

Family History System  
Manual For the Basic Set of Programs  
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## I. INTRODUCTION

I want to thank you for choosing the "Family History System" for organising and reporting the results of your research into your own family history. Although I first began work on these programs for the purpose of "computerising" the information in a family booklet prepared by a distant cousin, I have been pleased to find that this software has proven useful to so many others with similar interests.

Using this software, you will be able to build one or more "family files", each of which may have information for up to 32000 individuals recorded in it. (Each file is limited to the size of the disk(s) on which it resides. On 360k, 5 1/4" floppies a file may have up to 3600 names, on 720k 3 1/2" diskettes a file may have up to 7200 names.) Provision is made for recording family relationships as well as names, dates and places. No limits are placed on the number of relationships that may exist for each individual or for the number of generations of ancestors or descendants that may be recorded.

The basic system produces Ancestor, Descendant, Relative and Family Group reports, Ancestor (tree) Charts and a variety of "BOX" style charts. Blank worksheets and charts may be produced to record information for entry into the system.

Requirements for running these programs are:

1. an IBM PC, PCjr, PC XT, AT, PS/2 or compatible computer
2. at least 1 diskette drive
3. an 80 column monitor
4. at least 256k of memory (RAM)
5. Dos 2.0 or later

A printer is recommended for making full use of the system but is not required for creating, maintaining or displaying information in the system files.

These programs are being made available for general use and unmodified copies of the distribution diskettes (the diskettes on which you received the programs) may be freely shared with others. No fee may be charged for such copies beyond that required to cover the expense of media, postage and handling incurred in producing them unless written permission is given by the author.

Those who find these programs useful and would like to receive additional options may become 'registered' users by sending \$35.00 to:

Phillip E. Brown  
834 Bahama Drive  
Tallahassee, Fla. 32311

Registered users will receive the most recent update to the extended system and will be notified of future major updates as they become available. Please see Appendix A at the end of this manual for a description of the enhancements that are currently available among the system extensions.

#### A NOTE ESPECIALLY FOR NEW USERS

While I have tried to make these programs as easy to use as possible without reducing the available options, the on-screen help is limited to brief menus of program functions. Therefore, I hope you will come to this manual occasionally to try to clear up any questions you may have about the operation of the programs. I realize that this is not the "tutorial" type of instruction booklet that many would like, but I have tried to include descriptions of every aspect of the operation of the software.

#### A NOTE FOR USERS OF EARLIER VERSIONS OF "Family History System"

Those of you who may be upgrading from an earlier version of the programs should be interested in knowing that, during the 8 years that the system has been distributed publicly, there have been no changes to the file format that affect your being able to use your existing "Family History System" data files with the programs in this update. After installing these programs, you should be able to continue working with your previous family files just as before.

However there were errors in some earlier versions of the file update program that may have caused problems involving program maintained information that "connects" the various pieces of an individual's record together. There is now a utility program (the "pointer validation" option, Main Menu selection F3-E-1) which can help you to locate and correct any such program generated file errors as well as errors that may have resulted from a prematurely interrupted file update session. I encourage you to review Section VI.A of this manual describing that option.

There have been so many changes to the programs in this update that nearly all sections of the manual have been affected in some way. I hope that you will review all of it at some time so that you do not miss out on any enhancements that it may reveal to you. (Please see the next page for a list of enhancements introduced by this update.)

#### A NOTE FOR USERS OF OTHER GENEALOGICAL SOFTWARE

If you have information stored in files prepared by other genealogical software, you may be able to transfer much of that information into a FHS family file without having to "rekey" any of it. This set of programs includes a utility program that makes use of the GEDCOM format for transfer of genealogical information. If the software that was used to prepare your other files also supports that format, and many of today's most popular programs do, you may be able to EXPORT information from those files (using that software's GEDCOM utility) and IMPORT them into a FHS file (using the FHS utility). Please read Section VII.A below for more information about the GEDCOM utility.

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SIGNIFICANT CHANGES TO NOTICE IN THIS JANUARY 1993 UPDATE

This update to the Family History System software probably contains more changes than any other single update since the programs were introduced back in March 1985.

These changes include:

- a new style of Ancestor and Descendant "box" chart, including a new Chart Summary Report for reviewing the characteristics of a chart prior to printing it;
- new "mini chart" styles of "box" charts;
- a new "LifeLine" style for Ancestor/Descendant/Relative reports;
- new Page Formatting controls, including the ability to print just EVEN or just ODD numbered pages for "front and back" printing;
- the ability to set the default values for many report options;
- revised headings for many of the reports;
- the "expansion" of column style reports, by adding spaces between the columns, to fill the area between page margins;
- a new "long address format", intended primarily for international users who had found the old format inadequate for their needs;
- screen formats and reports have been revised to handle 5 digit ID numbers, allowing larger family files up to the design limit of 32000 name records;

You may also wish to note two new options that were introduced in April 1992. One is a "data validation" option which performs a number of checks of family file data including incongruences between the values of related data items (for example, the ages of parent and child or of two spouses). The other is an interface to a landscape printing utility for HP Laserjet, Deskjet and compatible printers. That utility, called 4PRINT, is marketed separately by Korenthal Associates, and provides for concise printing of reports and charts in landscape format, using both sides of the page.

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Although this public version of the 'Family History System' is the foundation for the extended system that is sent to registered users, I have tried in the past to avoid any references to those extended options in these programs so that those who do not wish to register will not feel that they are using an incomplete set of programs. However, in the past several updates, in an attempt to extend the usefulness of the indexing features of the registered version, I have been forced to include, within these programs, options that only have significance for those who have the extended system. In particular, the ability to print family group reports in INDEXed sequence, and the optional creation of REFERENCE work files for the printing of report indexes are either unavailable or of no use to unregistered users.

I believe that most people will still find this basic set of programs to be an excellent tool for recording and reporting their Family History.

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While I have encountered (and corrected) a number of errors during my use of the system, there are no doubt some errors remaining in some of the programs, hopefully none serious. If you should find any, I would appreciate very much your sending a description of the problem to me at the address shown on a previous page so that I may try to correct it.

Good luck in tracing your `roots'.

All Programs (C) Copyright 1985-1993 by Phillip E. Brown

## II. Getting Started.

### A. Creating working copies of the programs

The basic set of programs in the Family History System is distributed on three 5 1/4" diskettes or one 3 1/2" diskette. The diskettes should be labeled B1, B2 and B3 (or just B1 for the 3 1/2" format) for identification purposes during the installation of the programs. If your diskettes do not have external labels marked in this way, you may identify each diskette by placing it in a drive and entering: DIR

- the B1 diskette will have a file named: FHSDISK.B1
- the B2 diskette will have a file named: FHSDISK.B2
- the B3 diskette will have a file named: FHSDISK.B3.

The B1 diskette has an "orientation" procedure that may be started by placing the diskette in a drive of your PC and entering: GO  
This 110+ page manual can be printed from files on the diskette by entering the command: GO PRINT MANUAL

These "distribution" diskettes contain many files which are not required during the normal operation of the system. For instructions on how to create a working copy of the programs, without those unnecessary files, place the B1 diskette in a drive, make that the default drive, and enter:

GO INSTALL

Instructions are provided for installing the programs on either floppy diskettes or a hard disk. For example, you will be instructed to enter:

GO INSTALL 3D A B to install the programs onto 3 360k disks, with the distribution diskette(s) in A and the receiving diskettes in B

or GO INSTALL 2D A B to install the programs onto 2 720k disks, with the distribution diskette(s) in A and the receiving diskettes in B

or GO INSTALL 1D A B to install the programs onto 1 diskette with capacity >= 750k, with the distribution diskette(s) in A and the receiving diskette in B

or GO INSTALL HD A C to install the programs on hard drive "C" from the distribution diskette in drive A

(Please note that all GO commands must be entered in CAPS.)

Previous users of the programs who are running the programs from 360k, 5 1/4" floppy diskettes should note that three program diskettes are now required (a STARTUP, UTILITY and a REPORT Program diskette) and two program diskettes (a STARTUP and UTILITY) are now required when using 720k diskettes. During an FHS working session it will be necessary for you to change program diskettes when some options are selected from the Main Menu.

If you are installing the programs on a hard disk, they will be placed in a FAMILY sub-directory of the hard disk. If you are reinstalling

the programs, they will simply replace the existing programs in the FAMILY sub-directory.

After installing the programs on diskette(s), you may start the system by placing the STARTUP program diskette in drive "A" and entering:

A>fhs           or     A>faminit

or by "booting" your computer with the STARTUP diskette in the A drive. If the programs are installed on a hard disk, you will start the system by entering: C>fhs

or by entering: C>cd \family  
                  and C>faminit

## B. Beginning a Family History System work session

When starting the Family History System, the screen will be cleared and reformatted with the system's 'introductory panel'. This panel, which shows the 'update' of the program diskette that you are using, will only appear for a few seconds, after which the MAIN MENU of system options will appear.

### 1. MAIN MENU Program

Besides being the first functioning panel that you will see when entering the system, the MAIN MENU provides the only 'authorized' and 'safe' means of exiting the system (by pressing F10). You are never far from the MAIN MENU. It can be reached from any of the programs in the system by pressing the 'F9' key.

The purpose of the MAIN MENU is to permit you to easily select the system function that you wish to perform. These functions include:

- F1 - Display/Update/Create Family History System files
- F2 - Produce Reports
- F3 - Utility Functions
- F4 - Set current DATE, TIME and DATE Format
- F7 - Execute DATECALC utility (This isn't on the menu but will work for those who are using DOS 3.0 or later. This utility may also be run as a memory resident TSR program in DOS 2.1 or later versions of DOS. For more information, see Appendix D of this manual.)
- F8 - Execute DOS Commands (DOS 3.0 or later) (Use this to temporarily go to DOS. You will return later by entering the DOS EXIT command.)
- F10- Exit from the system (Return to DOS)

The system functions are selected by pressing the indicated 'function key'. If any other key is pressed, a soft tone is sounded and nothing else happens. When a 'legal' key is pressed, the corresponding function key designator, next to the function description on the screen, will be hilited. If you have selected a function, such as F2, that has several options to choose from, you will be prompted to enter a character corresponding to the one you wish to select.

When you have fully described the system function you wish to perform, the program which performs that function will be read from the program diskette and given control. If the program cannot be read from the diskette (for example, if the correct program dis-

kette is not in the `default' drive, or the drive door is open, or the program diskette is for some other reason unreadable), the message:

"Put Program diskette in default drive..." will appear on the bottom line of the screen. The "default drive" is the one from which you are running the programs (or the one that appears in the DOS Prompt). If you are able to determine the reason for the problem and correct it (for example, by putting the correct program diskette in the appropriate drive), you may press the `space bar' and the system will make another attempt to read the program from the diskette. If for any reason you decide not to continue with the selected option, you may press the `ESC' key and you will be able to reselect any MAIN MENU option. (The ESCape key is recognised by most programs in the set as an operator request to terminate a process that has been started.)

The next paragraph discusses the setting of current date and time. The section following that discusses some procedures for "customizing" the system for your configuration. If you are a first time user of the Family History System, I recommend that you review these sections before going into any other area of the system.

## 2. Setting CURRENT DATE, TIME and DATE Format

The setting of the current date, time and default format for entering dates are the only system functions that are performed within the MAIN MENU program.

Unless you have a `clock calendar' board on your computer or have previously set the date and time under the control of DOS or another program, the current DATE will probably be `01-01-1980'. Because the current date is used to determine the ages of living persons that appear on some of the reports and in the file maintenance program, it is important that it be properly set if any reports are to be produced. The time is not used by the system and is only included for your convenience.

If you press the F4 key, you will be prompted to:

Select: 1) Change DATE and TIME 2) Change DATE Format

If you select "2) Change DATE Format", you will be prompted to:

Select: 1) MM-DD-YYYY 2) DD.MM.YYYY 3) YYYY.MM.DD 4) SAVE

If you press "1", "2" or "3" the format for the current date will be changed accordingly. The format that appears there will be the one that must be used for entering dates in the file update program. After you have selected your preferred format, you may press "4" to SAVE the date format in file FAMILY.DAT so that it will be "remembered" the next time you begin a FHS working session. If you simply press the Enter key, the format will be used only for the remainder of the current working session.

If you select "1) Change DATE and TIME", you will be prompted to:

Enter the current DATE and TIME

and the cursor will appear at the left most character of the displayed date. You must enter the date in the format displayed. Further, it must be a valid date and not be before "Jan 1,1980". After entering the date, the cursor will automatically advance to the first character of the time. The time must be entered in the

form HH:MM:SS. You may use the 24 hour convention for denoting AM or PM. If you wish to go back to reenter the date, press the SHIFT+TAB keys at the same time. After you have keyed in the date and time to your liking, you may indicate to the program that you wish to reset the current values by pressing the RETURN or ENTER key. If an error is found in either the date or time, a tone will be sounded and you may correct the error.

If for any reason you wish to terminate the option, you may press the ESC key and you will then be able to reselect any of the MAIN MENU options.

### 3. Setting DEFAULT System Parameters

One thing you may wish to do when you first begin a FHS session is to examine the system defaults for the file names, screen attribute table, and printer setup table used by the system (Main Menu options F3-A,B,C). Some reasons for doing this are:

- a. To customize the default family file names. For example, you may want to change the names of the family file datasets from FAMILY.NAM, FAMILY.ADR and FAMILY.OTH to something like RUSSELL.NAM, RUSSELL.ADR and RUSSELL.OTH. You can of course build multiple family files and it is common to use the primary surname as a dataset prefix to distinguish them. You will also want to make sure that the "drive identifiers", that is, the two characters at the beginning of each dataset name ("A:", "B:", "C:" etc.), are correct for your placement of the datasets. These adjustments can be made using Main Menu option F3-A.
- b. To choose a more satisfactory set of screen attributes (colors or light/normal/dim brightness) for the display of information on the screen. Although the system, upon first entry, checks to see whether the IBM monochrome or a graphics display adapter is being used and selects a "screen attribute table" accordingly, if you are using a color monitor you may find the colors used to be unappealing or difficult to read. Main Menu option F3-B permits you to adjust these.
- c. To choose a printer control table more appropriate for your equipment. While the original printer table is based upon a common standard, there are a number of tables for more specific printers selectable under Main Menu option F3-C. You may also create a custom printer setup for printers not formally supported by a prepared setup.

(Please see Sections III-H,I,J for more complete discussions of these options).

### C. (F1) CREATING and UPDATING a set of Family files

(Before continuing with this section, you may want to read Appendix B concerning the recording of information on Family Group Worksheets prior to entry in the system.)

Data files for the Family History System are initialized and updated in the system's FILE MAINTENANCE Program which is selected by MAIN MENU option F1. This program is distinguished by its use of `segment-

ed' displays. Sections III.G and III.F discuss in more detail the design of these displays and the general rules for updating information on them. In the following discussion I will refer to each of the formatted segments of the screen as a "view".

The first `view' you are presented in the file update program shows the Menu of options available in that program. This view provides the only `legal' means for EXITing the file maintenance program (by pressing `F9' to request a return to the system's MAIN MENU display). At that time, all "open" files will be "closed" and all updates which may have been held in memory by DOS will be permanently written to your family files. If the program diskette has been removed from the default drive (for example if a separate data diskette has been placed in that drive) you will be prompted to replace the program diskette at the appropriate time. You should not replace the program diskette before being prompted to do so because the "open" files may not have been completely updated yet. (You are never `far' from this list of primary options while in the file maintenance program. It can be reached from just about any part of the program by pressing the ESCape key enough times.)

The first option selected whenever the file update program is being used should be `F1', Open/Close/Create Family Files. (It is automatically selected for you when you enter this program.) When a program `opens' a file, it is requesting DOS to permit it to read information from or write information to the file. Ordinarily this is done automatically by a program without the user's having to do anything, and in fact, all other programs in this system will automatically open and close the files as needed. In the file update program however, because the files remain open for long periods of time to process multiple user requests, and because a file could potentially become `damaged' if the user were to change data diskettes or `illegally' exit from the system (for example, by turning the machine off) while the file is open, I have chosen to require you to explicitly request that the files be opened at the beginning of the program as a reminder of the situation that prevails. All open files will automatically be closed when you return to the MAIN MENU program. (See section II.D for a discussion about protecting yourself from loss of information in damaged files.)

When the "Open/Close/Create" option is selected, you will see displayed in the upper right viewing area a list of the "datasets" used to store your family information as well as the options that may be `function key' selected from this view. You should also note that the `hilited' border moves from the upper left to the upper right viewing area. While in this program, the `active' view (the one from which program options may be selected) is enclosed by a `hilited' border.

(NOTE: The term "dataset" is used here to refer to a named area on a diskette or hard disk which contains a program or data. I am told that this term is peculiar to an IBM environment, but it is one that I find natural and will use frequently in this document. Many people will use the term "file" for what I am calling a dataset, however I usually think of a "file" as a collection of logically related information and as such it may consist of several datasets. When I speak of a "Family File" I will mean the entire collection of information that is stored in the three datasets described here.)

Three datasets are used by the system to store your family history information. You might think of these as three card files used to store different types of information. The first dataset, the NAME dataset, is used to store basic information concerning an individual, including the name, sex, birth and death dates of the individual. The second dataset is used to store the various types of ADDRESSES that are permitted in the system. The third dataset of OTHER data contains: birth, death and marriage places; marriage records; health, education, military and work information; and notes or comments.

Because you may wish to maintain multiple family files, with different dataset names, or you may wish to place the datasets on one or more separate data diskettes located on a different drive from the program diskette, you are permitted to change the file 'specifications' displayed before opening or creating the files. I refer you to your DOS manual for a description of file naming conventions which you should use. (Please note that the "A:" before the dataset name describes the drive on which the program is to look for the dataset. You may change this to "B:", "C:", etc. if you want the program to look for the datasets on a drive other than the "A" drive. You may make permanent changes to the "file name table" using Main Menu selection F3-A.)

