestor, descendant or relative work file. It may even be those individuals who have been previously selected by some procedure and whose ID's have been saved in a SELECT file. This initial group of individuals is called the "Selection Base". In some cases it may be the exact set of records you want to print so that you will not have to follow up with any searches to refine the set further.

When the option "1) Choose BASE" is selected, the following message appears at the bottom of the screen:

Select A) Full File B) Select File C) Relative Work File

The "Select File" refers to the dataset identified in the File Name section of the display on the line labeled "SELECT". The "Relative Work File" refers to the dataset identified in the File Name section on the line labeled "REL WORK". If either of these is selected, then the dataset must have been previously created by this or one of the other programs in the system.

After pressing a valid character key, the choice will be recorded in the "Selection BASE" part of the screen (above the viewing area in which the selection rules are shown) by displaying the character in a "reverse-video box" next to the description of the base chosen. At the same time, the corresponding dataset is opened and a table (or internal list) is created in which the ID numbers in the dataset are recorded. The number of ID numbers recorded is displayed near the right side of the screen under the label: "Selected Records". At this time, the "Selection BASE" becomes the "Current Selection Set" of records to be processed.

2. DEFINING SELECTION RULES

While the "Selection Base" may be the exact set of records for which you want to print information, you may actually be interested in some subset of that collection of records. To accomplish this, you may define some "selection rules" which can be "applied to the selection base" during a "search" procedure to restrict the records in the manner prescribed by the rules. The search criteria, as shown in the viewing area in the lower right corner of the screen, may consist of up to 9 of those "selection rules". Each rule is made of:

upper & lower bounds on ID#, birth date, & death date;
gender (or sex code);
substring or soundex values for surname, given name, and birth & death places;
and whether or not an individual has a spouse, child or residence recorded in the file.

(Note: rules concerning the existence of marriage or residence information are established by entering "Y", "N" or "C" in the appropriate place in the RULES display. The "C" requests that only individuals who have CURRENT information of that type be selected; that is, those for whom the latest marriage or residence termination date is zero.)

Using these conditions, you may define rules which would restrict the records selected to:

persons who are still living (Death Date <= 00-00-0000)
persons who are deceased (00-00-0001 <= Death Date)
persons who were living on a given date, e.g. 04-10-1943,
(Birth Date <= 04-10-1943 and 04-10-1943 <= Death Date)
persons born in Indiana (birth place substring of "IN" or "Ind")

(Note: the effectiveness of place name searches will depend in part upon your consistency in recording place names in your family file.)

When applying these rules, an individual is selected if at least one of the rules is satisfied. A rule will be satisfied for an individual only if all conditions in the rule are true for that individual.

When you select the option "3) Change RULEs", the hilited border is moved to the lower right corner of the screen where the selection rules are displayed. The top line of the view gives the number of the rule and how many rules have been previously defined. The latter number may be less than the former if the currently displayed rule has not yet been added to the set of rules. In the following discussion, a "null rule" is one in which none of the displayed selection fields have been changed.

The procedure for updating information in the displayed rule description is the same as that followed for updating other full screen displays in the system, with the following additions:

1. the PGDN & PGUP keys are used to move to later or prior rules in the set;
2. function key F2 will clear all fields in the currently displayed rule; ALT+F2 will delete all rules in the set;
3. function key F3 will place all fields currently displayed in a hold area; These values may be restored to the display (after subsequent update of the displayed rule or after moving to another rule) by pressing the F4 key;
4. pressing the RETURN key, the PGUP or PGDN keys, or the F1 key will cause the currently displayed rule to be added to the set of rules (if it is a "non-null" rule);
5. pressing the ESCape key will result in the fields in the currently displayed rule being restored to the value that they had the last time the RETURN key or a special function key was pressed;

The process of defining the rules is terminated by pressing the "F1" function key. All null rules are removed from the set, the first rule of the set is redisplayed, and options for Selecting Records to Print are redisplayed on the bottom line of the screen.

NOTE: The conditions that can be placed upon names and places are much more flexible than simple searches for exact matches. Please see Section 4.F below: "Performing Sub-String and Soundex Searches of Names and Places".

3. APPLYING THE RULES

This procedure of "Applying the Rules" consists of examining each record in the current selection set and determining whether it satisfies any of the selection rules. A record will be selected if it satisfies any one of the rules in the selection set. Well, actually, a record will be removed from the selection set if it fails to satisfy every selection rule. As a result, if no selection rules have been defined, then no record will fail any selection rule and so all records in the current selection set will "survive" the search process. Also, if the process of applying the rules is interrupted (by pressing the ESCape key) the selected individuals will include not only those who passed the rules test (so far), but those in the the original selection set who have not

yet been tested.

When you begin the search process by selecting the option:

"3) Apply RULEs"

you are first asked whether you wish to mark "secondary selections". These are persons who are closely related to selected individuals (they appear on the individual's family group worksheet) and include the parents, children, spouse, spouse's parents, and child's (latest) spouse. If your response is "y" or "Y", the viewing area in the lower right corner of the screen will be cleared and a list of optional "categories" of secondary selections will appear there. The following message will also be displayed at the bottom of the screen:

"Enter A-E to toggle secondary selections"

Pressing one of the allowed character keys will cause the corresponding character next to the chosen category to be "hilited" (indicating that the category of individual's are to be chosen) or to have "hiliting" removed. The term "toggle" refers to this "on/off" effect when pressing the A-E character keys. After all desired categories have been selected, press the RETURN key to proceed. The view will be cleared and the first selection rule redisplayed.

Next, if there are rules to be applied or secondary individuals are to be chosen you will see the message: "Applying RULES to BASE" and you will note your disk drive become active. During this process you may press the space bar at the bottom of the keyboard to get the progress report:

"Processing ID# nnn at hh:mm:ss"

This does not cause the process to wait. If you wish to terminate the procedure before normal completion, press the ESCape key.

After the process is complete (or if it has been terminated by pressing the ESCape key), the following message is displayed:

"Selection table has ___ selected and ___ secondary entries..."

If the procedure has been interrupted, the number of records "selected" will include not only those which have passed a selection rule but those in the selection base which have not been tested yet. The number of secondary entries is the number of chosen secondary selections which are not among those "selected".

When you press any key on the keyboard, the message showing the results of the search is cleared and is replaced with the list of options for "Selecting Records to Print".

B. CHANGING REPORT OPTIONS (F4)

Program option F4 permits you to change the report options, including the list of items of "Information to List" and other parameters which affect the formatting of that information and the report page. Changes made to the option values will be "remembered" for the duration of the FHS working session. When making changes to the report options, the "F2 File" option may be used to SAVE the option settings (in a FAMSLECT.OPT file). The saved values become the default option values for future FHS sessions.

There are actually four "frames" of option menus which may be sequentially viewed by pressing the PGUP/PGDN (or Page Up/Page Down) keys in the option viewing area. Each of the option frames will be shown below. The meanings of most options should be clear from the descriptive label. Some options are described in more detail following the option display.

```
 Option FRAME #1      Information to LIST
                _  ID Number                 (Y/N)
                _  Parent (& Spouse) ID's    (Y/N)
                _  Surname Soundex Code      (Y/N)
                _  Relationship              (Y/N)
                _  Sex Code                  (Y/N)
                _  AGE (& YRS Married)     (Y/N/D)
                _  Birth Date                (Y/N)
                _  Marriage Date             (Y/N)
                _  Death Date                (Y/N)
```

If "Parent (& Spouse) ID's" is chosen, then the Spouse ID will be shown only if either "Marriage Date" or "Spouse Name & Dates" (see next option frame) is also chosen to be included in the report.

The "Surname Soundex Code" is a 4 character symbol which is constructed in such a way that "similar sounding" names will be assigned the same symbol. These codes are used to group surnames in census indexes.

If "Relationship" is chosen as an information item, then the "REL WORK" file, listed among the File Names in the upper left portion of the program display, must have been previously created in one of the Ancestor/Descendant/Relative or Ancestor Chart programs. That file will be used to determine the relationship labels that appear in the report.

The "D" value for "AGE (& YRS Married)" requests that the value be printed only if the individual has died (or, in the case of YRS Married, the marriage has been terminated by death or other cause). If the termination of a marriage is determined from the death date of one of the spouses, then an "*" will appear to the right of the value in the report. The "YRS Married" field will appear in the report only if the "Marriage Date" option is "Y" also.

```
  Option FRAME #2    Information to LIST (Cont.)
                   _  Number of Children         (Y/N)
                   _  Occupation                 (Y/N)
                   _  Place Names                (Y/N)
                   _  (Latest) Residence         (Y/N)
                   _  Comments                 (Y/N/A)
                   _  Bracketed Comments       (Y/N/S)
                   _  Spouse Name & Dates      (Y/N/A)
```

The "Occupation" field will show the Title field from the most recent Work record under the individual's name record. This is a 30 character field, although you may change the width of the field in the report using an entry in the next option frame.

A "Residence" is an address that occurs under the individual's name record or under any of their marriage records. Only the "most recent" residence address will be shown, based upon the beginning date of residency in the record.

The "A" value for "Comments" requests that when "Spouse Name & Dates" is selected and comments are being printed, then both the comments under the marriage record and under the spouse's name record will be printed. A value of "Y" will result in printing only the comments under the name record.

The "Bracketed Comments" option is used to request that both "bracketed" and unbracketed comments be shown. The "bracketed" comments are those that appear within "braces" or "curly brackets" ("{" and "}"). These might be sensitive or uncertain remarks that may not be appropriate for reports shared with others. The "S" value requests that the brackets also be "S"hown, otherwise they will be replaced by spaces when the comments are formatted.

The "A" value for "Spouse Name & Dates" requests that a line be produced for "A"ll spouses (from most recent to least recent). A value of "Y" for the option will result in only the most recent spouse's name being printed.

```
  Option FRAME #3:        Other Options
                  __  Name Field Width
                   _  Surname First           (Y/N)
                   _  Surname in CAPS         (Y/N)
                   _  Use Husband's Surname   (Y/N)
                  __  Occupation Field Width
                   _  Rel Rules  (1=Common, 2=Civil)
                   _  Blank Line Between      (Y/N)
                   _  Print Page Numbers      (Y/N)
                 ___  First Page Number
```

The "Name Field Width" and "Occupation Field Width" values can be used to tailor these fields for your information. The maximum length of a formatted name is 72 characters (if the husband's surname is used for wives) and the Occupation Title may be up to 30 characters, however it may be possible to use smaller values for your reports.

The "Use Husband's Surname" option may be used to request that the (most recent) husband's surname be used for a wife. If this option is chosen, then the wife's own surname will be appended to her given name when formatting the name for the report. The surname substitution will not take place if the "Surname USE" field in the wife's name record has a value of "Y".

The "Rel Rules" option is used to select the "rule" for construct-ing relationsip labels (if "Relationship" was selected for printing in Option Frame #1). The two rules differ only in the way that cousin relationships are described. The "Common" rule would desig-nate the child of a first cousin as a "first cousin once removed" or 1C1R while the "Civil" rule would label the child as a "second cousin" or "2Cousin".

The "Blank Line Between" option may be used to cause a blank line to be printed before each entry in the report. If this option is not chosen, then multi-line report entries will be indented after the first line to make it easier to identify the beginning of each entry in the report.

The option to "Print Page Numbers" and the "First Page Number" option permit you to continue the page numbering from earlier reports when several reports are gathered together in a booklet. Actually, the reports produced by this program are "naturally sequenced", either by the INDEX file or by the ID numbers, so page numbers may not be essential for locating information in a report, however some users have indicated a preference for numbered pages even in these reports.

```
  Option FRAME #4       Page Format Options
                 ___  Page Width (in Characters)
                  __  Inside Margin
                  __  Outside Margin
                   _  Blank Lines - Top        (0-9)
                   _  Blank Lines - Heading    (0-9)
                   _  Blank Lines - Footing    (0-9)
                   _  Blank Lines - Bottom     (0-9)
```

(The purpose of the "Page Format Options" is described in Section V.B.3 of the manual for the Public Version of these programs, printed from diskette B1.)

C. PRINTING REPORTS (F5)

Program option F5 allows you to print lists of information about selected individuals in ID# or Indexed sequence.

You are first asked to:

```
       Select   1) Screen  2) Printer  3) File
```

for the report destination. If you select FILE output, you will then be prompted for the name of the file to which the report should be routed. The "Forms Width" will be ignored when the report is sent to a file. The resulting dataset can be examined and modified by most text (word) processing programs before finally printing it out.