If this is your FIRST time using the system you will want to 'CREATE' or initialize the file by selecting option F3. (If the datasets already exist, you will be asked to confirm that it is okay to DELETE the datasets during the process of re-initializing them. Be WARNED that REinitializing a set of family datasets will result in the LOSS of ALL DATA currently stored in them.) After the file has been CREATED, in future executions of this program you will use F1 to simply OPEN the files.

NOTE: When you CREATE a family file, you will be asked whether you want to use the Short or Long format for address records. The "short" format is the one that was part of the original file design, providing 5 digit zip codes and 3-3-4 digit phone numbers. The "long" format provides a free form, 13 character phone number field, longer postal codes, and a "country" field. Each "short" address record occupies 108 characters of disk space. A "long" address record takes 152 characters of disk space.

When the datasets are open you may return to the view of main options of the file maintenance program by pressing the ESCape key.

In what follows, I will not attempt to fully describe all the options available in the file maintenance program, however I will try to describe the following:

1. ADDING a NAME record to the file;
2. Recording MARRIAGE information;
3. Maintaining ADDRESS information;
4. Listing CHILDREN of an individual or 'marriage';
5. 'Climbing' the ancestor tree through PARENT relationships;
6. SEARCHing name records.

I hope that you will experiment to become familiar with these and other parts of the file maintenance program so that you may determine

which options of the program are appropriate for recording the historical information of your family.

#### 1. ADDING a NAME RECORD to the File

If you are just beginning to enter data into your family file then, after opening the files and returning to the primary menu of file maintenance options, you will select option "F2 ADD a Name Record". The 'current viewing area' will move to the upper right corner of the screen which will be formatted with labels describing the information that you may enter into the name record for the first individual to be added to the system.

You will note that the assigned record ID (on the first line of the screen) is '1'. Each NAME record that you create will be assigned an ID number which just indicates the order in which the records have been entered into the file. These ID numbers are used to identify records for the purpose of defining relationships between them (such as parent-child or spousal relationships) but the value of the ID number itself has no special significance.

You should be aware that all name records are entered into an FHS family file in the same way, through this little "viewing area". Parents and spouses must be entered first as a NAME Record before they can become parents and spouses. A child becomes a child (and a parent a parent) only when the parent's ID number is entered as a "Mother ID" or "Father ID" in the child's record.

Of course the ID # of a parent cannot be entered into a child's record unless a record has previously been created for the parent. Because of this, it is easiest to enter information starting with an earlier generation and working forward, though this is certainly not necessary. If the parent's record is added after the child's, then you may go back and update the child's record with the correct ID number for the parent to establish the parent-child relationship.

When you start to enter information into a Name record, the blinking cursor appears in the 1st position of the SURNAME field. Pressing the "TAB" key (to the left of the "Q" on most keyboards) causes the cursor to advance successively to other updatable fields on the screen. You will note that pressing the ENTER or RETURN key will move the cursor to the first position of the first updatable field on the NEXT line. You must use the TAB key to move to other updatable fields which are to the right of the cursor on the SAME line. Section III.F.1 describes other rules for entering information into the formatted displays used in this program.

Although the Birth and Death places appear in the view of the name record information, they are not actually stored in the NAME record. Because this information is not generally known for distant ancestors or relatives, I have made these fields part of a separate record. If neither location is known, leave the fields blank and no space will be used on the data diskette. Entry of anything in either data item will result in the creation of a single 50 character record for storing the information.

I have allowed for recording the times of birth and death in the

NAME record. Although this is also information which is not generally known about distant ancestors or relatives, in this case a total of only 4 `characters' are required to store both times so relatively little space is lost if these times are unknown or you decide not to maintain a record of them.

You will note four unlabeled single-character fields to the right of the birth/death dates and father/mother ID's. These are "status" fields whose use is described in Appendix C. Among other things, these may be used to distinguish adoptive parent/child relationships.

The "Use:" field to the right of the Surname field was added in February 1987 to handle a "problem" that arises when creating indexes or printing reports using some of the extended options of the system. With those options you are permitted to request that a woman's surname be replaced with that of her (most recent) husband, which seems more appropriate for things like Birthday or Anniversary lists. However this didn't take into account the situation in which a woman chooses to continue using her own surname after marriage. A value of "Y" entered in the "Surname...Use:" field of a married woman tells those programs that her own surname is always to be used when building indexes or printing reports.

After all information has been correctly entered, press F1 to cause a record to be created in the file. The bottom line of the viewing area will then be replaced with a list of standard options available when displaying an individual's information.

The displayed Name record information may be modified by pressing function key F1 twice, and making changes as above. Another record may be added by pressing the F1 key, then the F2 key and proceeding as above. Other options will be discussed in the following sections.

Please note when adding or updating a NAME record, the action of the F3 key is described as "RESTORE FIELD VALUE". This means that when you press the F3 key, the field that contains the cursor will be restored to the last displayed value. This should simplify the sequential entry of records with repeated values in certain fields; for example, birth or death places, the Surnames or parent ID's of children in the same family.

## 2. Creating a MARRIAGE or FAMILY record.

After name records have been created for each of the participants in a marriage, the marriage or family record may be created by pressing the F4 (SPOUSE) key in the view of name record information for either spouse (a single marriage record is maintained for both spouses). The `current viewing area' will shift to the upper left corner of the screen, which will be formatted with descriptions of the information stored in a marriage record. If a marriage has previously been recorded for the spouse whose name record is displayed, information from the most recent marriage record will be shown. A new record may be created by pressing the F1 key, then the F2 key. If no marriage record currently exists for the displayed spouse, the view will be ready for information to be entered. If you do not want to enter information at that time, you

may press the ESCape key to return to the Name record viewing area.

When entering marriage information, to describe the other partner in the marriage, press the F2 key, type the record ID for that individual and press the ENTER or RETURN key. The individual's NAME record will be retrieved and descriptive information displayed to confirm that the correct ID # has been entered. If it is incorrect, you may press the F2 key again to change the value of the spouse ID.

To update the marriage STATUS, Date and Place fields, press the F3 key and use the TAB key to move to the fields that need to be updated. Although the beginning status field will normally indicate that a marriage was performed, other types of arrangements may be indicated such as common-law (marriage), communal (living arrangement), etc; the partners in the relationship will still be identified as spouses in all reports. The termination status field may indicate: "wife died", "husband died", "divorced", "annulled", "agreement", etc. If a relationship is known to have terminated but the date is unknown, the YEAR of the ENDING date should be 9999. Please note that it is necessary for you to manually enter this termination date even when one or both spouses are recorded as deceased. It is not automatically updated with the death date of a spouse because that may represent an incorrect assumption on the part of the program. The report programs will take the death dates of the spouses into consideration when computing the number of years married, however a "?" will appear to the right of that number if a death date was used to determine it, to call your attention to the fact that the program has made what may be an incorrect assumption in computing it.

The PLACE fields that appear below the STATUS/DATE fields are handled similarly to BIRTH/DEATH place fields. If nothing is entered in either of the fields, then no space is taken in the file for them. If any text is entered in either field, then a single 50 character record is created to hold both 22 character fields.

Press the F1 key when all status information has been correctly entered.

After both spouse ID and status information have been satisfactorily entered, pressing the F1 key again will cause the record to be written to the family file. If either spouse has other spouse records on file, the record being added will be merged with the others in reverse order of the beginning dates (so that the most recent record occurs first). If there is an earlier marriage record on file for the spouse whose name record is displayed in the NAME record viewing area, there will be a message at the bottom of the screen informing you that you may:

Press the PGUP key to display an earlier record  
You cannot press the PGDN key to display a later record. If you wish move forward to a more recent marriage in a series of marriages, you must press the ESCape key to return to the NAME record viewing area, then press the F4 key to begin again with the most recent marriage record.

PLEASE NOTE: There are three separate steps to creating a marriage

record:

- a. Enter the ID for spouse
- b. Update the status fields, dates and places
- c. Save the information in a file record

No information is placed in the file until the last step is performed.

You should also be aware that a marriage record need not be created in order to establish parent/child relationships. Within the FHS family files, there is no forced connection between parenting and marriages. There is also no requirement that participants in a marriage be of different sexes. The "data validation" option will report such marriages as possible errors and they may present some problems when exporting information to a PAF GEDCOM file where it is necessary to designate one spouse as the Husband and the other as the Wife.

Options available to you after the marriage record has been added are shown on the bottom line of the viewing area and include:

- F1 UPDATE (Change, Add or Delete);
- F2 SELECT (the spouse to be displayed in Name record viewing area);
- F3 List CHILDren having both spouses as parents;
- F4 Display/Enter RESidence information;
- F5 Display/Enter COMments about the family relationship.

Pressing the ESCape key in the view of SPOUSE or MARRIAGE information returns you to the Name record viewing area.

### 3. Maintaining ADDRESS information.

Address information may be recorded in a number of places within an individual's total information record. It may indicate the individual's residence, a family residence (under the spouse record), or an address related to one of the additional records for education, health, work or military information. The information which is stored in an address record are shown below. Please note the differences between the "long" and "short" address formats:

- Beginning and ending dates during which the address information was current;
- Address (two 30 character lines);
- City (15 character field -- xx characters in long format);
- State/Province (4 character abbreviation - xx characters in a long format record);
- Zip or postal code (5 character field - xx in the long format);
- Telephone (3 numeric fields in the short format, a free format 13 character field in the long format; early phone numbers using alphabetic prefixes cannot be recorded when using the short address format.)

Comments may subsequently be recorded concerning information that is particularly relevant to the address record. (This might include a physical description of a home.)

Multiple addresses may be recorded of each of the above types. All addresses under a given type record (name, spouse, health, etc.) will be sequenced in reverse order of beginning date so that the most recent address occurs first. The extended system offers options for producing lists of latest (residence) addresses and for

creating a MailMerge format file of address information. The MailMerge file can be used with many database programs for printing mailing labels. It may also be used with many word processors for printing form letters.

4. Listing CHILDREN of an individual or marriage  
Pressing the F3 key in the display for the individual's Name record or for a SPOUSE record results in the listing of children parented by the individual or by both spouses. The list appears in a viewing area occupying the bottom half of the screen. Up to 9 children may be listed; if there are more, you may continue the list by pressing the PGDN key. (The PGUP key cannot be used to go back up the list however. To go back to the beginning, you must return to the originating viewing area and reselect the CHILD option.)

You may request to select one of the children for display in the Name record viewing area by pressing the F1 key, using the UP and DOWN cursor control keys to move the cursor to the ID number of the desired child, and then pressing the ENTER key. Another child may be selected by returning to the child list (as a result of pressing the ESCape key in the view of Name record information) or by pressing the CTRL+PGDN or CTRL+PGUP key combinations in the view of Name record information for the previously selected child.

5. Climbing Ancestor Trees through PARENT relationships.  
The file maintenance program was designed so that the user could easily follow lines of ancestry (or descendancy) from one generation to another. The previous section described how you might start with an individual, list his/her children, select one of the children for display, after which the grandchildren parented by that child may be listed, a grandchild selected for display, etc. The family tree may be examined in the 'reverse' direction also.

From the display of an individual's Name record information, pressing the F2 key moves the current viewing area to the upper left corner of the screen where information about the parents is displayed. From that view, the parents' children may be displayed (the full brothers and sisters of the original individual) by pressing the F3 key, or the Father or Mother may be selected for display in the Name record viewing area by pressing the F1 or F2 function keys respectively. If a parent is selected for display, then their parents (one set of grandparents of the original individual) may be displayed using the F2 key. Continuing in this way, a single chain of ancestor relationships may be examined to exhaustion.

To help you remember how far the ancestor chain has been examined, the 'RELATIVE GENERATION LEVEL' of the displayed individual(s) is shown in the upper right corner of the Name record, parent, spouse and child displays. The generation level is reset to 0 whenever an individual is selected for viewing for some reason other than a parent, child or spouse relationship (for example, by selecting from a 'search list'...see below).

6. SEARCHing the Name Records on file.  
The file maintenance program contains a procedure for making (limited) searches of the Name records on file. This would ordi-

narilly be used to determine the record ID for some individual whose information or family relationships were to be examined or modified.

The view for initiating searches is displayed by pressing the F4 function key from the view of primary options for the file maintenance program. The viewing area in the upper left corner of the screen will be cleared and reformatted with fields describing the criteria for limiting the search. These include:

- limits on record ID;
- Surname (or portion of a surname...e.g. the first 2 char);
- Given name (or portion of a Given name);
- Range of Birth dates;
- Range of Death dates.

The searches on Surname and Given name are sensitive to upper and lower cases; i.e. neither `brown' nor `BROWN' will match a record with Surname `Brown' (but a search for `Brown' will match). Also the range comparisons on dates make the month-day and Year checks independently. Therefore a search with:

```
02/00/1930 <= Birth Date <= 02/99/1940
```

will locate name records with birth dates in the month of February and between the years 1930, 1940 inclusive.

After the search criteria have been satisfactorily entered, the search is started by pressing the F1 key. The current viewing area moves to the lower half of the screen and the search begins. A reverse-video display in the lower left corner of the screen shows the record ID for the name record currently being examined. The search process can be interrupted by pressing the space bar, then the search may be continued by pressing the PGDN key or you may select for display one of the record ID's already found by pressing the F1 key and using the UP and DOWN cursor controls to move the reverse-video `box' to the correct ID #, and then pressing the ENTER or RETURN key.

After displaying a name record located through a search, other members in the `active search list' may be selected for display by either pressing the ESCape key from the name record viewing area to return to the search list (if it has not been overlain) or by pressing the PGDN or PGUP keys in the Name record viewing area.

A search list becomes inactive when another search begins or when the ESCape key is pressed in the search list viewing area.

#### D. Importance of `BACKING UP' your FAMILY Files

As with all `dynamic' files whose creation and maintenance represents a considerable investment of time, the importance of keeping multiple backup copies of your family files cannot be overemphasized.

All of the information you enter is stored in the three datasets that make up a FHS family file. Using the "default" names, these are the FAMILY.NAM, FAMILY.ADR and FAMILY.OTH datasets. These are the only files that you need "backup" to preserve your data. (There are some other files that you may consider backing up...For instance the FAMILY.DAT file, in which changes that you make to the file name table, the screen colors, the error tone, the printer tables and the

date format are kept. Also, files with a suffix of "OPT", and a prefix which is the same as an FHS program name, are used to store report or utility option settings when you choose to SAVE your settings for those options. However these files are not part of your family information.)

The standard DOS COPY utility (or XCOPY utility) should be adequate for most users to create these 'backup' files. If one of your family file datasets exceeds the capacity of your backup device, then you must use the DOS BACKUP utility (or something equivalent) to create your backup files. The BACKUP utility will prompt you for additional diskettes if they are needed to receive the backup copy of your family information. Archiving utilities such as PKZIP can also be useful for making backups. The compression that they perform on the files can significantly reduce the size of the backup files.

The DOS RESTORE utility is required to bring back a file from a backup created with the BACKUP program. Furthermore, the 'backup' files that you create with the BACKUP utility cannot be used directly by the FHS programs. The backup files MUST be RESTORED in order to be used by the programs. The usual COPY command is used to recover a file from backups created with the COPY command. The copies created by the COPY or XCOPY command ARE usable by the programs without having to copy them back to their original location.

I would recommend always creating a backup copy of the data files before each extended file maintenance session, especially if your area is subject to power fluctuations. I would also recommend that you not reuse a backup diskette until at least two subsequent backups have been taken.

If portions of a data file do become unreadable, you are cautioned that when using standard disk utilities to remove the damaged sections, direct file pointers joining information together within the files may become unusable. It is best in this case to return to a backup copy of the files. The "pointer validation" option, Main Menu option F3-E-1 described in Section VI of this manual, may be able to eliminate the "pointer errors" but it will not be able to "correct" them.

If it is necessary to restore your family file from a backup copy, you should always restore all three datasets from the same backup copy. Attempting to restore just part of a family file will likely result in some system maintained pointer fields becoming invalid. This can cause abnormal program termination, spurious messages, or "garbage" or invalid information in reports. Again the pointer validation program may be able to eliminate the problems associated with "bad pointers" if it is necessary to "partially restore" a file, but you will have to carefully examine the resulting file to determine whether any information will have to be reentered.

If you have an extended update session interrupted by a power failure or by inadvertently turning off your PC, it is possible that some of the updates will not have been written to the file, which could result in incorrect "pointer fields" connecting records in the family file. Again, the "pointer validation option" can locate and help eliminate such file errors as well.

### III. Family History System design

The following paragraphs provide descriptions of some of the features of the system which resulted from decisions made during the design of the software. I hope that this will increase your understanding of how the system works and will make you feel more comfortable with its operation.

#### A. Fixed Formatted Displays

All of the programs of the system make use of `static' formatted screen displays, rather than the "scrolling" mode of operation that was prevalent at the time the programs were being written.

#### B. Modular program design

It was impossible to include all functions of the system within a single program, however the system was designed so that each major function would be accomplished by a single program. As a result, it is only necessary for a program diskette to be placed in the system's default drive while changing system functions from the Main Menu. At other times the program diskette may be replaced with a separate diskette containing data files. This should be appreciated by those who have PC's with a single disk drive. However, if the program diskette is replaced by a data diskette, you must wait until prompted to restore the program diskette to the drive when you are returning to the Main Menu display. This is especially important when using the file maintenance program.

#### C. System Messages

The bottom line on the screen is reserved for displaying messages. In some cases, these messages ask for a response from the operator (such as `Y' or `N'); if a `single-key' response is expected, you do not have to use the ENTER or RETURN key to indicate the end of your response. Some messages are merely informational; these will be terminated by an ellipsis (...) which indicates that the program is waiting for you to press any key on the keyboard to show that you have received the message so that the program may continue. I haven't included a list of messages in this document. I trust that they will be self-explanatory as they appear. Please let me know of any problems you have interpreting them.

#### D. Use of Function keys

The system has been designed to take full advantage of the PC's function keys for simplifying the selection of program options. Allowable function keys are indicated on the currently displayed panel. Pressing an `illegal' key will result in the sounding of a soft tone without any further action. This (January 93) update to the software includes changes to the way some function keys are used in the report programs. This was done to provide more consistent use of function keys in those programs. Please see section V.B.3 of this manual for a discussion of those function key conventions.

## E. Use of the ESCAPE key

The ESCAPE key, labeled `Esc' on most keyboards, is used almost uniformly as a request to terminate an operation without further action. It only has effect, however, at those times that the program is looking for input from the keyboard. It cannot be used to interrupt the adding of a record to the files after you have requested that the information be written to disk, and it sometimes cannot be used to interrupt the creation of a work file.

One extended operation which may be interrupted is the printing of reports. After each line of a report is written to the output device, the report program looks for input from the keyboard. If some key has been pressed, the printing is interrupted and a message such as:

`Waiting...'

is displayed on the bottom line of the screen. If the ESCape key is then pressed, the report is terminated; pressing any other key causes the program to continue the printing of the report. The SPACE BAR is a convenient key for pausing and continuing a scrolling report.

The ESCape key is the standard means for returning from one `viewing area' of the segmented display used in the file maintenance program to the previous `viewing area' from which control was passed as a result of some operator request. The one exception is the viewing area for comments in which the ESCape key acts as the `undo' key to restore the line on which the cursor is located to its contents at the time the cursor was moved to the line. Return to the viewing area from which the comments display was requested is accomplished by pressing the F1 key.

## F. Full Screen Mode of Data Update

Part of the decision to use static formatted screen displays in which data is shown in fixed labeled areas of the screen called `fields' was the plan to permit you to update the displayed information directly on the screen within the limits of the field containing the data. This has the advantage that you may make changes to any of the fields without prompting from the program. You may return to previous fields to correct errors and you may view all changes made before submitting the changes to the program for processing.

Certain conventions have been established to make use of many of the PC's special function keys to simplify the updating of information on the screen. Actually two sets of conventions were established, one for the update of text stored as comments, and the other for the update of information displayed in discrete fields on the screen. These sets of conventions will be described separately in the following paragraphs.

1. Updating screen displays (other than comments)
  - a. The "cursor control keys" can only be used to move the cursor within the area permitted for a single labeled field (the field containing the blinking cursor);
  - b. The "TAB" key (just to the left of the "Q" key on the keyboard) may be used to move the cursor to the first position of the next `updatable' field on the screen (if there is no next field, the

- cursor goes to the first updatable field on the display);
- c. The "SHIFT+TAB" keys (press the SHIFT and TAB keys simultaneously) may be used to move the cursor to the last previous updatable field on the screen (if there is no prior field, the cursor goes to the beginning of the last updatable field on the screen);
  - d. The "HOME" key moves the cursor to the first updatable field on the screen;
  - e. The "END" key moves the cursor to the last updatable field on the screen;
  - f. The Enter or Return Key moves the cursor to the first updatable field of the next line (when updating 2 or more lines of data on the screen);
  - g. The "CTRL+END" keys erase (replaces with blanks) all characters from the cursor position to the end of the field containing the cursor;
  - h. The "DEL" key removes the character at the cursor position and moves all trailing characters (in the field) one position to the left;
  - i. When a character is entered in the last position of an updatable field, the cursor is automatically 'tabbed' to the next updatable field;
  - j. For some fields (e.g. Record ID, DATES) you will only be permitted to enter numeric digits; a tone is sounded if other characters are entered;
  - k. For some fields (e.g. SEX, File names) entered alphabetic characters will automatically be changed to upper case.
  - l. When entering NAME record information in the file update program the F3 key is used to simplify the repetitive entry of information such as surname or birth/death places. Pressing the F3 key will restore the cursor field with the last displayed contents.

Entered updates are committed by pressing a function key designated by the program (usually F1) or by pressing the ENTER or RETURN key if no function key is designated. Pressing the ESC key terminates the update request without any changes being made.

## 2. Updating Comment displays

### a. Cursor control keys:

- |             |  |
|-------------|--|
| Right arrow | - moves the cursor right one position; at the end of a line the cursor goes to the beginning of the next line; a tone is sounded at the end of the last displayed text line.         |
| Left arrow  | - moves the cursor left one position; at the beginning of a line the cursor goes to the end of the previous line; a tone is sounded at the beginning of the top displayed text line. |
| Up arrow    | - moves the cursor to the next line up, same column; a tone is sounded if the cursor is on the top line.   |
| Down arrow  | - moves the cursor to the next line down, same column; a tone is sounded if the cursor is on the bottom line.  |
| HOME key    | - moves the cursor to the first position of the current line   |
| END key     | - moves the cursor to the last non-blank character   |

of the current line after the current cursor position.

ENTER key - moves the cursor to the first position of the next line; a tone is sounded if the cursor is on the bottom line.

b. Special Update keys:

DEL key - erases character at cursor position and moves characters following it to the left one position.

Ctrl END - Erases current character and all characters following it on the line.

INS key - toggles a "character insert" mode. When this mode is in effect a "^" character appears on the last line of the viewing area. Characters entered at the cursor location will cause the current character at that location, and all subsequent characters on the line to be moved right one position. The last character on the line will be truncated.

BKSP key - same as Left arrow key;

ESCape key - removes all updates made to the current line since moving the cursor to the line.

c. Special function keys:

PGDN key - moves the current line to the top of the screen and displays the succeeding lines. If the current line is at the top of the page, the next full page of text is displayed. Changes which have been made to the displayed text lines will be written to the file.

PGUP key - returns to the first line of text for the comments. Changes made to the current page of text are written to the text file.

F2 key - `toggles' between INSERT and EDIT modes. If not in insert mode, then the text lines after the current line are replaced by blank lines for new text to be entered. If already in insert mode, then non-updated blank lines are replaced by existing lines in the file beginning with the line which originally followed the text line after which the insertions were made. The current mode of operation is shown as a `reverse-video' literal in the lower left corner of the area.

F3 key - deletes the current line of text.

The numbers shown in the lower right corner of the viewing area are the number of the text line containing the cursor, and the total number of text lines for the comments. The first number may be greater than the second in the case that it is a new line which no operator action has yet caused to be added to the text of the comments.

Pressing the F1 key causes all unrecorded updates on the current display to be written to the file and then returns you to the view from which the comments display was requested.

NOTE: CONCERNING THE FORMATTING OF COMMENTS IN REPORTS

When entering comment information you should take into consideration the following conventions for joining comment lines together to form blocks of text when comments are included in reports produced by the system:

1. Three successive blanks at the beginning or in the middle of a comment line will cause all text on that line to the right of the blanks to be ignored.
2. A blank character is placed between two successive comment lines only if the last character of the first, or the first character of the second one is a space. (This permits a word which has been typed across a line break to be joined back together properly.) Additional blank characters at the end of a comment line are dropped.
3. The backslash "\" character is recognised as a request to begin a new line of text in the formatted output. Two successive backslash characters result in a blank line being inserted between the preceding and following blocks of text when the comments are formatted for reports.
4. You may enclose parts of your comments in "curly brackets" or "braces", that is "{" and "}", and the report programs may be instructed to omit that text from the comments that are printed. This allows you to remove sensitive or conjectural remarks from reports that are distributed to others.

G. Segmented Screen in the File Maintenance Program

Because of the complex nature of the Family History System files and the variety of information that can be stored in them, the file update program (Main Menu option F1) uses a 'segmented' screen to display and update information in these files. Within that program the standard 24x80 screen area is divided into 4 'viewing areas': upper left, upper right, lower left and lower right. (A 5th viewing area occupies the lower half of the screen.)

Different information is displayed in the various viewing areas so that up to 4 types of information may be viewed at one time without interference. Of the several viewing areas that may appear at one time on the screen, one will be designated the 'current viewing area' and will be distinguishable by its being enclosed by a 'hilited' border. The hilited border is moved from one viewing area to another by selecting options (or terminating requests using the ESCape key).

While viewing information for one of the record types that may occur multiple times, ordered by some date, you will be prompted by the message: 'Press PGUP key for earlier record' if there is some record of that type which precedes the one currently being viewed. (The PGDN key can not be used to return to later occurrences of the record type however.)

The lower half of the screen is used as a fifth viewing area for displaying lists of individuals resulting from a 'search' of the system files or a request to list the children of an individual or of a marriage. Individuals may be selected from these lists for display of related information by following the instructions in the 'view'.

Others in the list may be selected for display at a later time by returning to the list (after pressing the ESCape key in the `view' of Name record information). Alternatively, one may go up (or down) an active SEARCH list by pressing PGUP (or PGDN) key in the view of name record information. (Similarly one may go up or down an active CHILD list by pressing the CTRL+PGUP or CTRL+PGDN keys in the view of name record information.)

In the upper right corner of most viewing areas is the "relative generation level" of the individual(s) whose information is displayed. This level is adjusted whenever a parent/child relationship is crossed and is set to 0 whenever an individual is selected for display based upon something other than a parent/child or spouse relationship (spouses are assumed to be in the same generation level).

#### H. System "File" Name Table

The File Name Table (or more consistently, the Dataset Name Table) describes the default values to be used for family dataset, work dataset and printer output file specifications. Included in the "file specification" is the designated drive which is to contain the file disk (that's the character preceding the ":"). Default values for file name table entries are:

x:FAMILY	.NAM	Name dataset
x:FAMILY	.ADR	Address dataset
x:FAMILY	.OTH	Miscellaneous information dataset
x:ANCESTOR	.WRK	Ancestor work file
x:DESCNDNT	.WRK	Descendant work file
LPT1:		Printer output destination

where x: is

A: for systems installed on a diskette

(usually) C: for systems installed on a hard disk.

Individual entries in the table may be changed temporarily within each program that uses it. Permanent changes may be made using MAIN MENU option F3-A.

Some reasons for making changes to the table might be:

- a. use of a RAM disk (usually designated as C: drive on systems without hard drives) to hold data and/or work files. This can greatly improve the performance of the system in creating work files and producing reports. It also reduces considerably the `wear and tear' of mechanical disk drives.
- b. You may wish to maintain multiple family files using the primary surname as a prefix for each set of files. The file name table default values would be the set of values upon which your work is concentrated.
- c. If you have two drives on your system, you may wish to assign some of the files to each of the drives. This may require removing the program diskette from drive A at times. Read the cautions in sections II.B.4 and III.B concerning this.
- d. If your system has no printer, a printer designation of SCRNI: will result in all printer output automatically going to the screen without the program's asking whether to send the output to the printer or screen.

Users of the extended system should note the following conventions for

default names for datasets used only in that set of programs:

- a. The prefix for the default index file name is taken from the default name for the NAME dataset. To this the suffix '.NDX' is added.
- b. The first character of the default ancestor work area name is used for the drive designator for the SELECT, TRANSFER and MAILMERG datasets, as well as the RELATIVE.WRK dataset.

#### I. Changing the Screen Attribute Table and Error Tone

If you select MAIN MENU option F3-B, you are presented with a display which lists 11 different types of information that may be used in building the screens used by programs in the Family History System. These types are:

- Non-displayable data (such as passwords)...not used in the system
- Standard literals or labels
- Hilited literals, labels or messages
- Numeric text
- Upper Case text
- REVERSE video text
- Updatable Alphanumeric text
- Updatable Numeric text
- Updatable Upper Case text
- Lowlite borders
- Hilited borders

Different color attributes may be assigned to each of these types of information resulting in much more pleasant displays for those who have color monitors at their disposal. The only restriction in assignment of colors is that each of the three types of 'updatable' information must have attributes which are distinct from all others in the table. If you attempt to return to the MainMenu with an "illegal" combination of attributes, a message will be displayed and the problem entries will be marked.

A 'screen attribute' consists of a foreground/background color combination together with a 'blink' option. Each position of the display screen has an associated 'screen attribute' that describes the appearance of any character that is placed at that screen location. To the left of each described type of information is a character displayed with the screen attribute currently being used for that type of information.

A small 'arrow' on the left side of the screen points to the information type whose screen attribute is currently being examined. The UP and DOWN cursor controls may be used to move this 'selection' arrow to different information types.

The foreground/background/blink components of the 'selected' information type are shown on the bottom portion of the screen. Small 'arrows' point to the foreground and background component colors in 'palettes' of 16 and 8 colors respectively. (These palettes are really not very interesting for PC's using IBM's monochrome board and monitor, the only really distinguishing combinations in this case being ones which produce reverse-video, underscore or hilite effects.)

The blink component is shown by a hilited `Y' or `N'.

The screen attributes for a selected information type may be changed using the function keys and the horizontal cursor control keys. Function key F3 toggles the blink attribute on and off. The horizontal cursor control keys are used to move the indicator arrow for the foreground and background color pallettes. Function key F1 is used to select which of the pallettes is being controlled by the cursor keys.

Function keys F5 & F6 may be used to load the screen attribute table with previously prepared versions `suitable' for use on IBM's monochrome or color monitors respectively. If you have a color monitor and would like to try a color table which uses a light colored background, press ALT+F6 to load a table which I have found pleasing on an IBM Enhanced Color Monitor. Function key F7 may be used to restore the screen attribute table with the last saved values.

Function key F9 is used to return to the MAIN MENU display. You will be asked whether you wish to save the screen attribute table which exists at that time. Actually you will be asked:

1)Temporary or 2)Permanent

A response of `2' will result in the attribute table's being written to the program diskette (in dataset FAMILY.DAT) for use in later Family system work sessions. Any other response will result in a return to the MAIN MENU panel without saving the table although it will continue in use until you leave the system or return to this program to change the table again.

#### CHANGING THE ERROR TONE FREQUENCY & DURATION

Option F8 of the program that maintains the Screen Attribute Table allows you to change the frequency and duration of the tone that is used to inform you of error conditions. During this option, you can press the F1 and F2 keys to decrease or increase the tone frequency, or press F3 or F4 to decrease or increase the duration of the tone. The tone may be sampled by pressing the space bar. Pressing the F9 key terminates the routine. The changes will be saved for later use if you request that all entered changes be made permanent when you return to the MainMenu. (Note: setting the frequency to a very large value reduces the error signal to a barely audible click.)

#### J. Use of PRINTER SETUP Table

The Family History System makes use of a printer table which contains control sequences and special characters used when printing the system's reports. A program is also provided to permit you to customize this table for your printer. The current printer setup table is displayed by selecting MAIN MENU option F3-C.

Upon entry to the Printer Control Setup program, you will see displayed in a reverse video array of boxes, the decimal numbers for the ASCII values of characters in the printer control sequences and for certain `chart building' symbols. The printer control sequences identified are for:

Resetting the printer at the beginning of a report;  
Selecting the type size at the beginning of a report;

Causing a carriage return and line feed at the end of a  
print line;  
Requesting an advance to top of next page at the end of a  
page or a report.

The chart symbols are those used for the `ancestor tree' lines when printing an ancestor chart. The Gemini 15 and IBM Graphics printers, among others, produce symbols similar to those which are used on the screen. The Epson FX-100 has no such symbols in its character set so the +,-,! symbols are used. Examination of your printer's manual should provide you with the information required for setting up these tables for it.

You should be aware that some printers will print more slowly when graphic characters, such as the chart building symbols, are included in a print line. If yours is one such printer, you may consider using a printer setup which uses the +,-,! symbols for producing "draft" copies of ancestor charts and use the more pleasing graphic symbols for final copies.

(If you have a printer for which none of the supplied tables work, I would be interested in receiving a set of the control sequences and symbols that do work, along with the name of your printer, so that I can add it to the list of `supported' printers whose control sequences may be selected under this program's `F3' option.).

The Form Size is used to describe the limitation of the output page size in characters/line and lines/page based upon both the font and printer initialization parameters specified as well as the physical size of the paper being used.

Up to 9 different tables may be saved. Table number 1 is the default table that will be loaded upon entry to the system.

(Some notes concerning the printer control sequences:

- a. The first two entries in the table are sent together to the printer before printing each report. If necessary, they may be treated as a single 16 character initialization sequence.
- b. the decimal number `255' may be used to mark the end of a short control sequence to prevent sending extraneous trailing zeroes.
- c. If your printer doesn't recognise a `form feed' control sequence you can put a decimal `255' in the first character of the table entry for "Advance to Top of Form" and the report programs will use multiple line-feeds to advance to the top of a page. You may also want to do this if you are using an "odd size" form and don't wish to reset the form length in the printer.
- d. If you are using a printer which requires you to manually feed individual sheets of paper for a report, you can force the report programs to stop at the top of each page by putting a decimal '254' as the last character (before the '255') in the table entry for 'Advance to top of Form'
- e. The table for the HP LaserJet+ is intended to make use of the resident compressed LINE PRINTER font of that printer and may not work correctly if a font cartridge is installed.
- f. The table for "Dataset" is intended for routing reports to disk files. This has been used by some to print reports with a SIDEWAYS printing utility.

#### IV. Family History System Files and Datasets

The following discussion is provided for the interested user, but an understanding of it is not necessary to make use of the system.

##### A. FHS Family File

The file used in the Family History System to store information about individuals and their family relationships consists of three datasets containing variable format `records' which are `linked' together into a `hierarchic' logical file structure. Pictorially, a portion of the logical file structure is represented by the diagram appearing in Appendix E, at the end of this document.

In this diagram, each of the `boxes' represents a record type in one of the system's datasets. In some cases, (for example child records, marriage records, address records) a `logical record' may include multiple records of information of that type. The number of multiple records is essentially unlimited...there can be no more than 32000 occurrences of the name records or of the other types of records. Records containing information of the various types are `logically connected' by a system of program maintained `pointer' fields. Though this structure may appear a bit more complex than the more common `flat' file which has a single fixed record type, the advantage in using the hierarchic structure is that there is no need to `reserve' space in a dataset (other than a 2 character pointer field) for types of information which may or may not be recorded for an individual at some time in the future.

The only information that the user needs to provide to the system to begin retrieving information in one of these extended logical records is that required for locating the name record of the individual about whom the information has been recorded. The basic `record key' that the system requires is the `ID number' for the individual. This is a number which is assigned to each individual by the system at the time his/her Name is initially entered into the system. These numbers are assigned sequentially (ID #216 is assigned to the 216th person entered into the system). The ID numbers assigned to two individuals need not indicate any blood relationship between the individuals. These ID numbers may (optionally) appear in reports produced by the system and may also be determined by `searching' the files for other information (such as surname, given name or birth date) using the search option of the file maintenance program.