You are also asked whether the listing is to be INDEXED, using the "INDX File" shown in the "FILE Names" portion of the screen, or is to be produced in an un-indexed ID# sequence. If you choose an INDEXED listing then the "INDX File" must have been previously created using Main Menu selection F3-F. If the index was created with the husband's surname being substituted for the wife's, then that procedure will be followed in producing the report.

If the total data length for the selected items on a data line is less than the Page Width, then spaces will be inserted between the columns of information to cause the information line to "expand" to fill the area between the margins.

If the total data length for selected items (together with the margins) requires a greater Page Width than what has been entered and

"Addresses" is one of the data items, then the Address information will be printed on a second data line. If the required page width is still greater than the value of the Page Width parameter, then you will be asked:

"Page Width is xxx but line width is yyy ... continue? (Y/N)"

If you choose to continue, the page width will be increased to accomodate the required line length. If the Page Width exceeds the value for "Forms Width" and the output is being sent to a printer, you will be asked:

"Forms Width is xxx but Page width is yyy ... continue? (Y/N)"

If you choose to continue, the line will be truncated according to the values of forms width and "offset". (You may subsequently print the report again to get the truncated information by using the OFFSET field among the Printer Parameters.)

While the listing is being displayed or printed, you may cause processing to pause by pressing the space bar (or any of the character keys on the keyboard). The message:

WAITING at Seq# nnn ...

will appear at the bottom of the screen. The "sequence number" shown is the number of the index entry or ID# being processed...not the number of lines that have been printed. This number increases even when lines are not being written since all entries in the index or selection table are being processed, not just the ones for ID#'s which have been "selected". You may continue processing by pressing the space bar again, or you may terminate the list by pressing the ESCape key.

D. USING THE SELECTION WORK FILE (F6)

The "Selection Work" dataset (default name=SELECT.WRK) is used to save the results of a Search/Select procedure for later use by this program or by another program in the system (for example, the EXPORT program may use this dataset to determine which individuals' information is to be written to the GEDCOM format dataset).

Processing of the selection work dataset is requested by program option F6. Choices presented to you are:

1. SAVE the current selection table and rules in the dataset;
2. LOAD the selection table and rules information from the dataset;
3. MERGE the selection table in the dataset with the current selection table (this may be used to construct more complex selection tables, for instance one containing the ancestors, descendants or relatives of two unrelated individuals). The resulting selection table (in memory) will mark individuals who were selected in EITHER the previous selection table OR the SELECT work file;
4. AND the selection table in the dataset with the current selection table. The resulting selection table (in memory) will mark individuals who were selected in BOTH the previous selection table AND the SELECT work file;
5. EXCLUDE the selected individuals in the work dataset from the selected individuals in the current table. The

resulting selection table (in memory) will mark individuals whe were in the previous selection table but were NOT in the SELECT work file;

The selection table is stored in the work dataset as a number of "Selection Sets", with each set containing the table entries for 100 individuals. If your family files have 875 individuals recorded, then 9 selection sets are required for saving the complete selection table, even if there are only 25 individuals who are marked as being selected.

During the process of saving, loading or merging the work dataset, a message at the bottom of the screen will show the progression thru the selection sets. It may take a while so be patient.

E. SOME SELECTION SUGGESTIONS - Searching for Relatives

Although the relative report program provides a much more efficient method for locating the relatives of an individual, you can also use the Search/Select/LIST program to locate and list relatives. To do this, perform the following steps:

1. Choose the ID# that you wish to locate the relatives for, say ID#=42 and define a rule which will select only this ID:
   42<=ID#<=42

2. With selection base=full file, apply this rule and indicate the secondary selection of parents. You should end up with 1 selected ID and (probably) 2 secondary selections; then clear the selection rule (use F2 to clear the rule when you are editing it);

   NOTE: Alternatively, you might start with a group of individuals and proceed to locate all relatives of members of the group. For instance, you might start with all individuals whose surname "sounds like" BROWN.

3. Apply the cleared (null or empty) selection rule, again indicating the secondary selection of parents as before. You will probably have 3 selected ID's and 4 secondary selections (the grandparents of the original individual); You may continue in this way until you have no secondary selections; you will then have selected all the ancestors of the original individual(s). Of course, for a single individual this could have been done more efficiently by creating the ANCESTOR work dataset for the individual and using it as a selection base...However the procedure outlined above might be useful for building a selection table for a limited collection of ancestors, say back through the grandparents, without having to go to one of the ancestor programs;

4. After selecting the ancestors, you can begin "searching" for the other relatives by applying (a null) rule and setting the "secondary selections" to be the children of the previously selected individuals. The first time you do this, the resulting secondary selections will be the aunts & uncles, great aunts &

uncles, etc. of the original ID(s) (together with the brothers, sisters & children of the original ID). Applying a (null) rule to this group, again choosing "Children" as secondary selections, will result in the selection of all 1st cousins and prior generation 1st cousins once removed, 1st cousins twice removed, etc. (as well as the nieces, nephews & grandchildren) of the original ID(s). Continuing the process of selecting children of the prior selection set will expand the set of selected individuals to include 2nd cousins, 3rd cousins etc. When no new secondary individuals are found, all recorded relatives will have been located. You may want to then save the selection table in a dataset such as "RELSLCT.WRK".

When constructing an "active" address or birthday list, you may want to start with a set of relatives, add to it the spouses (apply another "null" rule and choose spouses as secondary selections), and then select those individuals who are living (upper bound on deathdate=00-00-0000), and have a recorded birth month (lower bound on birth month=01) or have a (current) residence in the file. Then produce a BIRTHDAY List (indexed by birthdate in MDY sequence) or an ADDRESS List from this selection set.

F. PERFORMING SUBSTRING AND SOUNDEX SEARCHES OF NAMES & PLACES

Before Feb 1987 the only method of searching name & place fields was to look for occurences of an entered string of characters within these fields. For instance, a request to search a surname field for "Br" would locate surnames "Brown", "Braun", "Bryan", etc. These searches were case sensitive (a lower case character would not match an upper case character and vice versa) and matches could be found anywhere in the name field (the above request would locate a surname of "VonBraun"). However there was no option for performing "soundex" searches, which is a popular procedure for looking for names that "sound alike".

In Feb 1987 the procedure for performing name & place searches was considerably expanded to allow not only soundex searches, but "mismatch" and "exact match" requests as well. The purpose of this section is to describe these new search options.

The first character of a Surname, Given Name, Birth/Death Place string that has been entered into one of the search rules determines the type of search that will be performed as follows:

If the first character of a Name/Place search request is not one of the special characters: "~", "^", "=" or "#" then a sub-string search is performed just as before;

A "tilde" character, or "~", requests that a soundex search be performed; the string of characters following the "~" symbol will be called the "keyword" for the soundex search. During a soundex search, the "soundex code" for the keyword is computed and the corresponding Name or Place field is searched for words that have soundex codes that match it. The character strings that are examined are those that begin with the same "upper case" letter as the keyword soundex code and are terminated by a non-alpha character

(such as spaces, commas, semi-colons, etc.). (Note: the tilde character is used in mathematics to indicate "similarity" which is why it was chosen to represent a search for similar sounding character strings.)

A "circumflex" or "^" character placed before a substring or soundex search extends that search to also look for substrings which begin with a lowercase letter but otherwise match the string or keyword soundex which follows the "^". Using this, you can find "similar sounding" strings of characters which are at the end of a name. For example a search for "^~Mary" would locate "Rose-marie".

A double "circumflex" or "^^" before a soundex search request will extend the search further to locate similar sounding strings at the beginning or in the middle of a name. (Note: the circumflex was chosen to represent these extended search options because it is sometimes used to indicate the insertion of a character or string of characters in the middle of another string of characters.)

An "equal sign" or "=" character indicates that the search must produce an "exact match" to the following characters. In this case, a search of Given Name "=Mary" would not yield a match for "Mary Jane" or "Ida Mary", but only if the given name was simply "Mary".

A "pound sign" or "#" character indicates that the search will be considered successful only if the search string that follows it does NOT result in a match when the corresponding name or place field is searched. This might be called a "mismatch" search option. (Note: the "#" sign was chosen because it looks like a mathematical symbol for "not equal".)

The following examples are intended to indicate what you might expect from using the above search options. The results were obtained by performing the indicated search against my own family file of 1750+ name records using the compiled version of the programs on an IBM AT.

	Search String	Time (sec.)	#Found	Typical Names found
1.	Mary	14	40	Mary, Hester Mary
2.	mary	13	1	Rosemary
3.	^Mary	14	41	(all in #1, #2)
4.	~Mary	24	66	Marie, Maria, Myra as well as those in #1
5.	^~Mary	27	77	Those in #4 as well as Rosemary and Tamara. I also picked up Elmer, Homer, Omar, Emera etc., but most of the "way out" variances were eliminated when I restricted the search to Females.
6.	^^~Mary	27	165	After restricting the search to females, the 88 additional names found over #5 above were reduced to 44, including: Marella, Meriam, Merris, Marabelle, Marlene, Marvia, Marjorie, Myrtle, ...

7. A search for "#^~Mary" applied to the selection set resulting

from #6 above will select just those 88 names that were found in #6 but not in #5. This shows how a "Mismatch" search can be used to reduce the results of previous searches.

At one time I felt that the original substring searches provided by this program should be adequate for most purposes. But I do find the new options described above to be at least intriguing...perhaps even useful. I encourage you to experiment with them to find out just what search strategies provide the most meaningful information for you.

G. A FINAL WORD ON THE PROGRAM

The Search/Select/LIST option can be used to select records for exporting to a GEDCOM file, for sharing information with a friend or perhaps for subdividing a very large family file into two or more smaller files. Appendix E gives some suggestions for doing this.

Although it may be overdoing it a bit to say that the search and report options available to you in this program are "endless", they are quite extensive. There are some deficiencies of course...for instance, you cannot search on marriage date or comments or the existence or content of any of the "miscellaneous" records. These are some of the ways that I may extend this program in the future. In the meantime, I hope that you find the existing options help you to "get more out of" the information in your family file.

Section 5. Summary Reports (Main Menu: F2-F)

While detail listings make useful research tools, there are times when you may benefit by taking a different view of your family file information. For instance, you may be interested in finding out just how many different surnames are represented in your family file without having to scan through a complete detailed list, even in sorted order. Or you may have wondered just what the male/female ratio is among the descendants of a particular ancestor, or how many first, second and third cousins you have, or how the individuals with a particular surname are distributed among your relatives. The reports produced by Main Menu option F2-F are intended to help you answer these questions and more.

There are three basic types of summary reports currently produced by the Summary Report Program: the Surname Summary Report, the Generation level summary reports (for Ancestors and Descendants), and the Relative Summary Table. Each of these will be discussed in the following sections.

A. SELECTING THE SUMMARY BASE (F3)

Before printing any of the summary reports, you must first tell the program which records are to be summarized. They make up what the program refers to as the "Summary BASE". This may be all the records in the file, the records that are included in an ancestor, descendant or relative work file, or those that are in a SELECT work file (created by the Search/Select/LIST option or the Family Group Report program). The selection is made with program option F3. When you press the F3 key, you are asked to:

Select A) Full File B) Select File C) Relative File

The "Select File" choice refers to the dataset identified in the FILE Names section of the display, next to the "SELECT" label. The "Relative File" choice refers to the dataset identified by the "REL WORK" label in the FILE Names section of the display. When you choose one of these three files, the corresponding dataset is opened and a "selection table" is created with all the ID's that are in the dataset. The choice is indicated by a "reverse video" box hiliting the character for the file chosen in the "Summary BASE" section of the display in the right center portion of the screen. The number of ID's in the selection table (and the total number of ID's in the name file) are shown in that same area of the screen.

B. CHANGING THE REPORT OPTIONS (F4)

The next step in preparing to print a summary report is to choose the report options that you want to be in effect. These options are shown in the viewing area in the lower right portion of the screen. Program option F4 allows you to view and make changes to the menu of report options.