While the ID numbers of 2 individuals need not indicate any blood relationship between them, these numbers are used to define the only type of relationship that you are required to establish between individuals. The relationship of father or mother to a child is specified by recording the ID numbers of the parents in the Name record for the child. All other blood relationships between individuals are determined from the complete system of parent-child relationships recorded in this way.

Perhaps it should be noted that the system provides for recording additional information (educational, occupational, military and health information). Further, address and comment records may also be created under each of these record types.

While the system provides for extensive `commenting' with the comments or remarks being logically connected to the appropriate record type, care should be taken in the use of this feature of the system because of the limited number of records in the "...OTH" dataset of miscellaneous info. It is not intended for writing a person's life history or for extended anecdotes, but rather for recording notes concerning sources of, or explanations for, information found in the record.

In the cases where multiple record types are permitted within a logical record, the records are automatically maintained in some `natural' order. For all but comment records, this is based upon a date stored in the record. Children are ordered by increasing birth-date; marriage records by decreasing date of marriage, and address records by decreasing beginning date of residency. This has the unfortunate consequence that unknown birth, marriage or beginning dates (recorded as 00/00/0000) may result in information appearing out of chronological sequence in the file and in reports. The order is automatically adjusted as the correct information is determined and recorded. You may consider entering a `best guess' for unknown dates, making note of the fact in comments for the record type.

This discussion of the Family History System data files will conclude with a brief description of the datasets which comprise the file. There are three such datasets:

1. Name dataset - each record is 100 characters long; information stored includes surname, given name, date and time of birth and death, sex, and father and mother ID numbers. Up to 3600 name records may be stored on a single DS/DD diskette, or 9999 records may be stored on a hard disk.
2. Address dataset - each record is 108 (short format) or 153 (long format) characters long; information stored includes: beginning and ending dates, 2 address lines, city, state/province, zip or postal code, and phone number. The Long format address record also provides a field for the country. Up to (3500 short, 2300 long) address records may be stored on a single DS/DD diskette, or up to 32000 may be stored on a hard disk.
3. Miscellaneous INFO dataset - each record in this dataset is 50 characters long. Record types include:
  - a. spouse, family or marriage record;
  - b. Birth/Marriage/Death location record;
  - c. Comment record (1 record for each line of comments);
  - d. Occupation, Education, Military and Health records.Up to 7000 records may be stored on a DS/DD diskette; up to 32000 may be stored on a hard disk.

## B. REPORT PROGRAM WORK FILES

There are several types of "work" datasets that are used in the Family History System. These are semi-temporary files that are used to store information derived from certain processes so that those sometimes lengthy processes do not have to be repeated too frequently. Among these work datasets are the RELATIONSHIP Work Files, the NODE Work File, the SELECT Work file, the REFERENCE Work file, and the INDEX File.

### 1. RELATIONSHIP WORK FILES

A Relationship Work File must be created prior to producing the ancestor, descendant or relative reports or the ancestor charts. Although there appear to be three types of relationship files: Ancestor, Descendant and Relative, in fact these all share a common format...the only differences being in the number of generations of ancestors or descendants that are searched in order to build the work file. In building an Ancestor work file, no search is performed for descendants at all. In building a Descendant work file, no search is performed for ancestors, while in creating a Relative work file, the program first searches for all ancestors and then all descendants of the ancestors. You may specify the maximum number of generations (of ancestors and descendants) that are to be included in the work dataset. This is done to permit you to exercise some control over the extent to which lines of ancestry or descendancy will be followed in producing the report. A relationship work file may be reused (without recreating it) if no new or changed relationships have been recorded in the family file that was used to create the workfile.

### 2. NODE WORK FILE

The "Generalised BOX Chart" program uses a NODE Work File to record the column, generation level, and relationships between the "information boxes" of a horizontally arranged box chart. These locations are determined by the type of relationships recorded (ancestral or descendant), the "base record", and the type of "alignment" that a node has with respect to related nodes in the next generation level. The alignment may be changed without having to recreate the NODE Work file, and a report of "Chart Statistics" can be printed from information in the Node Work File.

### 3. SELECT WORK FILES

Another type of work file is the SELECT file used by the Family Group Report program and the export/import program. (Among the FHS extensions, this work file is also used in the Search/Select/LIST program, the Summary report program and the Tiny Tafel generator.) This file is essentially an ID sequenced "check list" of individuals that have been chosen for processing. It permits the system to isolate the sometimes complex process of selecting ID #'s within certain programs but to pass the results of the selection process to other programs in the system.

### 4. INDEX FILES

The Family History System INDEX File is one which contains a complete but re-ordered sequence of ID #'s. The reordering could be accomplished by SORTing the ID#'s based upon the contents of certain fields, for instance in Surname, Given Name sequence or in birthdate sequence. The reordering could also represent the se-

quence that individuals identified in a relationship work file would be listed in an ancestor, descendant or relative report. This last type index is most likely to be used for printing family group reports in "relationship sequence". The option for creating an INDEX file is one of the "extensions" provided to registered users of the system.

#### 5. REFERENCE WORK FILES

Another type "work" file introduced in the March 1990 update is the REFERENCE work file, which contains notes concerning the ID's that appear in a particular report and the location of the appearance within that report. This work file is used by a program in the extended system to print report indexes. These indexes may be printed for ancestor, descendant, relative and family group reports as well as sets of ancestor charts, ancestor maps and ancestor/descendant "box" charts.

#### 6. OPTION FILES

The January 1993 update provided for saving the settings for many report or utility options in files so that they could be retrieved in subsequent work sessions to establish the default values for the options. Each set of option settings is written to an "OPTION" file whose name has as its prefix the name of the program which created it and as its suffix the letters "OPT".

#### 7. UNMATCHED WORK FILES

Each of the WORK files has a "header" record which contains a variety of information used by the programs to identify the type of work file, its "origin", and how to get to the work file records. Included in this header information are the Date and Time of "Creation" for the NAME File that was used to build the workfile. This "Creation DATE-TIME Stamp" of the NAME file is used to distinguish the name file from all others. (It actually can only distinguish between name files that were not created within one minute of each other, and it cannot distinguish between two copies of the same name file.) If you attempt to use a work file with a name file which doesn't match this date-time value, then you will get a message like:

"Unmatched Work File..." or "Unmatched INDEX File..."

This should tell you that you have to rebuild the work file for the NAM file that you are now using, or that you must change the Work File (or INDEX File) identified in the File Name section of the report program so that it will point to the correct Work File for the family file being used.

## V. FAMILY HISTORY SYSTEM REPORTS AND CHARTS

This section discusses the various reports produced by this basic portion of the FAMILY HISTORY SYSTEM. While these are standard types of reports expected from a genealogical record system, that is: Ancestor Report, Ancestor (TREE) Charts and MAPs, Descendant Report, Descendant Charts, Relative Reports and Individual/Family Group Information, some of the data items displayed or terms used in describing the reports may be unfamiliar to you. The following paragraphs describe some of these terms, including those of `ancestor', `descendant', `lineage number', `generation level', `bloodline' and `related individuals'.

### A. SOME DEFINITIONS

An `ANCESTOR' of an individual refers to one of the parents, grandparents, great-grandparents, etc., of the individual. A `DESCENDANT' of an individual refers to any one of his or her children, grandchildren, great-grandchildren, etc. The parent-child relationships described are `blood' relationships and do not refer to `legal' or adoptive relationships. (Adoptive relationships may be recorded and distinguished from other parent-child relationships, as described in Appendix C.) Two individuals are considered to be `RELATED' if they have a common ancestor. Therefore we would not consider individuals who are only `inlaws', that is `related' through marriage, to be relatives in the above sense. A `SPOUSE' refers to either partner in a marital relationship. (One aspect of this system's files and reports is that they have been designed, as much as possible, to not give a preferential status to any individual based upon gender.)

The `GENERATION LEVEL' of an ancestor or descendant of an individual refers to the number of `parent-child' relationships that separate the ancestor or descendant from the individual. For example, with respect to a selected individual (who is said to have generation level 0), the generation levels of some relatives are: children (GL=+1), grandchildren (GL=+2), great grandchildren (GL=+3), parents (GL=-1), grandparents (GL=-2), great grandparents (GL=-3). Notice that descendants have positive generation levels and ancestors have negative generation levels.

The `BLOODLINE' between an ancestor and any of his/her descendants refers to a sequence of numbers, one for each parent-child relationship that separates the ancestor from the descendant, where the number for a given parent-child relationship refers to the number of the child in that generation level who is an ancestor of the descendant. For example, the bloodline (3,2,4,2) indicates that the descendant is the 2nd child of the 4th child of the 2nd child of the 3rd child of the ancestor in question.

The `LINEAGE NUMBER' of an ancestor refers to a number that is assigned sequentially to the ancestors of the individual in the following manner:

- the base individual has lineage number 1;
- the individual's father has lineage number 2;
- the individual's mother has lineage number 3;
- the father's father has lineage number 4;
- the father's mother has lineage number 5;

the mother's father has lineage number 6;  
the mother's mother has lineage number 7; etc.

In general, if an ancestor has lineage number  $n$ , then that ancestor's father will have lineage number  $2n$  (2 times  $n$ ) and the ancestor's mother will have lineage number  $2n+1$ . These are the 'counting' numbers that would naturally be assigned to persons on the traditional 'horizontal' ancestor tree chart. Some relationships to notice: all male ancestors have "even" lineage numbers and all female ancestors have "odd" lineage numbers, and for a given ancestor on the chart, the lineage number of the child which appears on the chart is found by dividing the parent's lineage number by 2 (and discarding the remainder, if any...For example, an ancestor with lineage number 127 will have a child with lineage number 63 appearing on the ancestor tree...both females, by the way). Since beginning to work on these programs I have become aware that the term "Ahnentafel number" is more commonly applied to this lineage number in genealogical literature, though I have become accustomed to the term "lineage number" and so will continue to use it in this manual.

While "lineage number" and "bloodline" are convenient "numerical" concepts for describing "direct" relationships such as exist between an individual and his/her ancestors or descendants, the problem of uniquely describing one's non-direct relatives (aunts, uncles, cousins, etc.) is a bit more complicated. The very definition of "relative" given above suggests a natural approach which would combine these concepts to label relatives with a "lineage number"+"bloodline" where the lineage number is that of the "nearest common ancestor" of the two individuals (that is the common ancestor with lowest lineage number) and the "bloodline" is the one that describes the line of descendance of the relative from the common ancestor. This is the approach that is used by this system's relative report for grouping and listing all recorded relatives of an individual.

The family group report provides an option for showing the relationship and LINEAGE of the subject of the report. In that case, the LINEAGE displayed consists of:

- a. the LINEAGE Number if it is an ancestor
- b. the BLOODLINE, in the format (x,x,x,...,x), if it is a descendant
- or c. the LINEAGE Number + BLOODLINE as described above if it is a non-direct relative.

(NOTE: It has come to my attention that there is a certain "ambiguity" in the "nearest common ancestor" when there are crossed family lines. The "nearest common ancestor" with respect to one of two related individuals may not be the same "nearest common ancestor" with respect to the other of them. In the ROYAL sample file, Queen Elizabeth and Prince Philip provide a good example of this.)

#### RELATIONSHIP "RULES" - "COMMON" and "CIVIL LAW"

There are some other methods for describing relatives which, though they assign a non-numeric and non-unique label to relatives, give a more generally understood idea of the relationship between individuals. These labels are ones such as: mother, father, cousin, aunt, grandmother, great-great-grand-uncle, etc. There are two sets of rules used to assign such labels. One, which describes the child of a First-Cousin as a First-Cousin-once-Removed, is called the "common"

rules for relationships. The other, which describes the child of a First Cousin as a "Second Cousin", is called the "civil law" rule for relationships. The FHS programs which show relationship labels now allow you to choose which set of rules should be used for constructing them. Appendix F attempts to describe some relationships between these sets of rules.

#### B. COMMON FEATURES OF REPORT PROGRAMS.

Although there are several Family History System report programs, and each has some unique characteristics, they all share some common features, including the basic screen format, the sequence of operations required for producing a report, and the use of Function Keys for selecting the various options. The following paragraphs describe some of these common features.

##### 1. REPORT PROGRAM SCREEN FORMATS.

The screen displays for each of the report programs share the following format:

- the upper left portion of the screen shows the names of datasets that are used by the report program, including the family file datasets and various Work Files;
- the upper right portion of the screen shows the Printer Parameters that will be used when printing a report or chart, including the number of the Printer SETUP, the Forms Width, and the Forms Length;
- the lower right portion of the screen is used for displaying and updating various report options; and
- the lower left portion of the screen describes the actions that may be performed by pressing various Function Keys.

The middle part of the screen will frequently show statistics about a WORK file that is used by the program to print a report or chart.

##### 2. REPORT PROGRAM SEQUENCE OF OPERATIONS.

The steps for printing a report or chart are roughly the same within each of the report programs. They include:

- identifying the (name) records to be included in the report;
- choosing the options desired for the report or chart;
- and printing the report or chart.

Identifying the individuals to be included in a report (or chart) usually involves creating some sort of Work file that will be used for printing the report. The default settings for most report options may be established by the user so that few may require changing for printing a particular report or chart.

##### 3. REPORT PROGRAM FUNCTION KEYS.

To help you to establish a pattern for printing FHS reports or charts, each of the report programs employs the same set of function keys for performing the common tasks described in the previous section. These function keys are:

- F1-Change dataset names in the upper left portion of screen;
- F2-Change Printer Parameters in upper right portion of screen;
- F3-Identify the records to be printed in the chart or report;
- F4-Change report options in lower right part of screen;
- F5-Print the chart or report

In some cases, one or two additional function keys may be used for

a special task within that program.

### C. REPORT STYLES and OPTIONS

The following sections describe some basic styles of reports that can be produced and some of the options that control the printing of FHS reports.

#### 1. STYLES OF REPORTS (Fixed Format, Free Format, LifeLine)

Prior to March 1990, all Family History System reports were in a style that placed all information of a given type in a "fixed" location in the report. In Ancestor/Descendant/Relative reports, a column or "tabular" format was used in which each item of information was listed in a fixed column with descriptive heading. Family group reports appeared as "filled out" information sheets with each type of information placed in a fixed location of the report. Most of these reports required a printline of at least 132 characters. Consequently they required using compressed print with standard 8 1/2" wide paper.

In March 1990, new FREE FORM styles of Ancestor/Descendant/Relative and Family Group reports were introduced in which all information was printed out in a "block" or "paragraph" format with the width of the block of text varying according to the "Forms Width". This permitted using printlines as narrow as 80 characters for most reports, allowing the use of more readable PICA or ELITE type styles. I expected that the FREE FORM reports would prove popular for sharing information with others, however I felt that the FIXED FORMat reports would still be most useful for continuing research because they allowed more room for recording changes and new information.

In January 1993 a new style of Ancestor/Descendant/Relative report was introduced. It restricted the individual's information to three items...the Name, Life Span (consisting of the years of birth and death, separated by a hyphen), and a "Life Line". The "Life Line" is a line segment representing the person's life, with symbols for the events of birth, marriage(s), birth(s) of children, and death. The LifeLine is placed on the report line so that it falls appropriately within an area representing a time span which is fixed for the entire report. For instance, a descendant report for a great grandfather might show the LifeLines distributed between the dates of 1820 and 1993. This style of report may prove useful for visually observing trends in longevity or the span of birth events in a family.

#### 2. REPORT OPTION MENUS - SAVING Default Settings

Most Family History System report programs allow you to control the types of information that appear in the report and the formatting of that information. For instance names can be printed with Surname first or last, and the Surname may be printed in CAPS for emphasis. Also, relationship literals can be printed using either the "common" or "civil" rules. To simplify the presentation and selection of the many report options, most of them are selectable from Menus that appear in the lower right corner of the screen. In some cases there are several "pages" of option menus which can be separately scanned by pressing the Page Up/Page Down (or PGUP/PGDN) keys. In the report programs, Function key F4 is used to request

making changes to the option menus. Any changes you make to these options will be "remembered" throughout an FHS working session. You may also SAVE your preferred settings for options in these menus. The settings are stored in "OPT" files, where the prefix of the OPT file corresponds to the name of the program that produces the report. The saved values will be retrieved from the OPT file the first time the program is used during an FHS working session.

### 3. PARAMETERS CONTROLLING THE FORMAT OF A PRINTED PAGE.

In the January 1993 update to FHS, a new set of parameters was introduced to permit you more control over the formatting of the "formal" reports. Prior to that the only control variables provided were the "Printer Parameters", including the "Forms Width" (in number of printable characters), "Forms Length" (in lines per page), and "Margin" (in number of blank characters on the left side of the printed line). The report programs usually put one or two blank lines at the top of each page, one blank line after the "Title" line (if any) and the "body" of the report was stopped nine tenths of the way down the page.

While this proved satisfactory (to me) for a number of years, there were enough "problems" that the need for more controls was apparent. (For instance, the "Forms Width" might not be a proper limit when printing reports to a file. Also, the desirable page width for one report or chart might not be the same for another, but the "Forms Width" was the same for all report programs).

Now each report program has a separate set of "Page Parameters", which include:

- Page Width (the Forms Width is still used in some chart programs)
- Inside (or left) Margin
- Outside Margin
- Number of Blank lines at the Top of the Page
- Number of Blank lines between the title and "body" of report
- Number of Blank lines between the "body" of the report and the "footing" (or page number line)
- Number of Blank lines at the Bottom of the Page.

The "body" of the report here refers to the part that is generated from information in your family file.

The "Page Width" is treated independently of the "Forms Width" which should still represent the maximum number of printable characters for the size paper, the size font, and the printer that you are using. If the choice of page width and margins results in the "body" of the report extending beyond the "forms width" then some of the information will be "truncated" from the right part of the printline. The report can be printed again, with the "OFFSET" Printer Parameter set to correspond to the rightmost printed position of the previous printing, to pick up the "truncated" portion of the line. Each printing of the report or chart provides one "strip" of the full output. The complete set of printed "strips" could then be "pieced together" to construct the full width chart or report. Some chart programs will prompt you for printing each of the "strips" required for a full width chart.

When printing reports to a file, the "Forms Width" is ignored and

the full "Page Width" is printed. However when printing the horizontal "box" charts to a file, you will be given the option of printing the full width chart, without breaks, or of printing it in several "strips" based upon the "Forms Width".

#### INSIDE AND OUTSIDE MARGINS

It is customary to identify the blank border at each side of a printed page as the "left side" and "right side" margins. For most printed reports, the margins are of uniform size across all pages, though the left margin will usually be wider than the right one to provide space for "binding" or for placing the page in a notebook. When a report is printed on both surfaces of a sheet of paper (the front and back sides) then the "binding" side of the page alternates between the left and right side of the page. The normal method of page numbering places the "binding" on the left for odd numbered pages and on the right for even numbered pages. It is standard to call the "binding" side the "INSIDE" margin and the other side the "OUTSIDE" margin. The provision for "inside" and "outside" margins among the FHS page parameters anticipates the need for duplex (or front and back page) printing of FHS reports.

There are some special considerations to be taken when preparing for duplex printing however, because the leftmost and rightmost printable characters for a printer are not always the same distance from the nearest edge of the paper. This can either be a characteristic of the printer (especially for laser printers) or of the way the forms are placed in a printer which uses continuous forms. The "unprintable" borders on the sides might be called "natural" margins. To get uniform results when printing the front and backs of pages with inside and outside margins, you must choose the page width and margins to take the disparity of "natural" margins into consideration.

FOR EXAMPLE, suppose your printer can print a maximum of 132 characters using compressed print of 16 characters per inch, with a "natural border" of 1 character on the left and 3 characters on the right. (That is, the first printable character of a line always has room for one more character to the left of it and the last printable character always has room for 3 more to the right of it.) Now the "full page width" (for 8 1/2" paper at 16 characters/inch) would be 136 characters, however the "Page Width" parameter should be chosen so that the page will fall uniformly between left side and right side "borders" which are the same size as the left most "natural border". The following diagram may help you to see the situation (the "!" characters mark the "edges" of the paper):

```
!<----- Full Page Width = 136 Characters ----->!
!L<----- Printable Forms Width (132)----->RRR!
!L<----- Page Width Setting (134) ----->R!
!LIIIII<----- Body of Report ----->OOOR!   Odd # pages
!LOOO<----- Body of Report ----->IIIIIR!   Even # pages
```

Here "L" is the unprintable left border and "RRR" is the unprintable right border. "IIIII" represents the INSIDE margin and "OOO" represents the OUTSIDE margin. The "Body" of the report is the printed portion of the report line.

In this situation, the Page Width should be set to 134, allowing a 1 character left and right "border", dictated by the 1 unprintable character position on the left. The choice of inside and outside margins should be made so that the right side of the "body" of the report does not extend past the "Forms Width". In this example that means that each margin must be at least 2 characters wide.

#### EVEN/ODD PAGE PRINTING

When a report is printed with the OUTSIDE margin set to a non-zero value, the report program assumes that you are setting up for printing on both sides of the page. When you begin printing the report, you will then be asked to:

Select 1) ALL Pages 2) ODD Pages Only 3) EVEN Pages Only  
This allows you to print all the front sides of the pages the first time you print a report and then print the back sides of the pages with a second printing of the report. If your printer uses cut paper and stacks the sheets appropriately, you could print all ODD pages one time, turn the printed pages over and place them back in the printer and print all EVEN pages the next time. (With some laser printers you may have to reverse the order of the pages before printing the back sides.) The result would be a report printed on front and back of the paper and with margins alternating for proper binding.

#### STILL CONFUSED ABOUT INSIDE AND OUTSIDE MARGINS?

If the discussion about inside and outside margins above doesn't make much sense at this time and you don't intend printing on both sides of the paper anyway, then you can just ignore the "Outside" margin, leaving it set to zero. You could then use the "Inside" margin as the LEFT margin and use the Page Width to adjust the right side margin. The report programs will print all pages with uniform left and right margins, making no adjustment for even/odd page printing, just as they have done in the past.

#### 4. OTHER REPORT OPTIONS - "Bottom Line Prompts"

Other report options will be offered to you through "bottom line" prompts. These usually offer choices for styles of reports or for optional processes that may be performed during the printing of the report or chart. For example, when you start to print a report, most report programs will ask something like:

Start at Beginning? (Y/N)

What the program wants to know is whether you want it to begin printing with the first page of a report (or the first line of a chart) or to skip forward to another line or page. This permits you to restart an interrupted report without having to reprint the initial pages. If you reply "N", you will be asked the number of the page (or line) to begin printing. There may be a long pause after the program indicates that it is printing the report because it must still process all the information on the pages or lines that are being skipped "to find its place" for continuing the report. You will want to make sure that you are using all the same options for printing the report as were originally used so that all information will end up in the same place as before.

Another "bottom line" option in the report programs asks whether you wish to: Create REFERENCE File for Index? (Y/N)

This permits you to create a WORK file which contains the locations

of names referred to in the reports. One of the extended options provided to registered users will print report indexes from the REFERENCE file. (NOTE: If you have already printed a report and wish to go back to create the reference file for an index, you can print the report again, with all the same options, but when asked whether you wish to "Start at the Beginning?", answer "N" and enter "9999" for the number of the page or line to begin printing. The entire report will be "processed", for recording references in the work file, but nothing will actually be printed.)

#### 5. PAUSING AND CANCELING THE PRINTING OF REPORTS

While producing any of the reports, the printing may be temporarily interrupted by pressing the `space bar' or any of the `character keys'. The report may then be continued by again pressing the space bar (or one of the character keys) or may be terminated by pressing the ESC key. If you use the PGDN key to continue a report, then the program will pause at the top of the next page of output. This may prove convenient for pausing a printer that is running low on paper. You can continue the printing by pressing any key. (Note: If you do pause the printing in this way to change the paper and then continue printing, do not turn the printer off while changing the paper as the printer settings that were being used to print the report will be lost.)

-----

#### D. REPORT DESCRIPTIONS

In the following descriptions, the keystrokes required to select the report program from the Main Menu are shown, in parentheses, following the name of the report or chart in the section heading. I will sometimes refer to the Ancestor, Descendant and Relative reports as "relationship reports" because their organization is designed to emphasize the relationship between individuals. The Family Group reports give more detailed information about each individual. The Ancestor Charts and "Map" should prove useful for tracking the results of your ancestral research while the "Box" Chart options can produce "wall charts" that graphically illustrate family relationships. After becoming familiar with the various types of reports and charts, those who have access to HP Deskjet, Laserjet or compatible printers may want to look at Section VIII which describes an interface to a utility which provides landscape printing of reports and charts on those printers.

##### 1. ANCESTOR Report (Main Menu option F2-A-1)

The `Ancestor REPORT' groups ancestors by generation level and shows the lineage numbers of the ancestors listed. Because no lines are printed for `missing' lineage numbers, (for ancestors not yet recorded in the files), this report is much more concise than the traditional ancestor chart. The lineage numbers may be used to follow lines of ancestry on the ancestor report using the relationships described in the previous discussion concerning lineage numbers (see section V.A). (The term `Ahnentafel list' is also used for reports of this type.)

Ancestor reports can be printed in three different styles: Fixed Format, Free Format and LifeLine Format. Section V.C.1 above describes each of these formats.

#### CREATING AN ANCESTOR WORK FILE

Before printing an ancestor report (or any of the other "relationship" reports described in this section) you must identify which individuals are to be listed. Program option F3 allows you to do this by entering a "Base ID" for the individual whose ancestors are to be listed and letting the program "search for" the ancestors of the individual. The maximum number of generations of ancestors that are to be searched appears under the File names and may be modified by selecting the option (F1) for changing File Names.

When you press F3, the program asks you for the Base ID and whether you wish to include adoptive relationships. It then begins the ancestor search, recording information about the located ancestors in the ANCESTOR.WRK file. This "work" dataset does NOT have to be recreated each time an ancestor report is printed if there is no change to the family file that would change the relationships recorded in it. The ancestor work files created by this program and by the ancestor chart program are in the same format and may be used interchangeably.

If you have decided to identify adoptive relationships as indicated in Appendix C and you have included adoptive relationships in the ancestor search, adoptive parents will be noted by an "\*" to the right of the lineage number in this report.

If a child is born to related individuals, the common ancestor of those individuals will appear twice on an ancestor report for that child, once among the father's ancestors and again among the mother's ancestors. In the ancestor reports produced by this system, such common ancestors will be noted (by a backward reference following the second occurrence of the ancestor in the report) and the lineage of the ancestor will be continued only for the ancestor's occurrence with the smallest lineage number.

If you have elected to show marriage dates in this report, the date of marriage will only be shown on the line for female ancestors. The number of years married is computed from the dates in the marriage record, the death dates of the spouses and/or the current date at the time the report is produced. If the death date of one of the spouses is used to determine the number of years married, then a "\*" will appear to the right of that number in the report.

#### ANCESTOR REPORT OPTIONS MENUS

As noted previously, many of the options for printing ancestor reports appear as a Menu in a viewing area in the lower right corner of the screen. There are actually 4 "frames" of options that you may page through, using the "Page Up" and "Page Down" (or PGUP and PGDN) keys on your keyboard. You can view the full set of option screens and make changes to them by pressing the F4 key. The following paragraphs present each of the option screens, in order of appearance. The meaning of most options is self-evident, though some are explained in a little more detail following the

display of the option frame.

```
OPTION FRAME 1:   Ancestor Report Options
                  _ Print ID's           (Y/N)
                  _ Sex Code             (Y/N)
                  _ Age/Anniv           (Y/N/D)
                  _ Relations            (Y/N)
                  _ Places               (Y/N)
                  _ Marriages            (Y/N)
                  _ Comments             (Y/N/A/S)
```

The option for printing Ages or Last Anniversary may have values "Y"es, "N"o or "D". The "D" means that an Age is only to be printed if the individual has Died (or a Last Anniversary will be printed only if the marriage has been terminated by death or other cause).

The option for printing Comments may have values "Y", "N", "A" or "S". The "A" selection (for ALL) means that the comments are to be printed (as with "Y") but that "bracketed" comments are to be included. "Bracketed comments" are those that are enclosed in "curly brackets" or "braces", "{" and "}". This permits you to isolate possibly sensitive or conjectural remarks from other comments. When you choose to print these comments with the "A" option, the enclosing braces are replaced with spaces. The value "S" requests that bracketed comments be printed, but to "S"how the brackets instead of replacing them with spaces.

```
OPTION FRAME 2:  _ Print Surname First      (Y/N)
                  _ Surname in UPPER CASE (Y/N)
                  _ Blank Line Between    (Y/N)
                  _ Show Line REF Index   (Y/N)
                  _ Place REF             (L/R/I/O)
                  _ Print Page Numbers    (Y/N)
                  _ First Page Number
```

If you select "Y" for "Blank Line Between", then a blank line will be written before each ancestor's information is printed; otherwise the report will be entirely single spaced. This option provides a nice separation of "blocks" of information, especially when printing the report in "free format", but it does require more paper so you are given the choice.

A Line REFERENCE index consists of line numbers that are printed in the margin area to assist in finding the location of individuals referred to in a report index. (Producing report indexes is one of the extended options provided to registered users.) Only line numbers which are multiples of 10 are printed. The "Place REF" option allows you to establish where these line numbers are to be printed. They may be on the "L"eft, "R"ight, "I"nside, or "O"utside. The margin will be increased by 5 characters on the side of the page on which the Line REFERENCE index is placed. (See Section V.C.3 for a discussion of Inside and Outside margins.)

Being able to set the value with which page numbers are to begin allows you to print several different reports with continuous,

sequential numbering of the pages.

OPTION FRAME 3:   \_\_\_ Page Width (in Characters)  
                  \_\_\_ Inside Margin  
                  \_\_\_ Outside Margin  
                  \_ Blank Lines at top           (0-9)  
                  \_ Blank Lines after Heading   (0-9)  
                  \_ Blank Lines before Footing   (0-9)  
                  \_ Blank Lines at bottom       (0-9)

(See Section V.C.3 for a discussion of these Page Format options)  
NOTE: When printing "fixed format" reports, each individual's information will be printed on two lines in the case that birth and death places are to be shown and the Page Width is too narrow to put all information on a single line. When individual record ID's are also being printed, these may appear on a 2nd line if the Page Width is too narrow to include the information on a single line.

OPTION FRAME 4:   \_\_\_ Minimum Name Size  
                  . TimeLine Fill Character  
                  - LifeLine Fill Character  
                  [ Birth Date Marker  
                  M Marriage Marker  
                  C Child's Birth Marker  
                  ] Death Date Marker

The option for setting the Minimum Name Size allows you to reduce the space reserved for the formatted name in the fixed format ancestor report. The maximum size for a formatted name is 52 characters, though most names require fewer characters.

The last 6 items can be used to define the characters that will be used to create an individual's "LifeLine" when the LifeLine format is selected for the ancestor report. (See Section V.C.1 above.) When creating a "LifeLine", the Birth Date marker is placed first, and the remaining part of the line is filled with "LifeLine Fill" characters. The births of children are then marked, then marriages, and finally the Death Date is marked, and the remaining portion of the line is filled with "TimeLine Fill" characters. Depending on the "resolution" of the LifeLine (that is, the number of years represented by each character), some events may not appear as distinct events on the LifeLine. For instance, if there are 50 print positions for a span of 150 years, then the "resolution" of the timeline is 3 years and events which are closer together than 3 years may occupy the same position on the timeline and therefore not appear as separate events. You may then decide not to record marriages or the birth of children if the "resolution" of the timeline is not fine enough. If you set the "event character" for marriages or the birth of children to a "space", then the corresponding events will not be recorded on the timeline.

You may SAVE the values that you set for these options by pressing the F2 (File) key while in the mode of viewing/updating the report options. The option settings will be saved in file FAMRELAT.OPT from which they will be retrieved as the default (Ancestor Report)

option settings in future FHS sessions.

2. DESCENDANT Report (Main Menu option F2-A-2)

The Descendant Report may be produced in several formats. Individuals may be grouped either by "generations" or by "families". The generation grouping uses the `bloodline' to group and `label' the individuals listed. In so doing, individuals in the same generation who are `closely related' appear near one another in the report. Brothers and sisters appear in succession in birth date sequence, with 1st cousins, 2nd cousins, etc. grouped around them. It is also easy to locate, in previous generations, the ancestor which an individual has on that generation level by locating the individual on that level whose bloodline forms the initial sequence of numbers in the bloodline of the descendant in question.

The "family" grouping will have children located closer to their parents, though brothers and sisters will be more widely separated in the report. The report for "family" grouping may be printed either in a "chart" or "outline" format with each individual's name offset according to the generation in which he/she belongs or in a "uniform" format in which the names begin in the same print position on each line and the "bloodline" of each descendant appears in full to the left of the name. (See section V.A for the meaning of the term "bloodline".)

CREATING THE DESCENDANT WORK FILE

Before printing a descendant report (or any of the other "relationship" reports described in this section) you must identify which individuals are to be listed. This is done by entering a "Base ID" for the individual whose descendants are to be listed and letting the program "search for" the descendants of the individual. The maximum number of generations of descendants that are to be searched appears under the File Names in the upper left corner of the screen and may be changed by selecting the option (F1) for changing file names.

When you press F3, the program asks you for the Base ID and whether you wish to include adoptive relationships. It then begins the descendant search, recording information about the located descendants in the DESCNDNT.WRK file. This "work" dataset does not have to be recreated each time an ancestor report is printed if there is no change to the family file that would change the relationships recorded in it.

Most Descendant report options appear in a viewing area in the lower right portion of the screen. These are identical to those for the Ancestor report. Please refer to the discussion of the ANCESTOR REPORT OPTIONS MENUS above for a further description.

If you have decided to identify adoptive relationships within the system as described in Appendix C, you may optionally include or exclude the adoptees and their descendants in this report. When included, the bloodline will have an "\*" next to an entry resulting from an adoptive parent-child relationship.

If you have elected to show spouse information in this report, the number of years married is computed from the dates in the marriage

record, the death dates of the spouses and/or the current date at the time the report is produced. If the death date of one of the spouses is used to determine the number of years married then an "\*" will appear to the right of that number in the report.

It should be noted that an individual may have more than one bloodline to an ancestor in the case that a child has been born to cousins or other related individuals, and that such persons would appear more than once on the 'descendant tree' of such an ancestor. The children of such unions are noted on the descendant report produced by the system and their descendants will be continued only under the first listed bloodline.

### 3. RELATIVE Report (Main Menu option F2-A-3)

This report includes entries for all relatives of an individual found during a search of the files which:

- a. First locates all ancestors of the individual going back a user specified number of generations, and
- b. then finds all descendants of the individual and all located ancestors, going forward a user specified number of generations.

The limits on numbers of generations searched allow some control over the maximum "distance" located relatives will be from the individual used to start the search. For example, if you are only interested in "offline" relations to the 1st cousin level, you would set the number of descendant generations searched to 2. The maximum numbers of generations searched appear under the file names in the upper left part of the screen and may be changed by pressing F1 to change the File Names section.

#### CREATING A RELATIVE WORK FILE

Before printing a relative report (or any of the other "relationship" reports described in this section) you must identify which individuals are to be listed by selecting option F3 and entering the "Base ID" for the individual whose relatives are to be listed. The program will then create a RELATIVE.WRK dataset in which the ID#'s of the relatives are recorded. This "work" dataset does not have to be recreated each time a relative report is printed if there is no change to the family file that would change the relationships recorded in it.

The RELATIVE Report is a combination of the ancestor and descendant reports which have been described above. In fact the ancestor and descendant reports are "special cases" of the relative report as follows:

- a. the Ancestor report is a relative report in which the number of "descendant" generations searched is 0, and
- b. the Descendant report is a relative report in which the number of "ancestor" generations located is 0.

All three types of reports are produced by the same program.