Actually there are three "frames" of option menus which may be sequentially viewed by pressing the PGUP/PGDN (or Page Up/Page Down) keys after the "F4 Change OPTIONS" function has been chosen. These option frames are displayed in the following paragraphs. The meaning of most options should be clear from the labels. Some options are described

in more detail following the display of the option frame.

```
  Option FRAME #1:   Relative Table Options
                  _ Show Relation Labels     (Y/N)
                  _ Rel Rules   (1=Common,2=Civil)

                     Anc/Desc/Surname Options
                  _ Marriage Statistics      (Y/N)
                  _ Places (Birth/Mar/Death) (Y/N)
                  _ Print Page Numbers       (Y/N)
                 ___ First Page Number
```

The first two options apply only to the "Relative Table" summary chart. That is the "relationship" summary report that is produced from a Relative Work File in which both ancestors and descendants are recorded. This report consists of rows and columns of numbers, each representing the number of relatives in a relationship category. The numbers are arranged by generation levels. The first option may be used to request that each number have a label above it describing the relationship category that it represents.

The "Rel Rules" option allows you to choose the set of rules that are to be used in constructing the relationship labels. The two sets of rules differ only in the way cousin relationships are labeled. The "Common" set of rules would label the child of a "first cousin" as a "first cousin once removed" or "1C1R" while the "Civil law" rules would label the child as a "second cousin".

The options in the lower part of the viewing area apply only to the Ancestor, Descendant and Surname summary reports. These reports summarise the numbers of males and females in each grouping and give statistics about birth and death dates (the number of non-zero entries for each and the range of years for each). The "Marriage Statistics" option allows you to request the same type of summary information for marriage dates as well. If the "Places" option is chosen, then the number of non-blank birth/marriage/death places for the individuals in the group will also be shown. (NOTE: if each of these options is set to "N" then the summary report will fit on an 80 character printline, suitable for viewing on the screen.)

```
    Option FRAME #2:      Surname Summary Options
                    _ Count Heads of Family        (Y/N)
                    _ Print Name of Head of Family (Y/N)
                    _ Only With Children           (Y/N)
                    _ Only Heads of Surname        (Y/N)
                    _ Show Relationship            (Y/N)
                    _ Rel Rules      (1=Common, 2=Civil)
```

A "Head of Family" in a surname group is one that has no parents among the records being summarised. If you choose the "Count Heads of Family" option, then an additional "NOP" column will appear in the report under which the number of "Heads of Family" (that is, the number of individuals with "NO P"arent) in the surname group will be shown.

The "Print Name of Head of Family" requests that the names of

individuals that are counted under the "NOP" heading be printed in the report. These names will be printed, along with their birth and death dates, preceding the summary line for the group that they represent.

The "Only With Children" option has effect only when "Printing the Names of Heads of Family". It requests that only the names of those heads of family who have children in the file (though not necessarily in the Summary Base) be printed.

The "Only Heads of Surname" option has effect only when "Printing the Names of Heads of Family". If this option is selected then "heads of family" will be those who have no FATHER within the group being summarized. These will be the heads of surname lines. If you also have selected the option to count only heads of lines with children, then only male heads of surname lines with children will be listed.

The "Show Relationship" option only has effect when the "Print Name of Head of Family" option has been selected. The relationships for those that are listed will be determined from the relationship work file identified on the "REL WORK" line among the FILE Names in the upper left portion of the program display.

The "Rel Rules" option applies to those relationships that are printed for the heads of family. (also see Option Frame #1 above)

```
Option FRAME #3      Page Format Options
                ___ Page Width (in Characters)
                 __ Inside Margin
                 __ Outside Margin
                  _ Blank Lines  -  Top      (0-9)
                  _ Blank Lines  -  Heading  (0-9)
                  _ Blank Lines  -  Footing  (0-9)
                  _ Blank Lines  -  Bottom   (0-9)
```

(Page formatting options are discussed in Section V.B.3 of the manual for the Basic Set of Programs, printed from diskette B1.)

C. PRINTING SUMMARY REPORTS (F5)

Program option F5 is used to request the printing of the summary reports. When you press the F5 key, you are asked to:

```
        Select    1) Surname Summary   2) Relationship Summary
```

If you choose the Surname Summary report option, then you must have previously created an INDEX File (identified by the "INDX File" line in the FILE Names section of the display) using Main Menu selection F3-F. Further, that index must have Surname as the primary (#1) sequence field. If you choose the "Relationship Summary" option, then the report will use the relationship work file (identified by the "REL WORK" line in the FILE Names section of the display) to produce the report. That work file must have been previously created by one of the Ancestor, Descendant, Relative report or Ancestor Chart programs. (Main Menu selections F2-A-1,2,3 or F2-C-1) The type of summary report produced will be determined from the type of relationships recorded in the work file (Ancestor, Descendant or Relative).

Each of the the types of summary reports are described in separate sections below.

1. SURNAME SUMMARY REPORT

   The "Surname Summary Report" is intended to provide a convenient and easily produced summary of information from family file records grouped by surnames. It should be useful for evaluating the completeness of certain basic types of information for each surname recorded in the family files. The records summarized in the report can consist of the full file, the ancestors, descendants or relatives of an individual in the file, or any collection of records resulting from a search of the file (for instance all records with birth place in Indiana, Ohio or Michigan). In addition to basic types of information such as the numbers of males and females and the ranges of birth, marriage and death dates, the report may show the number of heads of bloodlines or surnames within the group being summarized and will optionally list the ID# and given names of these heads of blood/surname lines.

   The items included in the report, identified by the label that appears in the title line, are:

   Surname - Note: if the index being used was created with the option that a married woman's surname be substituted by that of her most recent husband's, then records for married women will be tabulated in the surname group of the husband.
   SNDX - the soundex code for the surname
   NOP - the number of records with no parents in the records being summarized (these are the heads of blood/surname lines within the group)
   #M, #F - the numbers of males and females
   TOT# - the total number of name records with the surname (an "*" to the right of this number indicates that it is greater than the sum of the numbers of males and females. This means that there are records with sex code other than "M" or "F".)
   BP - the number of birth places recorded
   BY>0 - the number of records with birth year greater than 0
   LoBY,HiBY - the low and high values recorded for birth year
   MAR - the number of name records with at least one marriage or spouse record associated with them;
   #MAR - the total number of marriage/spouse records (If both spouses are in the group being summarized then the single marriage record will be counted once for each of them.)
   MP - the number of marriage/spouse records with place of marriage recorded
   MY>0 - the number of marriage/spouse records with marriage year>0
   LoMY,HiMY - the low and high values recorded for marriage year
   DY>0 - the number of records with death year>0
   DP - the number of records with place of death recorded
   DY<9 - the number of records with 0<death year<9999 (this ignores those records which have the value 9999 for death year indicating that the person is deceased but

that the year is unknown)
LoDY,HiDY- the low and high values recorded for year of death (among those records counted under "DY<9")

Among the options for this report are ones for counting and listing the "Heads of Family" within the surname group. (See the discussion for "Option FRAME #2" above.) Concerning the concepts of "heads of blood/surname lines", perhaps the following remarks will help explain their significance:

a. If the summary group is the descendants of a single person, then there will be exactly one "head of family" among all surnames listed. If you choose the option of checking surname linkage only, then each child of a female descendant will also be considered as a "head of family" or more appropriately as a "head of a surname line" since they will represent the introduction of the father's surname into the group of descendants.

b. If the summary group is the collection of relatives of a single individual, the "heads of family lines" will be the "terminal ancestors"; that is, the ancestors at the tips of the branches of the ancestor tree.

2. GENERATION LEVEL SUMMARY REPORTS (Ancestorl, Descendant)
The generation level summary reports are based upon information in a previously created ancestor, descendant or relative work file. The Ancestor and Descendant Summary reports are similar in format to the surname summary report described above. The basic items of information are the same, except there is no column for Surname, Soundex, or heads of family. There is a column for generation level. For ancestors, the generation levels are 0, -1, -2,.... and for descendants they are 0, 1, 2,....

Using a Descendant Summary report, it is easy to see how many great-great-grandchildren of a particular individual are in the file, how many boys and girls there are and how complete the basic information is about them, including the range of birth dates.

3. RELATIVE SUMMARY TABLE
If you request a "Relationship" summary for a RELATIVE work file, the report is in a different format than the one described above for the Ancestor and Descendant work files. Because of the mix of Ancestor and Descendant relationships in a relative work file, it is better represented by a "two dimensional" table than by a simple sequence of generations. This report therefore takes the form of a "relationship table" with the "relative generation levels" across the top and the "ancestor generation level" down the left side. Each entry in the table represents a "relationship category" and is labeled by an abbreviated "relationship literal" representing the category, such as: C (children), S (siblings - brothers and sisters), NN (nieces and nephews), 1C (first cousin), 2C1R (second cousins once removed), g2gP (great great grand parents), gUA (great uncles and aunts). The labels can be constructed either using the "Common" or "Civil Law" rules. (Under Common rules, the child of a

first cousin is a first cousin once removed...under Civil Law the child would be a second cousin.)

For example, one table might appear as follows (using "common law" labels:

Agl\Rgl	-4	-3	-2	-1	0	+1	+2	Tot	Acc
					*	C	gC		
-0					1	4	2	7	7
				P	S	NN			
-1				2	3	7		12	19
			gP	UA	1C	1C1R	1C2R		
-2			4	8	10	15	4	41	60
		ggP	gUA	1C1R	2C	2C1R			
-3		7	10	17	12	8		54	114
	g2gP	ggUA	1C2R	2C1R	3C	3C1R			
-4	12	17	26	18	10			83	197
Total	12	24	40	45	36	34	6	197	

The "*" relationship category in the first row represents the individual upon whom the relative work file is "based". The "Tot" column on the right gives the total of all numbers in the row and the "Acc" column gives the Accumulated total of the numbers in that row and all previous rows. The "Acc" number represents the number of descendants of all ancestors at that particular generation level. The "Total" line on the bottom gives the total of all numbers in each column, that is, the number of relatives in each relative generation level.

You may find it interesting to Select all persons in the file with a particular surname (using the Search/Select/LIST option) and then print a relative table to see how that surname is distributed around it.

Please note that relative files which span a very large number of generations may extend beyond the borders of a single printed page. If this happens, then only the number of columns that will fit on a single page of the report will be printed and you will be given the opportunity to print additional "strips" of the chart when the first printing is complete. The complete set of portions of the chart may then be pieced together to form a large wall chart, or if each "strip" only uses a single sheet of paper, you may place them in a binder.

Section 6. Relationship Calculator (RELCALC) (Main Menu: F2-F-F6)

A frequently requested option has been one which would allow you to determine the relationship (if any) between any two records in a family file, without having to go through the process of building a relative work file. Main Menu option F2-F includes such a "relationship calculator". (This "calculator" feature really doesn't have anything to do with the Summary reports that are produced by the same program. It was just a convenient place to put this option, instead of adding an entirely separate Main Menu item.)

When you choose option F6 of the "Summary Report" program, the lower right corner of the screen becomes the "active viewing area" and you are asked to: Enter ID #1:____
When you type in an ID number and press the Enter key, the program retrieves the Name record, displays the name on the first information line of the viewing area, and builds a table of all ancestors of the individual. (This may take a little while if the person has a large number of ancestors in the file.) You will then be asked to:

Enter ID #2:____

After you type the 2nd ID number and press the Enter key, the program retrieves the Name record, displays the name on the second information line of the viewing area, and begins to search the ancestors of the second individual, looking for one that is in the ancestor table for the first ID. When one is found, the relationship is determined and printed on the screen along with the "relative generation level" compared to the first ID. Information about that "nearest common ancestor" is also displayed on the screen, including the generation level of the ancestor with respect to the first ID. If there are no common ancestors, "No Relation" is shown for the Relationship.
After the search is complete, you will be asked to enter another value for ID #2. You terminate the process by pressing the ESCape key.

> (NOTE: The relationship rules used for constructing the relationship literal may either be "Common Law" or "Civil Law". You can toggle between the two rules by pressing the F2 key while the program is prompting you to enter ID #2.)

I realize there are some shortcomings to this procedure, including the fact that you must know the ID's of the individuals you are interested in and there is no attempt to determine "in law" relationships. No doubt you would also like to be able to perform this function from within the file update program. But in spite of all this, I think it still beats trying to "puzzle out" a relationship with pencil and paper. I hope you agree.