Prior to the introduction of the relative report, the ancestor and descendant reports were produced by separate programs and were selected by separate Main Menu options. For the sake of continuity, you are still allowed to select the ancestor and descendant report options independently from the Main Menu and the format of the displays produced by these options reproduce those of the

previous programs. To avoid making the user have to unnecessarily go back to the MainMenu program to return to a different one of the three functions of this program, a method of directly switching between these options is provided as follows:

- a. pressing ALT+A selects the Ancestor report function (while in the descendant or relative report portions of the program)
- b. pressing ALT+D selects the Descendant report function (while in the ancestor or relative report portions of the program) and
- c. pressing ALT+R selects the Relative report function (while in the ancestor or descendant report portions of the program).

The relative report is like a combination of the descendant reports of the "base" individual and all the located ancestors. These individual descendant reports are presented in the lineage number sequence of the ancestors. If an individual occurs in more than one descendant report (for example the father will appear as a child in the descendant report of each paternal grand-parent) then the descendants of the individual will only appear within the descendant report for the ancestor of lowest lineage number. In subsequent "descendant" reports, only a single line of information will appear for the individual with a reference to the page and line number of the next previous reference to the individual in the relative report. This has the effect of eliminating much of the redundancy that results when producing separate and complete descendant reports for each of your ancestors.

If you have not recorded any grand-children for ancestors, apart from the line that leads to the "Base ID", then you may find an "objectionable" amount of redundancy resulting from the children of ancestors appearing separately in the report under entries for each of the parents. I have not yet provided an option for eliminating this because I feel that the female's record of descendants should be treated equally to the male's in the reports. As more cousins are recorded in the file, the entries for the female ancestors become more separated from those of their husbands and the "redundant" listing of their children becomes less noticeable.

#### RELATIONSHIP LABELS

An optional piece of information that may be included in the relationship reports is a label describing the relationship of the relative to the "Base ID". While you may elect to show this label in any of the "relationship" reports (ancestor, descendant or relative), it is more significant in the relative report because this report includes not only direct ancestral/descendant relationships, but "indirect" relationships as well, that is: aunts, uncles and cousins. In this case, there are two popularly used rules for describing "cousin" relationships. In one, the "civil law" rule, the child of a "first cousin" is a "second cousin". In the "common" rule, the child of a "first cousin" would be called a "first cousin once removed". Appendix F attempts to describe some of the differences between these two rules. If you elect to show relationship labels and cousin relationships are involved, then you will be asked to choose which of these rules is to be followed in constructing the labels.

Some of the relationship labels used by these programs are:

- Child, gChild, ggChild, g2gChild (great,great grandchild) etc;
- Father, Mother, ggFather, ggMother, g3gFather (great,great,great

grandfather) etc;  
Brother, Sister, Niece, Nephew, gNiece, g2gNephew, etc;  
Aunt, Uncle, ggAunt, g4gUncle, etc;  
Cousin, 2Cousin, 3Cousin (third cousin), 4Cousin, etc;  
1C1R (1st cousin, once removed), 2C3R, 4C11R, etc.

These labels are particularly useful for getting over that "blood-line barrier" that sometimes makes relatives seem more distant than they really are.

#### OTHER OPTIONS

The options for formatting each of the "descendant" reports within the relative report are the same as previously described for the descendant reports. They may be produced with descendants grouped by generations or by families, and when grouped by families they may be printed in an "outline" format with names offset according to the generation level within the descendant report, or in a "uniform" style in which all names begin at the same print position.

Most Relative report options appear in a viewing area in the lower right portion of the screen. These are identical to those for the Ancestor report. Please refer to the discussion of the ANCESTOR REPORT OPTIONS MENUS above for a further description of them.

If you have elected to show marriages and "Anniv"ersaries in this report, the number of years married is computed from the dates in the marriage record, the death dates of the spouses and/or the current date at the time the report is produced. If the death date of one of the spouses is used to determine the number of years married then an "\*" will appear to the right of that number in the report.

#### COMMENTS IN RELATIONSHIP REPORTS

Another type of information that can be included in the relative report (and after Sept 86 also the Ancestor and Descendant reports) is the "COMments" that you have recorded under the name and spouse records in your family files. Prior to the introduction of this report, comment information was only printable in the Family Group Reports. Being able to include these notes in the lists produced by the system, should make them more accessible and useful in your continuing research efforts.

The COMment information appears on separate lines following the line of standard information for a relative or spouse. In the Fixed Format style of report, the comments are printed following the standard line of information and individual comment lines are joined together to form longer lines whose length is determined by the length of the standard data line for the types of information you have chosen to include in the report. In the Free Form report, the comments appear as a continuation of the "paragraph" of information about the individual.

It is possible to isolate parts of the comment information for optional exclusion from the printed comments. This is done by enclosing the text of those comments within "braces" or "curly brackets" ("{" and "}"). (If the entire comment area is enclosed

in braces, then no comment area will be printed.) A more complete description of the formatting of comments in reports is given in Section III.F.2 of this manual.

4. FAMILY GROUP Reports (Main Menu options F2-B-1 and F2-B-2)  
When the "Free Format" style of reports was introduced in March 1990, I was unable to put all the instructions for both "old" and "new" report styles in a single program. Therefore you must choose between the two styles of reports when you select the Family Group report option from the Main Menu. The "Fixed Format" for the family group report appears as a "filled in" family group worksheet. If you have recorded only partial information for an individual, portions of the report will appear as "blank" lines which could be completed as the information is discovered. In the "Free Form" group report, all basic information recorded for an individual "flows together" in "block" or "paragraph" style. There are no "blank" lines for missing information, but you may find this report more appropriate for sending to relatives.

The FAMILY GROUP REPORT produced by the system is intended to provide a complete listing of information on record for an individual. Information that may be printed includes: personal information (name, birth/death dates and places), parents, spouse(s), spouse's parents, children, child's (latest) spouse, and all residence information for the individual. The report may also show the "other" types of information from Medical, Educational, Work and Military records. In addition, all addresses and comments relating to the above information can be included in the report. You may also include a line which shows the Relationship and Lineage of the subject of the report based upon a supplied relationship work file (that is, an Ancestor/ Descendant/ Relative work file).

The 'viewing area' in the lower right corner of the screen lists the types of family file information that you may optionally include in the family group report. Using program option F6, you may specify whether or not a category of information is to be INCLUDED and (in the Fixed Format report) the MINimum number of entries of that type that are to be shown. If a category is to be included but the minimum number of entries is set to 0, then a section for that type of information will appear in the report only if there is information of that type recorded in the family file. A section will appear in a blank family group report form only if the MINimum number of entries for that section is not 0.

There are two entries for comments in the list of information types. The first controls the printing of NAME and SPOUSE record comments; the last entry in the list controls all other comments. Several people have requested being able to print both the SPOUSE record comments and the spouse's NAME record comments under the spouse entry in this report. This is allowed by the INCLUDE parameter for the 4th item in the list. If it has a value of "A" (for ALL), then both the spouse record comments and the spouse's name record comments will be printed (with a blank line separating them if they are both present); if the INC parameter has a value of "Y" then just the spouse record comments will be printed.

You will probably want to produce a Family Group report for each of your ancestors (male and female) and any descendants who have maintained separate households. To help simplify the task of printing the many Family Group reports that you will want to be saving, you are given several options for BATCH printing of family group reports. You may enter a list of ID #'s for reports that you want printed, or you can instruct the program to read a relationship file (Ancestor/ Descendant/Relative Work file) or a SELECT.WRK file to determine which reports are to be printed. It is therefore relatively easy to print reports for all ancestors of an individual or for all descendants or relatives of a given individual.

When printing reports using one of these lists of ID#'s, you may also request to BYPASS the printing of reports for children whose own group report contains no information that is not found on the one being printed for a parent or for wives whose own family group report contains no information that is not found on the one being printed for the husband. (The last option may sound a bit sexist, but I believe it probably conforms to a common procedure for maintaining files of family group reports.)

Program option F5-2 requests the printing of reports for the selected individuals. When printing reports for ID's in a list (either entered individually or read from a file) you may specify whether to print the reports in ID# sequence or in the order specified by an INDEX file. (Creating an INDEX file is one of the extended options for the system. It may be either a SORTED Index or one which sequences a group of ancestors, descendants or relatives in the order that they would appear in one of the relationship reports.) Further, you may request that the reports be printed separately or that they be merged into a single report with a line of asterisks separating individual reports. In the MERGED report, pages are numbered sequentially and line number indicators may be placed in the margin to assist in locating the source of references in the report indexes produced by one of the system's extended options. The merged family group report is intended to simplify the task of producing booklets of family information.

#### IDENTIFYING GROUP REPORTS TO BE PRINTED

Group reports that are to be printed are identified by giving the program the ID # of the primary subject of the report. Program option: "F3 Change SELECT Type or ID's" allows you four ways of entering these ID's. When you press the F3 key you will be asked to:

Select: 1)Single ID 2)ID List 3)Select File 4)Relative File

If you choose "1", you will be asked to enter a single ID (in the middle of the screen where it says: "Processing ID #") The Name record corresponding to the ID # will be retrieved and the name found there will be displayed to confirm your selection. This option was the only one provided prior to Oct 87. When using this mode of selection, the printing of the reports is handled just the same as it was prior to Oct 87.

If you choose SELECT option "2) List of ID's", the bottom line of the screen will be formatted with an "option line", and the blink-

ing cursor will appear near the middle of the screen to the right of the label "Processing ID #:". You can enter a list of individual ID numbers by typing each one on the screen and pressing the enter key. After entering an ID#, the corresponding name record will be retrieved and the name found in the record will be displayed to the right of the ID#. You can enter a range of ID #'s by pressing the F2 key and following the prompts that appear on the bottom line of the screen. Pressing the F3 key will delete the currently displayed ID from the list.

All ID #'s entered are kept in a list in ID# sequence and you may use the PGUP and PGDN keys to move up and down the list to review previously entered ID's. The CTRL+PGUP and CTRL+PGDN key combinations will move you respectively to the lowest and highest ID #'s in the list. Near the right center portion of the screen the number of ID #'s currently in the list and the total number of name records in the file are shown. You may press the F10 key to SAVE the list in a SELECT Work file for later reuse. After you have finished adding all the ID #'s to the list that you want, press the F1 key to terminate the process. You can return to change a previously entered list of ID #'s by pressing the F3 key and then the SPACE bar.

If you choose SELECT options "3" or "4" then the SELECT work file or the relationship work file, respectively, (identified in the File name section of the screen display) will be used to determine the ID #'s for which family group reports are to be printed. The name record for the first ID (the lowest ID #) in the resulting list will be retrieved and the individual's NAME displayed. The number of reports selected for printing and the total number of name records in the file will be displayed at the right center part of the screen. You may then proceed to change the list just as described in the previous paragraph.

#### CHANGING REPORT OPTIONS

Program Option F4 is used to view and modify the various options for printing group reports. If you select this option, the viewing area in the lower right portion of the screen will be cleared and reformatted with the first of three "frames" of report options. You may move from one frame to another by pressing the Page Up/Page Down (or PGUP/PGDN) keys. Any changes made to the report options will be "remembered" for the remainder of the FHS working session. You may SAVE the current settings of the group report options (in an OPT file) by pressing the F2 key and selecting the SAVE option. These settings will be recalled the first time the family group report program is selected in subsequent FHS working sessions. The current settings of the "Information to Include" settings are also saved in the OPT file when you select the SAVE option.

The following paragraphs will present each of the option frames, in the order of appearance. The meaning of most options is self-evident, although some are described in more detail following the option display.

Option FRAME 1: Family Group Report Options

- Print Surname First (Y/N)
- Print Surname in CAPS (Y/N)
- Underline Blanks (Y/N)
- Print ID Numbers (Y/N/H)
- Print Subject Lineage (Y/N)
- Line Between Children (Y/N)
- Print Brkt Comments (Y/N/S)
- Use Bypass Logic (C/W/B/N)

The option for underlining blanks only occurs in the Fixed Format group report program. If the value is "N", then missing information in the report will appear as "blanks", otherwise the missing information will be filled with "underscore" characters.

The "H" value for the "Print ID Numbers" option will result in the ID number only being printed for the "subject" of the group report in the heading of the report.

The option for "Print Subject Lineage" allows you to include a line showing the Relationship and Lineage (see Section V.A) of the subject of the report. If you select this option, then the "RELATIVE" work file (among the File Names in the upper left portion of the screen) must have been previously created by Main Menu selections F2-A-1,2,3 or F2-C-1. The relationships and lineage that appear in the report will be determined from that work file.

The option for "Line Between Children" allows you to request that a blank line be inserted between children in the group report. This came at the suggestion of a user who felt that it would make it easier to read the child information. I agree with her, but it also takes extra paper, so you are given the choice.

Beginning with the Sept 1988 update, you were given the option of enclosing the text of certain comments with braces or "curly brackets" ("{" and "}"), for instance to isolate sensitive or conjectural remarks that you might not want to make generally available. If you enter "Y" next to "Print Brkt Comments", then bracketed comments will be printed along with the rest and the brackets will be replaced with spaces. If you enter "N", the bracketed comments (including the brackets) will be replaced by a single space. If you enter "S" (for "Show") then the bracketed comments will be printed along with the brackets.

When printing family group reports from a list of ID's, you are given an opportunity to eliminate the printing of certain reports whose information duplicates that found on another report that is being printed. This is done by entering "C", "W" or "B" next to the "Use Bypass Logic" option.

A value of "C" for "Use Bypass Logic" tells the program to eliminate the printing of a report for a "Child" whose parent's group report is being printed and for whom there is no information being printed in the child's report beyond that which appears in that of the parent(s). For instance, if you are printing family group reports for all descendants of an individual this option would allow you to skip printing Family Group Reports for the many per-

sons (including minor children) who have simply been listed as a child on one Family Group Worksheet but for whom you have never received or had need to create a separate Family Group Worksheet of their own.

A value of "W" for "Use Bypass Logic" tells the program to eliminate the printing of a report for a "W"ife if the husband's report is to be printed and her own group report would have no information on it beyond that that appears on the group report of her husband.

A value of "B" for "Use Bypass Logic" instructs the program to employ the rules for eliminating "unnecessary" group reports for "B"oth Children and Wives.

#### Option FRAME 2

```

_ RELRULES (1=Common,2=Civil)
_ Show Line REF Index (Y/N)
_ Place Line REF (L/R/I/O)
_ Print Page Numbers (Y/N)
_____ First Page Number
```

If the RELATIVE file includes "cousins", the RELRULES option allows you to choose between the two most popular "rules" for describing cousin relationships. See the discussion of this under the description of the Relative Report.

Line REFERENCE indicators are line numbers that are printed in the margin area to assist in finding the location of individuals referred to in a report index. Producing report indexes is one of the extended options provided to registered users. The Place Line REF option identifies which margin is to contain the Line REF Index. The values are "L"eft, "R"ight, "I"nside and "O"utside.

Being able to set the value with which page numbers are to begin allows you to print several different reports with continuous, sequential numbering of the pages.

#### Option FRAME 3

```

_____ Page Width (# 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)
```

(See Section V.C.3 for a discussion of these Page Format options.)

#### PRINTING FAMILY GROUP FORMS AND REPORTS

Program option F5 is used to print blank Family Group Worksheets (in the fixed format Group Report only) as well as the "filled in" Family Group Reports. When you press F5 in the "fixed format" Group Report program, you will be asked to:

Select 1) Blank Forms or 2) Group Reports

If you select "1", you will be asked how many blank forms to print (1-9). The blank forms will include sections for the types of

information you have selected (in the lower right corner of the screen) and will provide the number of entries within each section that you have indicated in the "Min" column. (A value of "0" in the "Min" column will eliminate the section from the worksheet.)

When you are printing "filled in" family group reports for a list of ID#'s or for ID #'s in a work file, you will be given the choice of printing the reports in ID # sequence or in INDEXed sequence. Creation of an INDEX file is one of the functions provided by the extended portion of the system. Using an index file, it is possible to print the group reports in SORTed order (for instance in "Surname" sequence), or in RELATIONSHIP order (that is, in the order that the individuals would appear in an ancestor, descendant or relative report).

You are given two format options for printing family group reports from a list of ID's. In particular, you will be asked to:

Select 1)Separate Reports 2)Merged Reports

If you enter "1" then separate Family Group Reports will be printed for each ID in the ID List that has been created (who is not Bypassed as described above) just as if you had printed them separately and individually. Any other response will result in all family group reports being printed continuously with a line of "\* \* \* \* \*" separating them. The pages in the "merged" report will also be sequentially numbered (though the page numbers will only be printed if you have selected that report option). In effect, this provides you with still another type of report... one which can show ALL information in the file for each individual.

When printing "Fixed Format" Group reports in a "merged report", the MINimum counts of the types of information to be included will be assumed to be zero (sections will be shown for information of a given type only if it is to be INCLuded and there actually is information in the file for the individual whose family group report is being printed).

One of the options in the extended part of the system allows you to produce a printed index for these reports with the page and line numbers for each reference to each individual in any of the family group reports printed.

When printing batches of family group reports, you will be asked whether to: Start at Beginning of LIST? (Y/N)

If you reply "N" then if you are printing separate group reports, you will be asked to: Enter Starting ID=xxxx

or if you are printing a merged family group report, you will be asked to: Enter Starting Page=xxxx

This allows you to restart the printing of a batch of family group reports without having to reprint those that have already been successfully processed.

Finally, when printing batches of family group reports, you will be asked before printing each report:

Print Report for ID=xxxx (Y/N/A)

If you reply "N" then the next ID to be printed will be looked up and a similar message will be shown for it. If you reply "A" then this report and all succeeding ones will be printed until you

terminate a report by pressing the SPACE key to pause it, and then the ESCape key to cancel it. If you cancel a report, then you will again be asked whether you want to print a report for the next ID. If you press the ESCape key when this prompt is displayed, then the entire print process will be terminated.

5. ANCESTOR CHARTS and MAPS (Main Menu option F2-C-1)

The system also produces ANCESTOR CHARTS for an individual in the traditional `horizontal tree' format, with an individual appearing on the left (center) of the page and the parents appearing to the right above (father) and below (mother) the line on which the individual is identified. You can print either "formal" ancestor charts, showing 4 generations of ancestry on each chart, or an Ancestor MAP with up to 53 generations of ancestors in a single continuous chart.