Section 7. Tiny Tafel Utility (Main Menu: F2-G)

In the April-June 1986 issue of "Genealogical Computing",Paul Andereck proposed a format for "concisely...expressing the contents of a family database". The representation, which he called a "TINY-TAFEL", consisted of a list of surnames, showing for each surname the range of dates covered by the surname (in a lineage linked chain) and the comparative interest level which the surname held in his family research. The range of dates was determined by the earliest and most recent birth dates in the family line and the interest level was shown by 0-3 stars (or asterisks), with 3 stars indicating a "main-interest line".

In April of 1987, I added the Surname Summary Report as an extended option of the Family History System. It was designed somewhat around the idea of the Tiny-Tafel, but extended to show more statistics about each surname group. The additional information included the Soundex for the surname, the numbers of males, females and total records with the surname, the number of records with birth, death or marriage dates recorded and the ranges of those dates.

In the April-June 1987 issue of Genealogical Computing, Paul Andereck reported that COMMSOFT, the publishers of ROOTS II (and now ROOTS III) software, had extended the Tiny-Tafel description as well. Their format added Soundex codes and the birth places of the earliest and most recent individuals in the family line. They also added some additional information describing the "owner" of the database. More importantly though, they set up a "Tafel Matching System" which connected many genealogy BBS's (electronic Bulletin Board Systems) together into a network in such a way that persons who placed a Tiny Tafel on one of the BBS's would be notified of anyone with similar interests on that or any of the other BBS's in the network.

More recently, the Tiny Tafel format has become popular for placing family interests on other bulletin board systems outside that network. As a result, there has been growing interest in having a "Tiny Tafel generator" which could extract the information from a family file. COMMSOFT's own ROOTS software was the first to offer such a utility, and others have followed, including at least one that was written to produce a Tiny Tafel file from a PAF format GEDCOM file. Of course the latter utility could produce a Tiny Tafel from FHS data, after using the FHS to PAF GEDCOM export option, but there was also interest in a self-contained FHS utility. Main Menu selection F2-G, added in February 1991, now provides that function.

The Tiny Tafel output from this option is of the form:

```
N Phillip E. Brown
A 834 Bahama Drive
A Tallahassee, FL  32311
T (123)456-7890
S GENIE
B Genealogy
R This is a sample TinyTafel
R produced with FHS.
F Family History System  (C:RUSSELL .NAM)
Z 2     M=25  T=234  F=1971
R240 1787*1971:Russell\Orange Co.,Virginia/Indiana
```

```
W420 1832:1973.Willcox/Fort Wayne,Indiana
W 25 Jan 1991
```

Here, the lines beginning with "N", "A", "T", "S", "B", "R" and "F" are optional "Header" lines that give the Name, Address, Telephone, Communications Service, BBS, and Remarks. These identify the "owner" and source for the data and are entered in the viewing area in the lower right corner of the screen when executing the FHS Tiny Tafel option. The "F" line indicates the "File Format" of the database in which the family information is stored. The name of the FHS "Name" file from which the information was taken is shown in parenthesis at the end of this line. The required "Z" line shows the number of "data" lines that follow it. The required "W" line at the end gives the date on which the information was extracted.

The 2 lines following the "Z" line in the sample Tiny Tafel are the "data lines". They show: the Soundex of the family name, the earliest birth year and the most recent birth year of the family, the surname, and the birth places of the oldest and youngest members of the family. To distinguish the birth places (either or both of which may be absent from the data), the birth place of the oldest family member is preceded by a "\" and the birth place of the youngest is preceded by a "/".

The characters to the right of the two "year" fields represent the "interest level" for each end of the surname line. The character to the right of the first year indicates the level of interest in the ancestral end of the surname line and the character to the right of the second year indicates the level of interest in the descendant end of the surname line. The symbols that are used to express the levels of interest are:

space	indicating very little interest	(level 0)
.	indicating low interest	(level 1)
:	indicating moderate interest	(level 2)
*	indicating highest interest	(level 3)

To provide you with the ability to save interest levels from one execution of the program to another, I have made use of an unused portion (1/2 character) of the name record to store this information, if you wish. The ancestor interest level will be saved in the name record of the individual with earliest birth date for the surname group. The descendant interest level will be saved in the name record of the first individual with the most recent birthdate in the surname group. If you update your file in a way that affects the identity of the "extremes" for the surname group, then the interest level will have to be reestablished in this program. These saved values are not used by any other programs in the system at this time.

In addition to the interest levels, I have provided some other ways for you to restrict the information to the more "significant" family names in your file. For instance, you may restrict the records that will provide input to the Tiny Tafel to: the Full File; the records identified by an Ancestor, Descendant or Relative work file; or the records identified by a SELECT work file created by the "Search/ Select/ LIST" option or one of the family group report programs. You are also given the opportunity to assign a minimum size for a surname

group to be reported in the "Tiny Tafel". A value of 1 will show all surnames among the records being summarised. A higher value will likely eliminate many surnames that are only minimally represented in the file.

The steps for generating a Tiny Tafel are:

1. Use Main Menu option F3-F to create an index file in which Surname is the primary (number 1) sequence field; If you have previously created a surname sequenced index file and have not added new records to your file or changed any surnames since that time, you may use that index file. It is probably best not to use the option for substituting a married woman's surname with her husband's when building this index. If you do use this option, then a married woman will be counted in the surname group of the husband (unless her "Surname Use" value is "Y").

2. (Optional) If you wish to restrict the records which provide input to the Tiny Tafel to those in a particular relationship group, use main menu option F2-A-(1,2 or 3) to generate an appropriate WRK file (ANCESTOR, DESCNDNT, or RELATIVE). You may also consider using main menu selection F2-E to create a SELECT.WRK file of selected records.

3. Select Main Menu option F2-G (the TINY TAFEL Export option).

4. Use program option F3 to create a table of Surnames that are to be reported. You will be asked to identify the "BASE set" of name records to be used to build the table. This may be either "A", the full file, "B", the records in a SELECT.WRK file which you have created or, "C", the records in a relationship WRK file you have created. You will also be asked how many names to allow for in the surname table...the default value of 1000 is probably sufficient for most family files. You will be notified if you exceed it. You will also be asked for:

   Minimum Interest Level to Record (0-3)

   This permits you to only gather information for those surnames for which you have previously entered an interest level (and saved it in the Name file). Finally, If you include all interest levels (by entering "0" for the minimum interest level) you will be asked what should be the minimum size "surname group" that should be recorded in the table... While the table is being built, you can check on the progress by tapping the "space bar". You can terminate the process prematurely by pressing the ESCape key.

5. (Optional) Use program option F4 to enter the Header information which identifies you as the "owner" of the data.

6. (Optional) Use program option F6 to browse the Surname table, enter "interest levels", and "remove" individual surnames from consideration for a Tiny Tafel. The viewing area in the lower right corner of the screen is used for this operation. You

will be shown the number of records (in the BASE set) with the surname, the range of birth dates, and the Surname.

The numbers on the right side of the top line in the viewing area represent the table entry number for the first surname shown and the total number of entries in the table. You can browse the table using PGUP and PGDN, jump to the end with CTRL+PGDN, or jump to the beginning with CTRL+PGUP or CTRL+HOME. If you press the ALT key and an alphabetic character key at the same time, the surname group on the top line of the display will jump to the first surname whose SNDX begins with the character.

If you put any character in the first position of a line (under "DEL"), the entry will not be included in a TINY TAFEL generated from the table. When you press the ALT+"0" (zero) keys, the program will, alternately, either place an "X" in the DEL column, or remove all "X"'s from the DEL column of entries which have zero dates. This makes it easier to remove all zero date entries from a report while still permitting you to include selected ones by manually removing the DEL indicator for those you wish to include in the report.

The "Ancestor Interest Level" is entered in column "AIL" and the "Descendant Interest Level" is entered in column "DIL". The characters which represent the various interest levels are shown on the bottom line of the display.

Press F1 when you are through. If you have made any changes to the interest levels, you will be asked if you want to:

Update Name File with Interest Level Changes? (Y/N)

If you reply "Y", then the changes you made will be saved in the appropriate name records.

7. Use program option F5 to generate the Tiny Tafel. You have the option of producing the Tiny Tafel in either Surname or Soundex sequence. If you select Soundex sequence, the program will take a few seconds to resequence the table of surnames. You will also be asked what should be the minimum interest level to be included in the TINY TAFEL. If you allow all levels (by entering "0" or simply pressing the space bar), then you will be asked again what should be the minimum size group for surnames to be included. If you enter a value which is smaller than that used to build the table, then it will be ignored... You may route the output to the Screen, the Printer or a File. "File" output will be directed to the TTAFEL file in the "File Names" section of the screen...The "Z" line in the TINY TAFEL that is created will also show some additional "statistics" besides the count of data lines. If you have set the minimum interest level to a value greater than 0, it will be shown as "I=n" on the "Z" line. If all interest levels are included but you have set the minimum group size to something greater than 1, it will be shown as "M=xxx" on the "Z" line. The Total number of individuals in all reported groups will be shown as "T=yyyy" and the total number of ID's in the entire file will be shown as "F=zzzz".

I should mention some characteristics of the Tiny Tafels generated by this new FHS option:

1. The first date is the earliest birth date found for any record with the surname. It may not be that of a "terminal ancestor" of the family. If there is an "ancestral birthplace" shown, it is that of the first person in the surname group with that earliest birth date.

2. The second date is the most recent birth date found for any record with the surname. It may not be that of a "lowest level" descendant. If there is a "descendant birthplace" shown, it is that of the first person in the surname group with that most recent birth date.

3. There may be no direct relationship between the two individuals who represent the extreme dates. The likelihood that they are related is increased if the records which are searched for the information (that is, the BASE set) are carefully selected. For instance, if they are the ones identified in an ANCESTOR, DESCNDNT or RELATIVE work file, then they are more likely to be directly related.

I hope you find this new option useful for sharing your interests with others. Please let me know if you have any comments, criticisms or suggestions concerning it.

Section 8. Export\Import Utility (Main Menu: F3-D-3)

The Export/Import program, called up by selecting Main Menu option F3-D-3, provides a facility for transferring information between Family History System datasets. The "Export" option converts information in the family files into an expanded ASCII (or standard character) format and places it in a text file, TRANSFER.GED. Information in the text file can then be "Imported" into a new empty set of family files, or may be appended to an existing set of family files. In the latter case, the system's file maintenance program may then be used to establish relationships between old and new individual records.

You are given considerable latitude in selecting those individuals whose information is to be "exported" as well as the types of information that are to be exported or imported. All family relationships between transferred records are preserved across the export/import procedure.

Using this system option you may create "subsets" of your family files containing information on just those individuals of interest to someone else. For instance in just a few minutes I was able to build a set of family datasets for a brother-in-law containing just those 50-60 relatives and inlaws of his, from the 1700+ records in my own family files. He can now work on extending that file along lines which are most interesting to him. Later I can transfer new information from his file back to mine.

The format of the transfer dataset follows closely the original GEDCOM format proposed by the LDS Genealogical Dept. and advocated by the quarterly journal, "Genealogical Computing". This format prescribed that each data item (Name, BirthDate, etc.) appear on a separate line in the transfer dataset, with related items being grouped by associated "level numbers" and each individual data item labeled by a two character "Tag". Appendix B describes in more detail the format of the transfer dataset. The formats of the transfer datasets implemented by releases 2.0 and 2.1 of the Personal Ancestor File (PAF) software distributed by the LDS Family History Dept. differed from the original guidelines and so are not compatible with the format used by this program. A separate FHS export/import program, compatible with the PAF software, is now a part of the basic set of programs (Main Menu option F3-D-1). However that program only supports the transfer of information which is common to the FHS and PAF file formats. The program described here should be the preferred one for accomplishing FHS to FHS file transfers because it supports all types of information that may be stored in an FHS family file.

Another program option allows you to create a dataset in MailMerge format containing latest residence address information for selected individuals. This dataset can be used with database programs such as PC-FILE III to build databases from which you can print mailing labels. It can also be used with many word processing programs for printing form letters, envelopes, or mailing labels.

A. PROGRAM EXECUTION

Upon entry to the Export/Import program you will notice that the screen is formatted similarly to others in the system. In the upper left corner are listed the datasets that may participate in the various program options. These include all three datasets that make up a family file, an index dataset (name records may be exported in ID# sequence or in an indexed sequence), the selection dataset created by the system's Search/Select/LIST program, and new Transfer and Mail-merge datasets. The identification of the datasets to be used may be changed using program option F1 as usual.