Before printing either the Ancestor Charts or Maps, you must first create an ANCESTOR Work file using program option F3. You will be asked for the BASE ID for the work file, which is the ID number of the individual whose ancestors are to be charted. You will also be asked whether adoptive relationships are to be included in the ancestor search. The program will then begin the ancestor search. The search will proceed back for the number of generations that are specified in the "Max GEN #" field following the file names in the upper left portion of the screen. When the process is complete, the statistics for the work file will be displayed in the middle of the screen.

The charts are printed using program option F5. When you press the F5 key you will be asked to:

Select 1) Blank Chart 2) 4 GEN Charts 3) All GEN MAP  
Selection "1" is used to print blank ancestor charts for recording information prior to entering it into the system. You may print from 1-9 blank charts at one time. The "4 GEN Charts" and "All GEN MAP" are described in the following paragraphs.

FOUR GENERATION ANCESTOR CHARTS

Because only 4 generations of ancestors (comprising 15 individuals) may appear on a single "formal" chart, several charts may be required to show all ancestors on file for an individual. The Family History System has been designed to produce as many `subcharts' as are required to show all recorded ancestors. In doing so, it is necessary to employ some scheme to show how to proceed from one chart to the next in a set. To accomplish this, a `chart-ID' is assigned to each of the charts produced. This chart-ID consists of the generation level of the ancestor appearing to the left on the chart, and the number of that ancestor within that generation level. Some chart-ID's would be 0-1 (the first chart of a set), 4-1, 4-2, 4-3, ..., 4-16, 8-1, 8-2, ..., 8-256, etc. This method of identifying charts has the advantage that charts which are not printed, because they are empty, can be printed at a later time (when information does appear on them) and they will have a natural place in the sequence of charts, without affecting the previous Chart ID's.

Charts will be printed only if an ancestor has been recorded on the chart. If an ancestral line may be continued beyond one of the

charts in the series, then the chart-ID for the appropriate continuation chart will be shown on the right side of the chart to be continued.

Individual entries on the chart may be numbered from 1 to 16 on each chart, or you may choose to label each entry with the lineage number of the ancestor recorded on the line.

If you have decided to identify adoptive relationships as indicated in Appendix C, the adopted parent will be noted on the ancestor chart with an "\*" in the first position of the NAME field.

The "Spouse of Entry #1" appearing in the lower left corner of each chart is the most recent spouse of the individual listed in entry #1 and may not be the "paired" ancestor on the chart.

#### ALL GENERATION ANCESTOR MAP

You may also print an ALL GENERATION Chart which, though not as formally presentable as the 4 Generation Charts, has the advantage of providing a complete overview or MAP of ALL (up to 53 generations) of the recorded ancestors for an individual in a single report. The format of this report is such that:

- the information for each ancestor occupies a single line (although you may optionally request that information be placed on two or three successive lines;
- no lines are produced for "missing" ancestors
- the line for the father of an individual on the report is above the line of information for the individual
- the line for the mother of an individual on the report is below the line of information for the individual
- the information for ancestors is offset 4 spaces to the right for each generation level
- all parent-child relationships are graphically represented by lines connecting the child to the parent(s).

The information shown for each ancestor includes:

- The lineage number of the ancestor
- (Optionally) the ID # of the ancestor, within parentheses
- The ancestor's NAME
- (Optionally) the birth/death dates and age, in the format  
b. 7 Apr 1863,d.10 Feb 1937 at age 73  
(the age is shown only if both birth and death years are known. If either date's month and day are unknown an "?" will appear to the right of the age)
- (Optionally) the birth/death places.

This ALL GENERATION Ancestor Chart or MAP is printed continuously in a single long report. Up to 20 generations of ancestors may be printed using compressed print on 8 1/2" wide paper. Reports which exceed the width of the available paper can be printed out in 2 or more strips using the OFFSET Printer parameter. For example, suppose you wish to print a report that would require a 150 character print line but you are using a font and form which only allow 80 printed characters. You can print the report first with a Form Width of 80 and OFFSET=0 to get the left most 80 characters of each print line and then print it again with an OFFSET of 80 to get the right most 70 characters of each print line. The two strips can

then be joined together along the side to produce a complete ancestor Map.

#### OPTIONS FOR PRINTING ANCESTOR CHARTS AND MAPS

Program option F4 allows you to change several options for printing the charts and Maps. The options appear in the viewing area in the lower right portion of the screen. There are actually three "frames" of options which may be individually viewed by pressing the PGUP/PGDN (or Page Up/Page Down) keys. Changes made to these options are remembered for the duration of an FHS session. The "File" option allows you to SAVE the current option settings for subsequent FHS sessions.

The three option frames will be displayed in the following paragraphs. The meaning of most options is self-evident. Some options are described in more detail following the display of the option frame.

Option FRAME 1: Chart and Map options

- \_ Surname First (Y/N)
- \_ Surname in CAPS (Y/N)
- \_ Show Lineage Numbers (Y/N)
- \_ Show ID Numbers (Y/N/H)

These options apply to either the 4 GEN Charts or Maps. The first two options control the format for printing each ancestor's name. The surname may be placed first or last, and the surname may be printed in all CAPS for emphasis.

A value of "H" for "Show ID Numbers" will result in the ID numbers only being printed in the chart Heading.

Option FRAME 2: MAP Options

- \_ Print Heading (Y/N)
- \_ Number of Data Lines (1/2/3)
- \_ Show Birth/Death DATES
- \_ Show Birth/Death PLACES
- \_ Blank Line Between Entries
- \_ Show Line Ref Numbers
- \_ Continuous Forms

The "Continuous Forms" option should be set to "N" when printing to a "page" printer which is unable to print every line on the page. (Most laser printers will not be able to print 1 or 2 lines at the top and bottom of the page.) When "Continuous Forms" is set to "N" the program will print blank lines at the top and bottom of the page (as indicated in option FRAME 3 below) so that data lines will not be "lost".

Option FRAME 3: Page Format Options

- \_\_\_ Page Width
- \_\_\_ Left Margin
- \_ Blank Lines - Top (0-9)
- \_ Blank Lines - at Bottom (0-9)

(These options are described more fully in section V.C.3 above.)

## 6. DESCENDANT CHARTS (F2-C-2)

The Family History System can also produce graphical charts of descendants with information in "boxes" connected by "relationship lines". A descendant chart may include up to 99 generations. Large charts can be printed in 'strips' which can be joined together to make a "wall chart" or you can print the full chart to a file for special processing by any (sideways or other) printing utilities you may have. (The 4PRINT utility described in Section VIII produces nice looking charts on Laserjet or Deskjet printers.)

The chart format groups descendants by "generation levels" with information on individuals in the same generation level recorded in boxes which are in the same column of the chart. The first child of each descendant is recorded in a box to the right of the parent and in the same row of the chart. Children are sequentially numbered and an adopted child is denoted by an "\*" to the right of the child number. You may request that the descendants of each individual in the chart be printed before the row containing the next sibling or cousin, or you may permit the program to "nest" the families together whenever possible, producing a more compact chart.

The information shown for each descendant may include name, birth and death dates and places, marriage dates and places, spouses' names and spouses' birth and death dates and places. All boxes of information are the same width, which you may specify. If the width is not sufficient to show the information that is to appear on a line, the data will be truncated to the size of the box. To help minimize this truncation without requiring excessively large boxes, the program will adjust the format according to the box width as follows:

If datawidth is less than 27 characters, then birth and death dates will appear on separate lines; if place information is included and the box width is less than 35 characters, then dates and places will be shown on separate lines.

In addition you may request that names be shown on 2 lines, with surname and given names on separate lines. (You can request either surname or given name be first, and you may ask that the surname be capitalized for emphasis.)

As with other relationship reports, 'crossed' family lines are noted and the descendants of the children of related individuals will only be shown under their earliest appearance in the chart. Subsequent chart entries for the same individual will have a back reference of the form: (Same as xxx,yyy) where xxx is the generation level of the earlier occurrence and yyy is the line number. Please note that the left most 'generation level' is the '0' level, the next is '1', etc.

Realizing that it may be difficult to locate particular individuals on a large chart, you can create a REFERENCE file which identifies the generation level and line number on which each individual's name appears. An extended option can then print a Chart Index from information in the REFERENCE file.

## PRINTING DESCENDANT CHARTS

Before printing a chart, you must identify the individual whose descendants are to be "charted". This is done using the chart program option F3 and entering the ID number of the individual's name record in the FHS family file. This process does not build a "work" file, as the descendant report program does, but just verifies that the ID # is valid and displays the name from the chosen record.

Charts are printed using program option F5. You will be asked to:  
Select 1) Mini Chart 2) Standard Chart  
The "Mini" chart is one in which the "data width" is just two characters (to allow for the child number). Only a single data line will be printed for each box so that the resulting chart presents a very concise representation of the full descendant "tree". If you select the "Standard Chart" option, then the chart will be printed using all the chart options for data width and information to be included.

When you print either chart, you will be asked whether you want the output to go to the SCREEN, PRINTER or FILE. If you choose file output, you will be prompted to enter the name of the output file which is to be created. Screen output is limited to 79 characters and printer output is limited to the "forms width" given in the Printer Parameters, but file output contains the entire chart...  
When printing to the screen or printer, if a line of the chart extends beyond the right side of the strip being printed, then after the printing of the strip is completed, you will be asked if you want to continue printing with the next strip.

Before the printing of the chart begins, you will be asked whether you wish to create a REFERENCE work file. This file will contain an entry for each name in the chart, identifying the generation level and line number on which the name appears. The report index option of the extended system can then print an index from information in the reference file.

If you are not sending output to a file, you will be asked if you want to:  
Start at beginning? (Y/N)  
This permits you to continue printing an interrupted chart at a line below the top of the chart. If you reply "N", then you will be asked to: Enter Line number to begin printing: \_\_\_\_  
If you choose this option then the printing of the chart may appear to be delayed because the program must still process the unprinted lines in order to "find its place".

You can pause the printing by tapping the space bar. You can then terminate the printing by pressing the ESCape key, or continue it by pressing any other key. If you continue the printing by pressing the PGDN key, then the program will pause at the top of the next page. This can be useful if you see that your printer is running low on paper and want to pause at a convenient place for adding a new supply.

Several options for formatting descendant charts are shown in a viewing area in the lower right corner of the screen. There are actually 3 different option "frames" which may be successively

viewed by using the PGUP/PGDN (or Page Up/Page Down) keys. Program option F4 permits you to change these options. Your changes will be 'remembered' throughout an FHS working session and the settings may be SAVED in an OPT file for subsequent FHS sessions.

The following paragraphs consider each of the three option frames. The meaning of most options is apparent from the brief descriptive label, however a few are described in more detail following the display of the option frame.

```
Option FRAME 1:   Chart Options
                  Data Area Width
                  —
                  Two Lines for Name      (Y/N)
                  —
                  Show ID Numbers         (Y/N)
                  —
                  Show DATES              (Y/N)
                  —
                  Show PLACES             (Y/N)
                  —
                  Show MARRIAGES          (Y/N)
                  —
                  Allow Nesting           (Y/N)
                  —
```

The 'Data Area Width' is the number of characters that can be placed on each line of an 'information box'. Each generation shown in the chart actually requires 5 more characters, for the sides of the box and connecting lines. The minimum value for the data area width is 0 and this is really only suitable for seeing the basic structure of the chart.

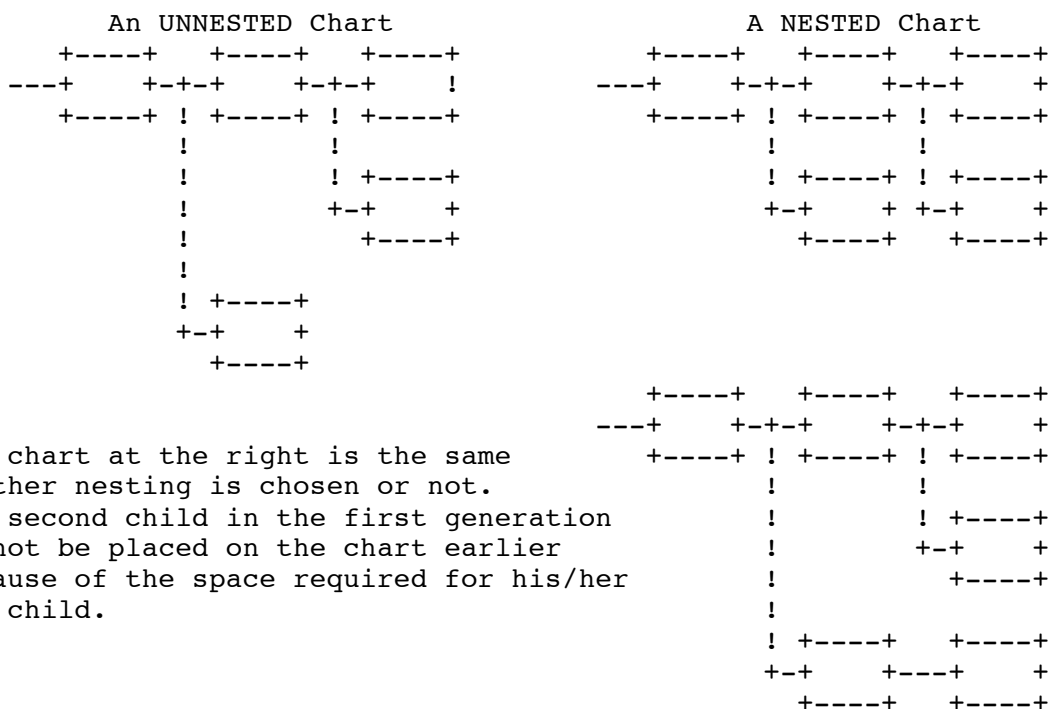
The default value of 15 for "data width" allows viewing four generations on the screen but would probably not be suitable for a printed chart because of the amount of truncation that would occur. A width of 25 would allow places to be shown without truncation. If places are not shown, a width of 27 will permit birth and death dates to be placed on a single line of the box. If places are included, a value of 39 will permit date and place information to be placed on the same line. A value of 32 is the smallest box width that would guarantee no truncation of any information (assuming names are placed on 2 lines). In many cases, a value smaller than 32 will be sufficient to avoid truncation, even with the full name on a single line. Whatever value you choose for the data width, the full chart can be printed on any printer, though it will likely be necessary to print it in several 'strips' that can be joined together to produce the full chart.

The option 'Two Lines for Name' allows you to request that the Given name and Surname appear on separate lines in the information box. Another option allows you to specify whether the surname (the last name) or the given name will occur first. The name that occurs first in the chosen format will be placed on the first line when the name is placed on 2 lines. The purpose of this option is to permit you to print a chart with a smaller data width without having any truncation of a person's name.

If 'Show ID Numbers' is chosen as a chart option, then the ID number of each name record will appear, within parentheses, at the beginning of the formatted name. If marriages are also to be shown then the ID number area of each descendant who has another parent recorded will be in the form: (xxx:yyy) where the first number is the ID for the child's record and the second number is the ID

number for the parent that is NOT among the descendants charted. This may be one of the spouse's of the parent on the chart (this may be determined by looking at the information box for the parent) or it may be the ID number of someone who was never married to the parent. If the ID of the other parent is shown, then an "\*" will appear to the right of the ID if it is an adoptive relationship.

The 'Allow Nesting' option controls whether or not the chart entry for a younger sibling can be placed in the chart before all the descendants of an older sibling have been charted. See the diagrams below for a comparison of nested and un-nested charts. In the charts that I have tried, nested charts require 20%-30% fewer lines than unnested ones for the same group of descendants. Of course this is very much dependant on the pattern of relationships being charted.



The chart at the right is the same whether nesting is chosen or not. The second child in the first generation cannot be placed on the chart earlier because of the space required for his/her own child.

Option FRAME 2:

- Print Surname First (Y/N)
- Print Surname in CAPS (Y/N)
- Print Heading (Y/N)
- Show Line Ref Numbers (Y/N)
- Line Ref Location (L/R/B)
- Continuous Forms (Y/N)
- Allow Boxes to Span (Y/N)

The "Heading" referred to in the third option above is a line of numbers which label each column of "boxes" with the generation level of the descendants appearing in the column.

The 'Show Line Ref' option controls whether or not a 'line index' will be printed in the leftmost 5 characters of the chart (after

the left margin, if any). This line index can be useful for locating a particular information box from a reference in the chart index that can be printed using one of the FHS extended options.

The "Line Ref Location" specifies whether the line reference numbers are to be placed on the "L"eft, "R"ight or on "B"oth sides of the printed strip.

The 'Continuous Forms' option determines whether the chart is to be printed continuously across perforations of 'fan-fold' paper, or whether blank lines should be printed at the top and bottom of each "page". This option is primarily for those who are using laser printers or other cut sheet printers.

The "Allow Boxes to Span" option permits you to control whether boxes are allowed to be divided by the edge of a printed "strip". If this option is set to "N" then only complete columns will be printed within a chart "strip". This may require more "strips", but it may make it easier to join them together.

Option FRAME 3:

___	Page Width (in Characters)	
___	Left Margin	
__	Blank Lines - at Top of Page	(0-9)
__	Blank Lines - after heading	(0-9)
__	Blank Lines - at bottom	(0-9)

These "page formatting options" are described in more detail in section V.C.3. The blank lines at the bottom of the page will only be printed when the "Continuous Forms" option is set to "N".

7. GENERALISED "BOX" CHARTS (F2-C-3)

Subsequent to introducing the graphical descendant chart option described above, I received several suggestions regarding it. Some asked that there be an option for printing more "conventional" charts in an "organization chart" format with generation levels running horizontally instead of vertically, and others have requested similar "box" charts for ancestors. At least one user, referring to the ancestor map, asked if the base record might be placed on the right side of the chart instead of the left, so that the ancestor tree would branch to the left.