In the upper right corner of the display are the familiar printer parameters. These are used when the program option (F7) is selected for printing the information in the export datasets. The printer parameters may be changed using program option F2.

In the "viewing area" in the lower right corner of the screen are listed the various types of information (by family file record type) that may be transferred. The number next to each record type will be hilited or not depending on whether or not that type of information is to be processed during the next selected import or export procedure. Although Name Records are always processed, you may adjust the selection of other types of information using program option F3.

The lower left part of the display lists the program options that may be function key selected. These include:

F1 Change File Names
F2 Change Printer Parameters
F3 Change Information Table
F4 Export Information to Transfer dataset
F5 Import Information from Transfer dataset
F6 List Dataset of Exported Information
F7 CONVERT Address File
F9 Return to Main Menu

Options F1,F2, & F9 have either been described above or should be familiar from their similarity to options in other programs of the system. The other options will be described in the following sections.

B. (F3) CHANGING THE TABLE OF TYPES OF INFORMATION TO BE PROCESSED

As described above, the lower right corner of the display has a "viewing area" in which are listed the different types of information that are stored in the Family History System datasets. These include:

0.Name Records
1.Places (Birth/Death/Marriage/Divorce Locations)
2.Spouse Records
3.Educational Records
4.Occupational Records
5.Military Records
6.Medical Records
7.Address Information

and 8.Comment Lines

Program option "F3" permits you to indicate which of these types of information are to participate in an import or export process. A reason for wanting to restrict the information transfered might be that you are exporting information to a system which does not recognize some of the data items allowed in the FHS datasets, or you might want to exclude sensitive medical records.

When you select program option F3, the hilited border moves to the lower right corner of the screen and the message:

Enter 1-8 to Toggle Transfer of Information Type

appears at the bottom of the screen. If you press one of the number keys 1-8 you will find that the corresponding character in the list of information types will be alternately hilited or displayed in normal intensity. If the character is hilited, it indicates that the information type is to be processed during the next export or import procedure. When you have hilited just the items that you wish to process, press the Enter or Return (or ESC) key to terminate the process and return to the selection of another program option.

Please note that if Address records or Comment lines are selected, only those records which are "subordinate" to selected record types will be processed. For example, addresses associated with an education record will only be processed if both education records and address records are selected for processing.

C. (F4) EXPORTING DATA FROM YOUR FAMILY FILE

Selecting program option F4 initiates an export process in which information is moved from your family files into the TRANSFER dataset. You will be asked whether you wish to:

Export 1) Full File 2) Selected Records

If you choose "2" then the Individuals whose information is to be exported are indicated by entries in a "selection table" which must previously have been constructed in the system's Search/Select/LIST program (Main Menu option F2-E) or the Family Group Report program and saved in the SELECT dataset. The program will try to read the SELECT dataset. If it has not been created or does not match the Name dataset being used, a message is displayed and the process is terminated. (Note: Appendix E discusses some points to consider when selecting records for export.)

After determining the records that are to be exported, the number of individuals selected for export is displayed above the "box" in the lower right corner of the screen. You will next be asked whether the exported individual name records are to be in indexed order or in ID# sequence. (If you have entered information from family group worksheets, then ID# sequence would be the best choice to permit efficient processing of the family files created from the Transfer dataset. A "Relationship" index might also be a good choice.) After indicating the order of export, the program builds the "Sequence Reference Table" that identifies which name records are to be processed and in what order.

Next, the viewing area in the lower right corner of the screen is

cleared and formatted to permit entry of descriptive information that will be stored in the transfer dataset's header record. This information includes the Name, Address & Phone number of the "submitter", the source and destination system identifiers (e.g., FHS=Family History System, PAF=Personal Ancestor File) and up to 3 lines of comments. You may wish to leave all information blank for datasets only used for local transfer of information. Press the Enter or Return key when you are ready to continue with the export procedure.

The viewing area in the lower right corner of the screen is again cleared and the list of Information to Transfer is redisplayed. As the export process continues, the number of records exported of each type is shown next to the line describing the record type.

The export procedure may be terminated at any time by pressing the ESCape key, though a partially created transfer dataset should not be used in a subsequent import procedure.

When the process is finished, the message:

Export finished at hh:mm:ss...

is displayed at the bottom of the screen. Pressing any key will "clean up" the display and allow you to select another program option.

D. (F5) IMPORTING INFORMATION INTO A FAMILY FILE

The process of transferring information from a TRANSFER dataset into an existing set of family datasets is begun by selecting program option "F5". The family datasets being used must have been previously "created" using the system's file maintenance program but may be otherwise empty.

At the beginning of the import procedure, the program opens the family file datasets and checks to see that all "header" information is valid (indicating that the file has been "created") and consistent (i.e. the Name, Address, and Misc datasets "match"). If name records have been previously placed in the family file, the program displays the message:

"Imported Name Records will begin with ID=nnn..."

All imported information will be placed after existing information in the family file. You may later use the file maintenance program to establish relationships between old and new name records. If you had intended to import the information into an "empty" file but forgot to change the names of the family datasets before beginning the import procedure, you may terminate the process now by pressing the ESCape key. Pressing any other key will permit the process to continue.

If you have requested to process both spouse records and any other type of miscellaneous information, you will next be asked to:

"Enter MAX # marriage records to import: 1000"

The program must keep a record of marriage records created so that it may subsequently go back and update the internal "pointers" to these records. The number entered (1000 is the default) tells the program how big a table needs to be set up to hold this information.

You will next be asked if you want to:

"Print Unprocessed Data Lines (Y/N)"

Although you will be shown a "running total" of the number of incoming data lines in the TRANSFER dataset that have not been processed (either because you have requested not to process the type of information recorded on those lines, or because the program does not recognize the type of information on the line) you may also request that the program write a copy of the bypassed lines (together with the value of the most recent Name record "identifier") to an attached printer. If you respond "Y" or "y" to this question you must have a printer available and made ready to receive output.

The program next reads the transfer dataset for header information. If no header information is found a message is displayed and you are asked whether to continue or not. Otherwise the viewing area in the lower right corner of the screen is formatted to display the header information and you are asked whether to:

"Continue with Import (Y/N)"

If you choose to continue, the list of types of information that can be imported is redisplayed, followed by another line for "unprocessed data lines". During the input procedure a running total is displayed of each of these data types next to the line describing it.

Near the end of the import procedure, you may see the message:

"Updating pointers to family records"

which lets you know that the program is updating the internal spouse record pointers from the table previously mentioned.

At the end of the import procedure the message:

"Import Finished at hh:mm:ss..."

is displayed. Pressing any key will result in the display's being "cleaned up" and the program will be ready to process another option. I would recommend that following the completion of each import procedure, you run the system's pointer validation option (Main Menu option F3-E) against the updated file to verify that all relationships between records in the TRANSFER dataset are consistent.

E. (F6) PRODUCING LISTINGS OF GEDCOM FILES

Program option F6 may be used to produce listings of the contents of the TRANSFER file. You may route the output to the screen, for verification of an export procedure or examination of a TRANSFER dataset prior to import, or to the printer. As usual, the printing may be "paused" by pressing any key, and then may be terminated (by pressing the ESCape key) or continued (by pressing any other key).

The listing of the GEDCOM dataset will be in "outline" format with each line being indented according to its Level number. This should make it easier to read and locate the separate records in the transfer dataset.

F. OTHER REMARKS CONCERNING THE EXPORT/IMPORT PROCEDURE

Although the primary purpose of the Export/Import utility described in this section is currently to allow you to transfer imformation between family files maintained by the Family History System programs, you may

find it to have other uses as well.

If you have tried any of the standard utilities for displaying a file's contents (such as the DOS "Type" or "Copy" commands, or even Norton's file display routines) against your family files, you will have discovered that much of the information has been stored in a way that makes it seem completely unintelligible; further, relationships between stored records is "impossible" to determine. As a result, several users of these programs have asked about having a program that would create a "dump" of their files, showing all information contained in them in readable form. Well, the export procedure can be considered as just such a file "dump" utility. The "Transfer" dataset contains all information on file for the selected name records (and of the types that have been allowed to be exported). Further this information is represented in standard characters so that the datasets may be listed on the screen, copied to printers, or examined using most "text" editors (or word processors in "non-document" mode). This has the potential of making the information in your family files available for you to use in other ways, for example doing more complete searches on surnames or birth/death places or for searching the text of stored comments.

You may also be able to make some "mass" changes to your family file by using a text editor to perform search and replace options against a full file GEDCOM dataset and then import the modified dataset back into a new family file. You might use this, for instance, to make the abbreviations for place names more uniform in a file.

G. (F7) CONVERTING BETWEEN LONG AND SHORT ADDRESS RECORDS

In the January 1993 update to FHS, in response to many requests from users outside the U.S. for a more flexible address format, a new, alternate, Long Address format was introduced. The new format provided a 14 character text field for phone numbers (instead of the three segment numeric phone number provided previously), longer city and state/province fields, a longer ZIP/postal code field, and a new Country field. All FHS programs that processed address information were modified to handle either format for the address records. In particular, the FHS GEDCOM program was modified to import address information into either long or short format records, according to the format that was specified when the family file was initially CREATEd.

Obviously, the FHS GEDCOM program could be used to convert the older Short Format address records to the Long Format by performing a full file export from the original file, CREATEing a new family file using the Long address format, and importing the information back into the new family file. However that seemed like an awful lot of work just to convert the few (possibly none) address records. As a result, I added a separate option to the FHS GEDCOM program for performing this conversion without having to go through the formal export/import process.

If you press the F7 key in the FHS GEDCOM program, then one of the following messages will appear on the bottom line of the screen:

Converting from Short to Long format Address File...Okay? (Y/N)
Converting from Long to Short format Address File...Okay? (Y/N)

If you respond "Y", then you will be asked:

Have You Backed up file x:yyyyyyyy.ADR?...(Y/N)

The dataset name appearing in the message will be that of the Address dataset in your current family file. If you respond "N" then you will also be asked:

Do You wish to continue without a backup?...(Y/N)

If you respond "Y" to this question (or "N") to the previous question, then the address conversion process will begin. When it is complete, you will be told:

Address Conversion is Complete...Old Address File is x:TEMPWORK.OAF

The dataset TEMPWORK.OAF will be your old address dataset. After you are satisfied that all addresses have been successfully converted, you may delete it. All of your address information will have been moved to a new dataset which will be named the same as your old address dataset. You may go directly to the file update program (Main Menu selection F1) to examine the address records, noting that the format for the address record in that program will be changed to conform to the new format for the address records.

The entire conversion process should be accomplished in just a few minutes and you will be able to begin using the alternate format for address records immediately.

Section 9. Creating a MailMerge Format File (Main Menu F3-D-4)

While GEDCOM datasets provide a means for exporting family file information into an ASCII file for processing by other programs, it is not a suitable format for transfering information into "conventional" database programs (those which were not designed primarily for genealogical information) because none of those have been designed to process information that is organised in the way that GEDCOM files are. A more common type of ASCII file that is acceptible for processing by most database and word processing programs is one in which each record of the file consists of the same fixed number of data fields. Each (non-numeric) data field is enclosed in quotes and is separated from the next field by a comma. That is, the records are in the form:

"aaaaa","bbbbb","cccccc","dddddd"

This is called a "quote and comma delimited ASCII file" by some and a MailMerge format file by others. (The term "MailMerge" comes from the use of this type file to supply address information for printing form letters...the addresses are "merged" into the letters for mass "Mail"ing.)

Main Menu selection F3-D-4 allows you to create MailMerge format files containing selected types of information from your family file. Of course you cannot export all of your information into a file of this type because its "flat file" structure (a single type record with a fixed number of data fields) is not suitable for exporting the complex, variable size, "logical" records in an FHS family file.

The types of information that can be exported are shown in a viewing area in the lower right portion of the MailMerge program screen display. They include the personal items of Name, Birth/Marriage/Death dates and places and most recent address. These are the items that you might want to use in a database program for maintaining birthday, anniversary or address information. This is also the type information that would be suitable for printing form letters or address labels.

You are also given the option of combining the entries for a husband and wife if both of them have been selected for export. In this case the "Title" for the husband's entry in the MailMerge file will be "Mr. & Mrs." and there will be separate fields in the record for the given names of the husband and wife (and for the birth/death dates and places of each if that information is chosen for export). The wife's entry in the MailMerge file will be eliminated (unless her "Surname USE" field has a value of "Y"...i.e. she is marked as always using her own surname.)

In this dataset, fields are enclosed withing quotes ("), separated by commas (,) within records which are separated by CR+LF (carriage return+line feed) characters. The fields which are exported are:

ID# - 1-5 digit number
FID - 1-5 digit number (optional)
MID - 1-5 digit number (optional)
SPouse ID - 1-5 digit number (optional)
Title - "Mr.","Miss.","Mrs." or "Ms." (where the use of the title Mrs. or Ms. for married females depends on whether or not the husband's surname is being substituted

for the wife's in the exported data);
"Mr. & Mrs." will be generated as a title for a record
that combines the entries for a husband and wife;
Surname (15 characters) - the husband's surname will be
substituted for the wife's if an index is being used
which was built using this substitution;
this will be the husband's surname in a combined record
for husband and wife;
Given Name (30 characters)
Birth Date (8 characters) YYYYMMDD format
Birth Place (22 characters)
Death Date (8 characters) YYYYMMDD format
Death Place (22 characters)
(The items from Given Name thru Death Place will be duplicated
for the wife if the option for combining husband and
wife's entries is chosen. If that option is chosen and
the record is not one for which two records were com-
bined, then the wife's fields will be empty.)
Most Recent Marriage Date (8 characters) YYYYMMDD format
Most Recent Marriage Place (22 characters)
Phone Number (12-14 characters)
Address Line1 (30 characters)
Address Line2 (30 characters)
City (15-20 characters)
State (4-12 characters)
Zip Code (5-12 characters)
Country (16 characters) - only if using long address records

All fields are "terminated" by the first two successive spaces found in the field as it appears in the family file.

The exporting of place names, marriage information and addresses is controlled by the table of information types as described in Section 9.B above.

While the file is being created, the number of name records, place names, marriage records and address records processed is shown in the viewing area in the lower right corner of the screen. The process may be prematurely terminated by pressing the ESCape key.

PRODUCING LISTINGS OF MAILMERGE FILES

Program option F5 may be used to produce listings of the contents of the MAILMERGE dataset. You may route the output to the screen, for verification of an export procedure, or to the printer. As usual, the printing may be "paused" by pressing any key, and then may be terminated (by pressing the ESCape key) or continued (by pressing any other key).

Only the first 127 characters of each record will appear in this report, so it may prove more useful simply to visually examine the contents of the MailMerge file on the screen than for producing printed listings of the file.

Appendix A: Plans For the Future

This is a non-exhaustive list of things that I would like to do with the programs in future updates.

a. providing more user control over:
   screen formats and messages;
   headings, footings and field labels used in reports;

b. providing a "register" style of group report for producing family booklets;

c. providing a "free form" style for the listings in the Search/Select/LIST option;

d. providing an option in the report indexing program (or in the MailMerge program) for creating a mailmerge format file of report references;

e. making some changes to the file design to correct some obvious deficiencies (for example: sometimes inadequate birth/death place field length, incomplete record of adoption information, inadequate handling of baptismal and burial information, inadequate handling of source material). This is a long-term goal which may not be accomplished for some time;

f. modifying the export routine to dump information from a file which has damaged sectors (with the loss of information in the damaged sectors of course) to allow at least partial reconstruction of a file on a damaged diskette;

g. providing an option for creating an "index" file suitable for "reorganizing" a family file (using the export/import utility) for more efficient processing (the RELATIVE index is a first attempt at such a REORGANIZATION index but falls short of what I would like).

Appendix B. Transfer Dataset Format

The TRANSFER datasets used in the Export/Import processes of the Family History System Extensions (Main Menu option F3-D-3) were designed using the original guidelines developed by the LDS Genealogical Department for representing genealogical information in standard character format. The name that is being used to describe this format is GEDCOM (for GEnealogical Data COMmunication format). The format that was used in the GEDCOM implementation of the LDS Personal Ancestor File (PAF) 2.0 software differed significantly from this original description. The purpose of this section is to descibe how that original GEDCOM format has been implemented in the Family History System. (You may want to get a listing of a GEDCOM file created for selected records in your own files to refer to while reading this description.)

1. Description of GEDCOM format datset (as implemented in FHS utility option F3-D-3)

   Each "line" in a GEDCOM format dataset has several parts which may include the following:

   a. (required) a 1 character (single digit 0-9) "level number". These are used to "group" data items together and indicate "subordinate" relationships between data items (for instance comment lines are subordinate to the information which they describe). A data item with a higher valued level number may be thought of as describing the next previous data item with a lower valued level number; Level 0 items are identified with "records" of information. There are four types of record level items in the FHS GEDCOM datasets:
      i. a header record--there is just one of these for each dataset and it "contains" subordinate data items that describe the source of the information in the datset;
      ii. Individual Information records -- which contain expected data items such as Name, BirthDate, Sex, etc;
      iii. Family Information records -- which contain such information as Husband and Wife "identifiers" and marriage date;
      iv. an END record -- which merely marks the end of the data;

   b. (optional) a "cross reference identifier" -- these are found on record level data items only and are used to attach a label (or ID) to the record which may be refered to by data items in other records; Cross reference identifiers are "set off" or delimited within the line by a special character which precedes and follows the identifier on the data line. This "cross reference delimiter" is the "@" character in the FHS GEDCOM dataset (for example, in the FHS transfer datasets @25@ might be a cross reference identifier for an individual information record, whereas @M2@ might be a cross reference identifier for a family information record. The standard GEDCOM description requires that each cross reference identifier be unique within the dataset);

   c. (required) a "TAG" or label which identifies the type of information represented by the line. In the FHS transfer

datasets these are two character labels such as NM (name), BD (birth date) and SX (sex). A complete list of the tags used in the FHS transfer datasets will be given below;

d. (optional) a "value" field which gives a representation in standard characters of the value of the data item represented by the line. This value may be something like a date (19860505) or it might be a "pointer" to a record level item. These pointers consist of the cross reference identifier of the record level item, again set off by cross reference delimiters before and after it (for example the line: 1HU @11@ might be used to indicate that information about the husband in a family information record could be found by looking at the individual information record with identifier "11").

2. Description of Records in FHS Transfer datasets

The following paragraphs give a description of the types of data lines that may be found in transfer datasets created by the FHS export utility. The items are grouped by the previously described record types. The level number and TAG of each data item is given, along with a brief description of the type information represented by the data line. No examples are provided of sample GEDCOM lines as these are easily created from information in your own files using the system's export utility.

a) HEADER RECORD - Contains descriptive fields identifying the source of information in the datset.

0 HH - Header Record Identifier
1 HI - The number of Name records in the dataset
1 HN - Submitter's Name
1 HA - Submitter's Address (line 1)
1 CT - Submitter's Address (line 2)
1 CT - Submitter's Address (line 3)
1 HP - Submitter's Phone Number (in the form: xxx-xxx-xxxx)
1 HS - Source System Identifier ("FHS")
1 HD - Destination System Identifier ("FHS")
1 HC - Submitter's Comments
1 CT - Submitter's Comments Continued
(Note that the tag "CT" is used in several places to indicate "Continued Text" of a previous data item)

b) INDIVIDUAL RECORD - Contains the personal information for an individual. Each record may contain several "complex" subordinate entries for Residence, Education, Work, Military and Medical information as shown in the format description (marked by "**"). Please note how the level number (the single digit to the left of each descriptive line) increases for subordinate data items.

0 II - Individual Record Identifier (XR-ID)
1 AF - ID# of source record in the Family History System file used for creating the transfer dataset.
1 NM - Name (in transfer datasets created by the Family History System, this will be in the form "Surname, Given names")

```
  1 US - "Surname Use" field; a value of "Y" in this field
         overrides requests to substitute a husband's surname for
         a wife's when producing reports
  1 SX - Sex
  1 BD - Birth Date (format is: YYYYMMDDx where "x" is one of the
         "status" characters="!"," ", or "?")
  1 TB - Time of Birth (HHMM)
  1 BP - Birth Place
  1 DD - Death Date (format is: YYYYMMDDx where "x" is one of the
         "status" characters="!"," ", or "?")
  1 TD - Time of Death (HHMM)
  1 DP - Death Place
  1 FA - Father Identifier (this is a "pointer" to the Individual
         Information record for the father, if it is also included
         in the transfer dataset); an "*" following the father's
         ID indicates that it is an adoptive relationship
  1 MO - Mother Identifier (this is a "pointer" to the Individual
         Information record for the mother, if it is also included
         in the transfer dataset); an "*" following the mother's
         ID indicates that it is an adoptive relationship
  1 FY - ID of younger sibling, same father ("pointer" value)
  1 MY - ID of younger sibling, same mother ("pointer" value)
  1 OC - Oldest Child Identifier ("pointer" value)
  1 OF - Family or Spouse record pointer (this is a "pointer" to
         the Most Recent, in terms of date married, Family
         Information record included in the transfer dataset)
  1 CM - Comment Line
  1 CT - Continuation of Comments (may be several)
**1 AR - ADDRESS Record (There may be several of these "complex"
         entries, ordered from most recent to least recent)
  2 DB - Begin Date (YYYYMMDD)
  2 DE - End Date (YYYYMMDD)
  2 AD - Address Line 1
  2 CT - Address Line 2
  2 CY - City
  2 ST - State
  2 ZC - Zip Code or Postal Code
  2 CN - Country (only imported into "Long" address records)
  2 PH - Phone Number (must be xxx-xxx-xxxx format if importing
         into "short" address record format)
  2 CM - Comment Line
  2 CT - Continuation of Comments (may be several)
**1 ER - EDUCATION Record (There may be several of these "complex"
         entries, ordered from most recent to least recent)
  2 DB - Begin Date (YYYYMMDD)
  2 DE - End Date (YYYYMMDD)
  2 SU - Subject 1
  2 SU - Subject 2
  2 EL - Education Level
  2 DG - Degree or certification earned
  2 CM - Comment Line
  2 CT - Continuation of Comments (may be several)
  2 AR - ADDRESS Description (This is a "complex" entry whose sub-
         ordinate lines have been described above under the
         individual record.  There may be several of these,
         ordered from most recent to least recent. Here
         subordinate entries would be level 3.)
```

```
**1 WR - WORK Record (There may be several of these "complex"
         entries ordered from most recent to least recent.)
  2 DB - Begin Date (YYYYMMDD)
  2 DE - End Date (YYYYMMDD)
  2 WT - Occupation Description
  2 CM - Comment Line
  2 CT - Continuation of Comments (may be several)
  2 AR - ADDRESS Description (This is a "complex" entry whose sub-
         ordinate lines have been described above under the
         individual record.  There may be several of these,
         ordered from most recent to least recent. Here
         subordinate entries would be level 3.)
**1 MI - MILITARY Record (There may be several of these "complex"
         entries ordered from most recent to least recent.)
  2 DB - Begin Date (YYYYMMDD)
  2 DE - End Date (YYYYMMDD)
  2 MR - Military Rank
  2 ES - Ending Status (retired, MIA, killed, died)
  2 CM - Comment Line
  2 CT - Continuation of Comments (may be several)
  2 AR - ADDRESS Description (This is a "complex" entry whose sub-
         ordinate lines have been described above under the
         individual record.  There may be several of these,
         ordered from most recent to least recent. Here
         subordinate entries would be level 3.)
**1 ME - MEDICAL Record (There may be several of these "complex"
         entries ordered from most recent to least recent.)
  2 DB - Begin Date (YYYYMMDD)
  2 DE - End Date (YYYYMMDD)
  2 DI - Medical Diagnosis
  2 ES - Ending Status (cured, remission, terminal)
  2 CM - Comment Line
  2 CT - Continuation of Comments (may be several)
  2 AR - ADDRESS Description (This is a "complex" entry whose sub-
         ordinate lines have been described above under the
         individual record.  There may be several of these,
         ordered from most recent to least recent. Here
         subordinate entries would be level 3.)
```

c) FAMILY or SPOUSE RECORD - Contains information about a marriage including pointers to spouses. Also includes descriptions of family residences.

```
  0 FI - Family Record Identifier (Cross Reference Identifiers are
         of the form "Mn" where "n" is a number)
  1 HU - Husband's Individual Record Pointer
  1 WF - Wife's Individual Record Pointer
  1 MS - Beginning Status (usually "Married:")
  1 MD - Marriage Date (YYYYMMDD)
  1 PM - Place of Marriage
  1 DE - Date marriage terminated (YYYYMMDD)
  1 ES - Ending Status (divorced, annulled, husband died, wife
         died)
  1 PD - Place of marriage termination
  1 HO - Husband's Other Family Record Pointer (next most recent)
  1 WO - Wife's Other Family Record Pointer (next most recent)
  1 CM - Comment Line
```

1 CT - Continuation of Comments (may be several)
1 AR - ADDRESS Description (This is a "complex" entry whose subordinate lines have been described above under the individual record. There may be several of these, ordered from most recent to least recent.)

d) END OF FILE RECORD - Indicates the end of the GEDCOM file.

0 ND - End of File

3. Requirements for Transfer Dataset to be Imported into FHS files

While the import procedure as it now exists is adequate for processing transfer datasets prepared by the FHS export procedure, there are some "inflexibilities" in the program now that could cause problems when trying to process a transfer dataset prepared in some other manner. The following paragraphs describe characteristics of the transfer dataset created by the FHS export procedure that are assumed by the import procedure. (Note: these are not entirely unnatural restrictions...the examples I have seen in print of GEDCOM format datasets created using the original LDS guidelines satisfy most of them...)

Level numbers must be a single digit and occur in the first position of each line. Values of level numbers must be 0 for record level items and increment by 1 for subordinate level items;

Tags must be in Upper Case;

The leading cross-reference delimiter on records must be in cc 2 of the line and the tag must start in the next position after the trailing cross-reference delimiter;

On lines with level-number>0 the tag must begin in cc2;

Values must begin in cc5 and are terminated by a trailing CR+LF (carriage return+linefeed characters);

Name record identifiers must be numeric, the first having value 1 and successive identifiers being incremented by 1;

Family record identifiers produced during the export procedure consist of the letter "M" followed by a number. The import procedure will accept identifiers that omit the "M" but requires the numeric portion to follow the convention that the first marriage record have a value of 1 and successive marriage records be incremented by 1;

The "Date" portion of Date values must be in the form: YYYYMMDD

If the value on a NM line has an imbedded "/", then it is assumed to be in the "Given Name / Surname /" format used in the Personal Ancestor File software distributed by the LDS Genealogical Dept, otherwise it is assumed to be in "Surname, Given Name" format and the first occurring "," in the NM value field will delimit the Surname from the Given name;

Successive strings of 3 blank characters ("   ") imbedded in comment lines will result in the loss of text that follows the blank characters. Text in comment lines must be less than 133 characters long, and continued lines are concatenated before being "broken" into the 38 character comment lines that are stored in the family files.

Appendix C: Using DOS BUFFERS= to Improve System Performance

[NOTE: this appendix was written several years ago, before the advent of the modern class of PC's with their multiple levels of both hard-ward and software CACHING of disk activity. As a result, the sugges-tion of using the DOS BUFFERS to improve disk performance is not appropriate for many users today. I believe that the discussion may still be useful however for focusing attention on the impact which these buffering techniques have on the performance of disk intensive programs such as those in the Family History System.]

This section describes how you can change the default number of "buffers" that DOS uses for moving data to and from your family files as a means of improving performance of these programs. First I would like to motivate the discussion some by showing you what changing this parameter can do for you.

In order to see the effect of changing the number of buffers, I made a series of runs on a standard IBM-PC (with 320k of RAM, two 5 1/4" floppy drives and no hard drive), using the compiled version of the system's descendant report program to create a descendant work file using my family files. The resulting work file contained a record of 1008 descendants spanning 7 generations.

In the first series of runs, I placed the work file on a RAM disk but all data files were on the diskette in the "B" drive. The results were:

# DOS buffers:	2	5	10	15	20	40	60	80	99
run time:	4:15	2:10	1:45	1:45	1:45	1:47	1:47	1:48	1:52

Incidentally, 2 is the default number of buffers used by DOS. It's interesting to note that the run time actually increases as the near maximum number of buffers is used, indicating that DOS is spending more time checking through all those buffers than is saved by any reduction in I/O. Notice also that the run time is cut by 60% by increasing the buffer count to just 10...which uses a paltry 4k of additional RAM.

Still more remarkable were the results obtained when the work file was placed on the same diskette as the family data files (something that should be avoided if possible), as shown in the following table:

# DOS buffers:	2	10	20	30
run time:	10:50	2:05	2:04	2:00

In this case, the same 10 buffers resulted in a reduction of 80% in run time. Clearly, even those of us who are not blessed with monster RAM boards for supporting huge virtual disks in memory can expect to achieve considerably improved performance by setting aside as little as 4k of memory for reducing disk accesses. I will describe how you can go about doing this in the next few paragraphs.

You can let DOS know how many buffers you want to have set aside for "shuttling" information to and from the various storage devices by creating a new file, CONFIG.SYS, on your "boot" diskette. You will

want to check to see if this file might already exist since it is also used for such things as adding support for a "mouse" or setting up RAM disks. If your "startup" diskette does not now have a "CONFIG.SYS" file on it, you can create one by placing the diskette in the "A" drive and entering the following:

```
A>copy con: config.sys
buffers=25
^z
```

The ^z is created by pressing the CTRL key and the "Z" key simultaneously, or by pressing the F6 function key. To confirm that you have successfully created the file, enter the following after the DOS prompt returns:

```
A>type config.sys
```

(You will note that I have set it up for 25 buffers, which requires about 12k more than the default 2 buffers. Although most of the performance improvement above could be obtained with just 10 buffers, other operations, such as the building of the report index work file, will probably benefit from the extra buffers.)

You should now "re-boot" your machine (by pressing the CTRL+ALT+DEL) key combination and start enjoying improved performance from all of your I/O intensive applications. (If your diskette or hard disk already has a CONFIG.SYS file but does not have a "buffers=..." line, you can add one to it using a text editor, in non-document mode, or by using the "copy con: ..." technique above, making sure to re-add all the existing lines in the CONFIG.SYS file.)

A final remark, since more information is being held in memory within the extra buffers, it becomes still more important that you not illegally exit the file maintenance program (say by turning the machine off) until the files have been "closed" within that program. This closing of the files takes place automatically when you return to the system's Main Menu.

Although the above timings were obtained using the compiled version of the programs, you can expect similar, though perhaps not quite as dramatic, improvement for the interpreted version of the programs. For those who are running on floppy diskettes, I have changed the install procedure on the distribution diskette to automatically create the CONFIG.SYS file during the installation process.

Appendix D: Family File Description

The purpose of this section is to satisfy the curiosity of the 2-3% of the users of the Family History System that want a more detailed description of the contents of the 3 datasets that comprise a family file. If the following discussion makes little sense to you, you are really none the worse for it.

First I should remind you that a family file is really composed of three datasets (or collections of records of information) that are interconnected by a system of program maintained "pointer" fields. Each of the datasets is a standard BASIC random access file. Therefore all of the records in each dataset are of the same length and each record can be directly accessed by its record number without having to read the records preceding it in the file. The three datasets that make up a family file are:

NAME dataset, e.g. FAMILY.NAM, with 100 character records
ADDRESS dataset, e.g. FAMILY.ADR, with 108 or 152 character records (depending on whether "long" or "short address records are being used)
and MISCELLANEOUS Info dataset, e.g. FAMILY.OTH, with 50 character records.

Each record in these datasets is further "logically" divided into a number of fixed position "fields" of information. The placement and purpose of each of these fields will be described below. In that description, each field will be assigned a "DATA TYPE" by a 2 character alphabetic symbol as follows:

- AC ASCII Character - used for Text fields such as names and places; variable in length
- SI Single Precision Integer - numeric field which can assume any value between (approximately) -32000 and +32000; each field is 2 characters long;
- DI Double Precision Integer - numeric field which can accurately represent integers between -2^53 and +2^53 (here "^" represents the operation of "exponentiation"); each field is 4 characters long;
- BM Bit mapped flag or status field; 1 character long.

As mentioned previously, POINTER FIELDS are used to logically connect two separate records in a family file. These fields are defined as single precision integers which has the effect of limiting the number of records in each of the family datasets to 32000. (Prior to January 1993 the name file was effectively limited to 9999 records because the onscreen data areas and the report fields for ID numbers allowed only 4 digits).

Each Family History System dataset has a "HEADER Record" (the first record in the dataset) whose first character identifies the type dataset it is. The header record has other fields which are used to store information needed by the system to process the dataset. Among these fields are 3 that indicate the date and time that the associated NAME dataset was CREATED. Using this DATE/TIME "Stamp" the programs can determine whether the family file datasets "go together" or "match". Each "work" file header record also contains the DATE/TIME

identifying fields for the family file used to create the work file so that the programs will know whether a work file matches a particular family file. Note that the system can not distinguish (using the DATE/TIME fields) between family files which are copies of one another or which were created within the same minute of the same day. Therefore if you are creating several separate family files, you shouldn't initialize them all at the same time (or within a minute of each other anyway). You should also notice that the programs do not use the external name of the datasets to determine whether they go together. You may freely rename the datasets using the DOS RENAME command without affecting the way the system will handle them.

One more remark concerning POINTER Field values...the actual file record number of the record pointed to is found by adding 1 to the pointer field value. For example a pointer field which refers to the first NAME record will have a value of 1, although that NAME record is actually the 2nd record in the dataset because of the HEADER record at the beginning of the dataset.

Before presenting the record descriptions I should make one more comment concerning the stored formats for DATEs and TIMEs. The system stores all dates in two SI fields: One containing the value of the YEAR (YYYY) and a second which has the month and day combined according to the formula MM*100+DD. Similarly, a TIME (HH:MM) is stored in a single SI field using the formula HH*100+MM. (Better formulae would of course be: MM*256+DD and HH*256+MM, but I didn't think of that until after I had sent out the first version of the programs back in 1985.)

The record descriptions will be presented for each of the family file datasets in tables which have the following (unlabeled) columns:

- OFST - the offset into the record of the beginning of the field; (the number of bytes preceding the field in the record);
- TYPE - the 2 character DATA TYPE designation described previously; bit mapped fields will be followed by one or more descriptions of the meanings of individual bits in the field;
- NAME - a short name describing the field
- DESC - a description of the field contents or its purpose.

A. NAME DATASET - each record is 100 bytes (characters) long

1. HEADER RECORD

OFST	TYPE	NAME	DESC
0	AC	FTYPE	File Type="N"
1	SI		
3	SI	MAXID	largest ID# currently in the file
5	SI	CREYR	Year that the file was created
7	SI	CREMD	Month and Day that the file was created
9	SI	CRETM	Hour and Minute that the file was created
11	SI	UPDYR	Year that the Name Dataset was last updated
13	SI	UPDMD	Month and Day that the dataset was updated

2. NAME RECORD
(Record PREFIX)

OFST	TYPE	NAME	DESC
0	AC	RTYPE	Record Type=ASCII 01
1	SI	RID	Record ID # (actual record number=RID+1)
3	SI	FID	Father's ID # or 0
5	SI	MID	Mother's ID # or 0
7	SI	OLDCH	RID of Oldest Child or 0

```
 9  SI  FYSIB - RID of younger sibling with same father
11  SI  MYSIB - RID of younger sibling with same mother
13  SI  PLACE - RNO of Birth/Death PLACE record in ".OTH"
15  SI  LFAM  - RNO of latest SPOUSE or FAMILY record in ".OTH"
17  SI  ADOPT - an unimplemented pointer field intended to
                provide a more satisfactory handling of adoptions
19  SI  ADRS  - RNO of latest individual residence in ".ADR"
21  SI  COM   - RNO of first comment line in ".OTH"
23  SI  EDUC  - RNO of latest education record in ".OTH"
25  SI  WORK  - RNO of latest occupation record in ".OTH"
27  SI  MIL   - RNO of latest military record in ".OTH"
29  SI  HLTH  - RNO of latest medical record in ".OTH"
31  SI  RELIG - an unimplemented pointer field for religion info
33  BM  STAT1 - STATUS Field
     ......01 - FID status is * (adoptive relationship)
     ......10 - FID status is ?
     ....01.. - MID status is * (adoptive relationship)
     ....10.. - MID status is ?
     ..01.... - Birth date status is ?
     ..10.... - Birth date status is !
     01...... - Death date status is ?
     10...... - Death date status is !
34  BM  STAT2 - STATUS Field
     1....... - Married woman uses own surname
     ......01 - Ancestor Interest level 1
     ......10 - Ancestor Interest level 2
     ......11 - Ancestor Interest level 3
     ....01.. - Descendant Interest level 1
     ....10.. - Descendant Interest level 2
     ....11.. - Descendant Interest level 3
35  SI  FILL  - an unused pointer (or flag) field which will
                probably never be used because very early
                versions of the file update program left
                "garbage" in it.  The file validation program
                currently sets it to "0" if it does have a
                non-zero value in it.
(Record DATA)
37  AC  SEX   - individual's sex (M or F usually)
38  SI  BDYR  - year of birth
40  SI  BDMD  - month and day of birth
42  SI  BTM   - time of birth
44  SI  DDYR  - year of death (9999 if unknown)
46  SI  DDMD  - month and day of death
48  SI  DTM   - time of death
50  AC  SURNM - Surname
70  AC  GIVEN - Given Name
100 (end of record)
```

B. ADDRESS DATASET - each record is 108 bytes for Short Format address records or 152 bytes for the Long Format.

1. HEADER RECORD

```
 0  AC  FTYPE - File Type="A"
 1  SI  ATYPE - Address Format
                (="0" for Short Format, ="1" for long format)
 3  SI  MAXRN - highest RNO of address record currently in file
 5  SI  CREYR - Year that the file was created
 7  SI  CREMD - Month and Day that the file was created
```

```
     9  SI  CRETM - Hour and Minute that the file was created
    11  SI  UPDYR - Year that the Address Dataset was last updated
    13  SI  UPDMD - Month and Day that the dataset was updated
    15  SI  FCHNB - first record in chain of free (or deleted) recs
    17  SI  FCHNC - number of records on free (reusable) chain

2. ADDRESS RECORD
   (Record Prefix)
     0  AC  RTYPE - Record Type=ASCII 02
     1  SI  RNO   - Record number (actual file record number=RNO+1)
     3  AC  SRTYP - RTYPE of record to which address refers
     4  SI  SRNO  - RNO (or RID) of record to which address refers
     6  SI  NXTAD - RNO of next most recent address record
     8  SI  COM   - RNO of first comment line in ".OTH"

   (Record DATA - "Short" Format)
    10  SI  BGNYR - Year of beginning date for address
    12  SI  BGNMD - Month and Day of beginning date for address
    14  SI  ENDYR - Year of ending date for address
    16  SI  ENDMD - Month and Day of ending date for address
    18  SI  ACODE - 3 digit area code for phone number
    20  SI  PRFX  - 3 digit prefix for phone number
    22  SI  SUFX  - 4 digit suffix for phone number
    24  AC  LINE1 - First line of address
    54  AC  LINE2 - Second line of address
    84  AC  CITY  - City name
    99  AC  STATE - State
   103  AC  ZIP   - 5 digit ZIP Code
   108  (end of record)

   (Record DATA - "Short" Format)
    10  SI  BGNYR - Year of beginning date for address
    12  SI  BGNMD - Month and Day of beginning date for address
    14  SI  ENDYR - Year of ending date for address
    16  SI  ENDMD - Month and Day of ending date for address
    18  AC  PHONE - Phone Number
    32  AC  LINE1 - First line of address
    62  AC  LINE2 - Second line of address
    92  AC  CITY  - City name
   112  AC  STATE - State
   124  AC  POST  - ZIP/Postal Code
   136  AC  CNTRY - Country
   152  (end of record)

C. MISCELLANEOUS INFO DATASET - each record is 50 bytes long
   1. HEADER RECORD
     0  AC  FTYPE - File Type="M"
     1  SI
     3  SI  MAXRN - highest RNO of record currently in file
     5  SI  CREYR - Year that the file was created
     7  SI  CREMD - Month and Day that the file was created
     9  SI  CRETM - Hour and Minute that the file was created
    11  SI  UPDYR - Year that the Address Dataset was last updated
    13  SI  UPDMD - Month and Day that the dataset was updated
    15  SI  FCHNB - first record in chain of free (or deleted) recs
    17  SI  FCHNC - number of records on free (reusable) chain
```

```
2. SPOUSE or FAMILY RECORD
   (Record Prefix)
    0  AC  RTYPE - Record Type=ASCII 03
    1  SI  RNO   - Record number (actual file record number=RNO+1)
    3  AC  SRTYP - RTYPE of record to which address refers (ASC 01)
    4  SI  SP1ID - RID of one spouse
    6  SI  SP1NX - RNO of next earlier family record for spouse 1
    8  SI  ADRS  - RNO of most recent address record for family
   10  SI  COM   - RNO of first comment line
   (Record Data)
   12  SI  MDTYR - Year of marriage
   14  SI  MDTMD - Month and Day of marriage
   16  SI  EDTYR - Year of termination of marriage
   18  SI  EDTMD - Month and Day of termination of marriage
   20  SI  PLACE - RNO of Marriage/Divorce place record
   22  SI  SP2ID - RID of second spouse
   24  SI  SP2NX - RNO of next earlier family record for spouse 2
   26  AC  BSTAT - Description of beginning status (e.g."Married")
   38  AC  ESTAT - Description of ending status (e.g. "Wife died")
   50  (end of record)

3. BIRTH/DEATH or MARRIAGE PLACE RECORD
   (Record Prefix)
    0  AC  RTYPE - Record Type=ASCII 04
    1  SI  RNO   - Record number (actual file record number=RNO+1)
    3  AC  SRTYP - RTYPE of record to which address refers
    4  SI  SRNO  - RNO (or RID) of record to which address refers
   (Record Data)
    6  AC  PLAC1 - Birth place or beginning marriage place
   28  AC  PLAC2 - Death place or ending marriage place
   50  (end of record)

4. COMMENT RECORD
   (Record Prefix)
    0  AC  RTYPE - Record Type=ASCII 05
    1  SI  RNO   - Record number (actual file record number=RNO+1)
    3  AC  SRTYP - RTYPE of record to which comment refers
    4  SI  SRNO  - RNO (or RID) of record to which comment refers
    6  SI  FPTR  - RNO of next comment record (=0 in last record)
    8  SI  BPTR  - RNO of previous comment record
                   (in first record=total # of comment lines)
   10  SI  CCNT  - counter field
   12  AC  TEXT  - text of comment line
   50  (end of record)

5. MISCELLANEOUS INFORMATION RECORDS
   (Record Prefix)
    0  AC  RTYPE - Record Type
                   ASCII value 07 = Education Record
                               08 = Work Record
                               09 = Military Record
                               10 = Medical or Health Record
    1  SI  RNO   - Record number (actual file record number=RNO+1)
    3  AC  SRTYP - ASCII 01
    4  SI  SRNO  - RID of NAME record to which information applies
    6  SI  NXTAD - RNO of next most recent record of same type
    8  SI  ADRS  - RNO of most recent address record
```

```
10  SI  COM   - RNO of first line of comments
(Record Data - all record types)
12  SI  BGNYR - Year of beginning date for information
14  SI  BGNMD - Month and Day of beginning date for information
16  SI  ENDYR - Year of ending date for information
18  SI  ENDMD - Month and Day of ending date for information

(Record Data for Education)
20  AC  LEVEL - Level of Education (e.g. "H.S.", "COLLEGE")
28  AC  SUB1  - Major Subject #1
37  AC  SUB2  - Major Subject #2
46  AC  DEG   - Degree earned ("A.A.", "B.S.", "PhD.")
50  (end of record)

(Record Data for Occupation)
20  AC  OCCUP - Description of type work ("farmer", "lawyer")
50  (end of record)

(Record Data for Military Info)
20  AC  RANK  - Description of military rank
42  AC  STAT  - Ending Status ("RETIRED", "MIA")
50  (end of record)

(Record Data for Medical Info)
20  AC  DIAG  - Diagnosed condition
42  AC  STAT  - Ending Status ("cured", "outgrown", "death")
50  (end of record)
```

Appendix E. Some Remarks on the Export/Import Procedure

The following document is composed of portions of letters written in response to questions users had regarding the export/import process. Someday I hope to write a more extended and cohesive discussion of the use of that option, but until then perhaps these fragments will help explain a little more about the operation of that utility.

The first letter simply describes how to merge one family file with another.

The export/import program, Main Menu option F3-D-1 or 3, is intended to permit you to selectively move records from one family file to another. To give you an idea of how to use it, consider the following: Suppose you have two family files, FAMILY1.NAM, FAMILY1.ADR, FAMILY1.OTH and FAMILY2.NAM, FAMILY2.ADR, FAMILY2.OTH, both residing in the \family sub-directory of your hard disk, and you want to copy all records of FAMILY1.* to FAMILY2.*. To do this, perform the following steps:

0. Create backup copies of both family files.
1. Use Main Menu option F3-A to change the dataset names to FAMILY1...
2. From the Main Menu enter:
   - F3-D-3 to select the FHS Export/Import option
   - F4 to select the GEDCOM Export option
   - 1 Export the full file
   - 2 (you will probably want to export the records in ID# sequence)
   - <enter> (you don't have to put anything in the HEADER record if you don't want to)

   After the export is complete, press the space bar to clear the message at the bottom of the screen.
3. Use option F1 to change the names of the family datasets to FAMILY2.NAM, FAMILY2.ADR and FAMILY2.OTH
4. Then press:
   - F5 to select the GEDCOM Import option
   - <space> (the message simply tells you that the records will be added to the end of the FAMILY2 file
   - <enter> unless you expect to import more than 1000 marriage records
   - N you shouldn't have any unprocessed items
   - Y this will permit the process to continue

   After the process is complete, return to the Main Menu.
5. You will probably want to run the pointer validation option, Main Menu selection F3-E-1, against the expanded file to make sure that everything is properly connected.

Any connections between old and new records will have to be made manually within the file maintenance program, Main Menu option F1, after the merging of the two files is complete.

The next section was written in response to a question raised concerning "partial" spouse records discovered by the pointer validation program following an import operation; that is, ones in which one of the spouse ID's was zero. It discusses more generally the use of "secondary selections" in the Search/Select/LIST option to extend a selection set.

"I've been giving some thought to the problem you were having with missing spouses in the Family History System export file and it occurred to me that there might be a "natural" explanation. When you are requesting "secondary selection" of spouses in the search/select/list program, it will only select all spouses of those who are being selected by the rules...it won't pick up all other spouses of those who are only secondary selections. After completing this process, you may be "missing" some of the spouses of spouses in the selection set. This can be corrected by continuing to apply (an empty set of) rules, with secondary selection of just spouses until this results in no new records being added to the selection set (# secondary selections=0). At that time, the collection of selected records will form a "closed set" with respect to marriage and you should get no "dangling" marriage records after exporting and reimporting them into another file (other than those that were only partial records in the original file).

It would seem to me that you might consider following a procedure such as this for building a selection set for export purposes:

1. Create a selection set for those records you are most interested in exporting (set of ancestors, descendants, relatives or all records with surname "Riggs", etc.).
2. Apply an empty set of rules requesting all types of secondary
   all
   all
   selections in order to pick up all name records that will be referred to in any way on the family group reports of those records you have previously selected. (If the previous selection set consisted of all relatives of an individual, you need only request secondary selections of parents, spouses, and spouse's parents...the set of relatives already contains all children of the relatives)
3. If the number of secondary selections is not zero, then reapply the (empty) set of rules, this time requesting secondary selections of spouses only, to pick up any missing spouses of spouses. Repeat this step until there are no more new records added to the selection set as secondary selections.

The resulting collection of records will include all persons who are "closely" associated (i.e. on the family group report) of those you are primarily interested in, and will also contain all spouse's of anyone in the collection.

A variation of this procedure would be to follow step 1 with step 3, then step 2 and then repeat step 3. This would add all the "step children" and mother/father in laws of those originally selected to the final selection set.

Still another variation would be to follow step 1 with:

2a. Secondary selection of spouses only
2b. Secondary selection of parents only

2c. Secondary selection of children only
and then follow with step 3. This would also add the brother/sister in laws of the original group to the final selection set (as well as some half/step brothers and sisters).

Obviously there are many approaches to take and perhaps there is no single best one for all circumstances. Of course you have to draw the line somewhere or you will end up selecting your entire file...after all you probably didn't add any name records to the file unless they had some blood or marital relationship to some other record in the file. Trying to decide on a way to "split up" a large family file is certain to be an agonising process. At least, with all the options available to you, you should be able to implement just about any strategy you might finally decide upon.