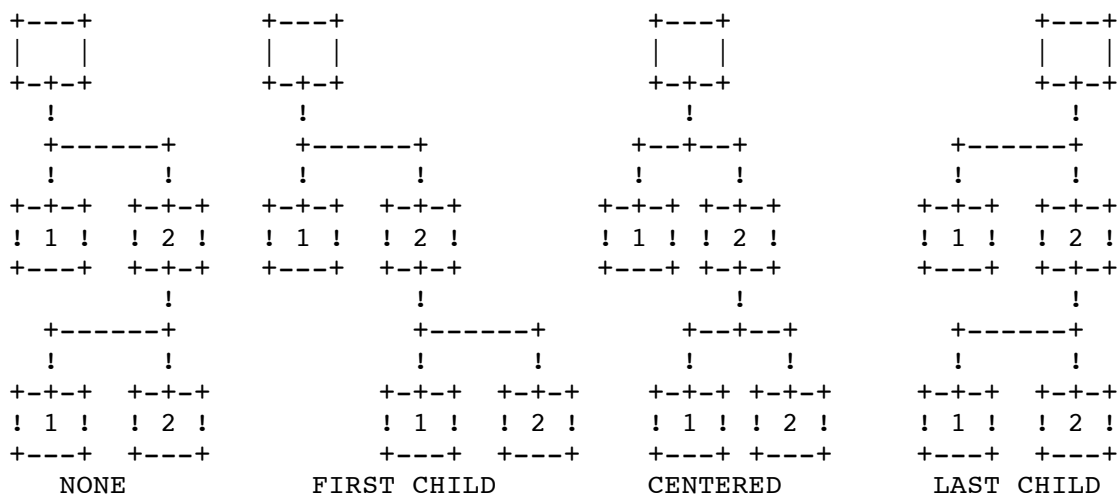
The program described in this section is offered as a response to each of these requests. This "Generalised Box Chart" option, selected from the Main Menu by entering F2-C-3, will print charts of ancestors or descendants (though not both at the same time) with generation levels arranged horizontally. The base record may be placed at either the Top or Bottom of the chart. For descendant charts, a parent may be aligned with the first or last child or centered between the first and last child. (For Ancestor Charts, the child may be aligned with the father, mother or centered between.) Finally, children may be arranged from first to last or from last to first on the chart (or for Ancestor Charts, parents may be arranged either in "Father Mother" or "Mother Father" sequence).

### CREATING A NODE WORK FILE

Before printing a chart, it is necessary to create a "NODE Work File" which identifies the ancestors or descendants that are to appear in the chart as well as the row and column in which they will be placed. Program option F3 allows you to create the work file. You are asked to enter the base record ID and to identify the type of relationships that are to be charted (either ancestor or descendant). You are also asked to identify the type of "alignment" that is to be used in the chart. This alignment refers to the placement of a parent with respect to the children in a descendant chart (or of the parents with respect to a child on an ancestor chart). You may choose the alignment to be:

- 1) None      2) First      3) Center      4) Last

The following small charts illustrate these types of alignment:



The first of these may produce slightly more compact charts than the others, though each type may prove appropriate in different circumstances. The centered alignment is probably most appropriate for a wall chart and alignment with the first child is likely to be best for placing a very wide chart in a booklet.

The node work file does not have to be recreated every time you print a chart, although it must be recreated if the base record changes or there have been changes to the relationships being charted. You may also use F3 to simply change the alignment of an existing node work file without having to perform the ancestor or descendant search again.

After the work file has been created, information about the work file is displayed in the middle of the screen, including the number of nodes (relatives) recorded, the number of generations searched, the maximum extent of the chart (that is the number of boxes that could be placed in the widest part of the chart) and the type of alignment that was used in placing the nodes.

Program option F5 is used to print the charts. When you select this option you will be asked to:

- Select    1) Chart Summary    2) Mini Chart    3) Standard Chart

The "Mini Chart" option will produce a chart in which each box has

a single line of information of 1 or 2 characters. The resulting chart provides a very concise representation of the ancestor or descendant tree structure. The other print options are described in the following paragraphs.

#### BOX CHART SUMMARY REPORT

To help you to determine the "shape" and extent of a chart, you may select option F4 to print a brief report about a horizontal format chart that could be printed from the node work file. In addition to the information about the node work file that appears on the screen, this report will tell you the width of the chart in printed characters, based upon the values of "Data Width" and "Box Separation" among the chart options in the lower right corner of the screen. It will also tell you how many strips are required for printing the entire chart based upon the current settings of forms width and margin.

Included in the summary report is a diagram showing the basic "shape" of the chart. For each generation level, there will be a line showing the generation level, the columns of the first and last boxes on the chart at that generation level, the number of total boxes on the chart at that generation level, and a line of symbols which represent the distribution of boxes at that generation level. Boxes are represented by O's and X's. The O's represent one or more boxes at that approximate location, and the X's represent at least one box at that location for a relative that also appeared at another location in the chart (as the result of crossed family lines).

Options for printing the summary report are similar to those for printing the charts themselves. You may request that the base record be placed at the top or bottom, and you may request that children (or Father-Mother) be arranged from left to right, or from right to left.

#### STANDARD BOX CHARTS

When printing the Box charts, you will be asked to select several formatting options. These include:

- a. Placement of base record at top or bottom of the chart
- b. Arrangement of children from left to right or from right to left (on ancestor charts this choice affects the placement of the father-mother pair on the chart...the "normal" ordering would place the father to the left of the mother on the chart)
- c. Destination of the report, chosen from among: screen, printer and file. When the full width of the chart exceeds the screen or forms width and output is to the screen or printer, then the chart can be printed in as many "strips" as will be required to produce the full chart. The printing of each "strip" requires processing every node on the chart, although only a portion of the chart is actually routed to the final destination. If the destination is a file, you will be prompted to enter the name of the file that is to receive the report output. When printing to a file you are given the option of printing the chart "Full Width" or in strips. When printing "Full Width" each line is printed for its full length (which may be thousands of characters) but only one "printing" of the chart is required.

- d. Whether you wish to begin printing at the beginning of the chart. If you reply "N", then you will be prompted to enter the line number at which printing is to begin.

If the print destination is the screen or printer and the full chart width is wider than the screen or forms width, then you will be prompted prior to the printing of each strip whether to:

Print Strip mm of nn (Y/N/A/E/O)

If you reply "Y" then the strip will be printed and you will be prompted again for printing of the next strip. If you reply "N" then the strip will not be printed, but you will be asked whether to print the next strip (if any). If you reply "A" then the current strip and all subsequent strips will be printed without further prompting, until you pause the printing by pressing a key. The "E" and "O" options are used for "duplex" printing of the chart strips. The "E" option requests printing only "E"ven numbered strips and the "O" option requests printing only "O"dd numbered strips. If you press the ESCape key then the printing will be terminated.

#### CHANGING CHART OPTIONS

In addition to the options selected at the time a chart is printed, there are several others which may be set using program option F4. When F4 is pressed, the hilited border moves to the lower right corner of the screen where a list of chart options is shown. There are actually 6 "frames" of options which may be sequentially displayed by pressing the PGUP/PGDN (or Page Up/Page Down) keys. Any changes made to these options will be "remembered" for the duration of an FHS working session. The "File" option allows you to SAVE the option settings for subsequent FHS sessions.

The following paragraphs describe each of the option frames. The meanings of most options should be clear from the brief descriptive label. Some options are described more fully in the text following the option display.

Option FRAME 1:           Box Chart Options

—	Data Width	
—	Two Lines for Name	(Y/N)
—	Show ID Numbers	(Y/N)
—	Show DATEs	(Y/N)
—	Show PLACEs	(Y/N)
—	Show MARRIAGEs	(Y/N)

The "Data Width" value gives the number of characters between the sides of the box.

The "Two lines for Name" option provides for placing the Given Name and Surname on separate lines within a box on the chart. This allows narrower boxes than would be required for placing the full name on a single line.

If you choose to "Show ID Numbers" and "Show MARRIAGEs" when printing a descendant chart, then the ID of a child for whom both parents are known will appear as: (xx:yy) where "yy" is the ID number of the parent who is NOT among the descendants on the chart. This allows you to determine which (if any) of the spouses of the chart-

ed parent was the "other" parent of the child.

The "Show MARRIAGES" option is used to request that the names of spouses appear in the information box. The spouse information will be preceded by a horizontal line separating it from the prior information in the box. Spouses will be listed from the most recent to the least recent.

Option FRAME 2:

- Print Surname First (Y/N)
- Print Surname in CAPs (Y/N)
- Print Child SEQ Number (Y/N)
- Print Parent CODEs (Y/N)
  - Father CODE
  - Mother CODE

The "Print Child SEQ Number" option allows you to control whether the number of each child (as children of the charted parent in a descendant chart) is to be printed preceding the name of the child in the information box.

The "Print Parent CODEs" option provides a similar type of control for the printing of ancestor charts. The "parent Code" is usually "F" for Father and "M" for mother, though some may prefer using "1" for father and "2" for mother, or some other choice of identifying symbol. The last two option lines allow you to define the character that will be used to designate each parent.

Option FRAME 3:

- Print Column Ref Line (Y/N)
- Print Row REF (Y/N/A)
- Place Row REF (L/R/B/I/O)
- Continuous Forms (Y/N)

The "Column Ref Line" contains a sequence of numbers labeling the columns of boxes across the chart. This can prove useful for locating a particular individual on the chart from references in a chart index which can be printed using one of the extended options provided to registered users.

The "Print Row REF" option may be used to request the labeling of rows in the chart (actually only every 10th line is labeled). This can again be useful when locating references in a chart index. The "A" value for this option requests that the references be repeated for "A"ll strips of the chart. When this option is chosen, the "Margin" setting (on the next option frame) will also be used for every strip that is printed.

The "Place Row REF" identifies where the "Row REF"erences are to be printed. They may be on the "L"eft, "R"ight, "B"oth sides, "I"nside, or "O"utside.

The "Continuous Forms" option tells the program whether it is to print continuously across the perforations of the paper. If it is set to "N", then the program will leave blank lines at the top and

bottom of each page (the number of blank lines depends upon the settings in the next option frame) to allow for the unprintable portion of the page when using laser printers.

Option FRAME 4:

—	Chart Margin	
—	Box Separation	(0-9)
—	Stem1 Length	(0-9)
—	Stem2 Length	(0-9)
—	Blank Lines at TOP	(0-9)
—	Blank Lines After Heading	(0-9)
—	Blank Lines at Bottom	(0-9)

These options provide some control over the placement of the chart on the page and of the space between boxes on the chart. The "Chart Margin" is the number of blank spaces that will be provided on the left side of the chart. The "Box Separation" option gives the number of blank print positions that will be between adjacent boxes in the chart.

The two "Stem" lengths refer to the lengths of the line segments that join each box to the horizontal line between generation levels. "Stem1" refers to the line segment that is closer to the "base record" and "Stem2" refers to the line segment that is further from the "base record". A non-zero value in either of these will result in additional lines being printed between generation levels. The value for "Stem1" is actually the minimum size of the STEM1 line segment as those segments vary in length according to the number of data lines in the different boxes of the generation level.

The "Blank Lines at Bottom" value will be used only if the "Continuous Forms" option has a value of "N". Otherwise charts which extend past the bottom of a form will be printed continuously across the perforations.

Option FRAMEs 5 and 6: Chart Drawing Symbols

These option frames provide you with more control over the chart drawing symbols used for printed reports than the chart symbols that are part of a printer setup table. The symbols in a printer setup table were intended for drawing ancestor charts and they do not include all the symbols required for drawing a complete box. In the past the printer setup chart symbols were simply added to by the chart printing program (that is the way it is still done in the Descendant Chart printing program, Main Menu selection F2-C-2). However that was not entirely satisfactory as the program could not anticipate all the ways that the symbol table might have been customised. (One user indicated a preference for using "double lines" for the box and "single lines" for the connecting lines.) The two sets of chart drawing symbols are intended to overcome this shortcoming.

The first set of chart drawing symbols are the ones that will be used to draw boxes when the chart is sent to the printer or a file,

while the second set of symbols are the ones that will be used to draw the connecting lines. If you have not SAVED values for the options of the chart drawing program, then the chart drawing symbols are generated by extending the symbol set in the printer setup. After you have SAVED the options in a file, the chart drawing symbols will be those that were saved and will not change when the printer setup changes. In a future update, the printer setup will be expanded to include two complete sets of chart drawing symbols and the chart symbol option frames will be removed from this program.

#### E. OTHER REPORT PROGRAM PARAMETERS

Each report program permits the operator to change several 'parameters' that control the information going into a report as well as the format of the output. This includes the names of system input and work files as well as printer destination and 'setup', and form size.

Changes to the report parameters are made by selecting the type information to be changed using the appropriate function key, changing the information on the screen (using TAB and SHIFT+TAB to move between updatable fields just as in the file maintenance program) and pressing the F1 key when all desired changes have been made.

Printer destination can be LPT1: or LPT2: (parallel printers), COM1: or COM2: (serial printers), or SCRN:. In the case that the destination is set for SCRN:, you will not be prompted to identify whether a report is to be sent to the screen or printer.

The report programs will also permit you to route your printer output to a file. Some users have taken advantage of this feature to print reports with a longer print line than is normally allowed for their printer and then using a sideways printing utility to process the report output file. You may want to create a separate printer table just for this process.

The printer "SETUP"s selected must previously have been created (using MAIN MENU option F3-C). If you change the SETUP number, the program will attempt to read the printer table from the FAMILY.DAT file on the "default" drive (the one on which you started the programs). If it doesn't find the FAMILY.DAT file there, it will ask you to:

Place diskette with FAMILY.DAT in default drive...

This should only happen if you are running the programs from diskettes and have removed the STARTUP diskette from the default drive. If you replace the STARTUP diskette in that drive and press any key, the program will again attempt to find the FAMILY.DAT file to retrieve the desired printer table SETUP.

The 'MARGIN' parameter (when provided here instead of being among "page parameters" for the report) allows you to indicate the left margin offset in numbers of blank characters. This is to allow room for binding or punching holes for inserting the report in a notebook.

The 'Form OFFSET' parameter may be used to print a report (in more than one pass) when a selected printer or printer font is unable to print an entire report line. For example, if you are using a font

which allows only 80 characters across a page but the report line requires 132 characters, you could print the first eighty characters of the line with an OFFSET=0 and print the report again with OFFSET=80 to pick up the last 52 characters of the report line.

## VI. FILE VALIDATION (F3-E)

In creating any file of information, you are no doubt aware that errors can be introduced into the file in a variety of ways; sometimes as the result of incorrect information from the source, sometimes because of errors in data entry, and sometimes as a result of a program or hardware malfunction. It is therefore important to periodically examine the information to maintain its accuracy. The purpose of the programs that are discussed in this section is to assist you in performing certain types of checks or validations of your family file information. The first option is primarily concerned with examining the consistency of various "hidden" data fields that tie the pieces of your family file together. The second option, newly introduced in the April 1992 update of the system, is concerned with checking various fields of your family data, including the consistency of relationships between separate data items (such as birth, death and marriage dates).

Main Menu selection F3-E now reads "File Validation", and selecting that option will produce the further prompt:

Select 1) POINTER Validation 2) DATA Validation

If you press "1", you will select the original validation program (FAMVALID) which will report errors in the system maintained connections between FHS records. If you press "2", you will select the new program (FAMCHECK) which reports errors, or possible errors, in your family file data.

### A. POINTER VALIDATION (F3-E-1)

In order to permit you to place variable amounts of "miscellaneous" information and comments about an individual in your family files without requiring excessive amounts of space on your diskette or hard disk, an individual's information is stored in many "records" distributed among 3 datasets (name, address and miscellaneous information). All of these records are "drawn together" by a collection of system maintained pointer fields. You are no doubt familiar with some of these fields: the mother and father ID numbers in the name record are two, and the spouse ID in a marriage record is another. There are many others that you are not (and need not be) aware of. In addition, each record in the family file datasets has an identifier as to the type of information stored in the record and the "source" of the information (whether an address record is an individual or family residence, for example). It is important that the complete set of "pointers" and record identifiers for those records relating to an individual be valid and consistent.

The first record of each family file dataset also has information (the DATE and TIME that the file was originally CREATED) that helps the programs determine whether the datasets that you are using "belong together". This is to protect you from inadvertently attempting to enter information into, or produce reports using datasets that are from two or more family files that you may be working with at different times. In the ".ADR" and ".OTH" datasets, these "header records" also have some additional "hidden pointers" that help the file update program keep track of deleted records.

There are several ways in which inconsistencies may be introduced into this "hidden" collection of information. Because updated file records may remain in memory and not be written to disk until the files are

closed (or until you return to the Main Menu program from the file update program) any interruption of an update session by prematurely turning off your computer or by a power failure may result in incomplete updates to the system information. Errors in some versions of the file update program are another (unfortunate) source of inconsistencies in system pointers (for instance, at one time you could enter the same ID number for mother and father, which would introduce errors in the files).

The purpose of the program invoked by Main Menu option "F3-E" is to detect and correct any errors in the system maintained "hidden" information. Upon entry to the program you will see that all three datasets that make up your family file are used by the program. You also will see displayed some information about these datasets that is not shown by other programs in the system; this includes the "date of (most recent) update" for each dataset, the number of records in each dataset, and the number of "free" records in the Address and Miscellaneous info datasets. ("Free" records are ones which have been deleted by you using the file update program, thus permitting them to be re-used the next time information is added to the dataset.) These dates and record counts are stored in the "header records" of each dataset and are maintained by the file update program when you enter or change information in the files. As usual, program option "F1" of the validation program may be used to respecify the names of datasets to be "validated".

(NOTE: if a family file has been corrupted as a result of an interrupted update session and a recent backup is available, it is always preferable to restore the file from the backup, since correction using the validation program may result in some loss of information. If there have been many updates to the file since the last backup, or the file errors are also in the backup copy, then the validation program can provide a "clean" file for you to continue your work with minimal loss of data.)

Option "F2" of the validation program is the one that does all the work. When you select it you will be asked whether error messages should be sent to the screen or printer, whether you want the program to make corrections to the files, and which name record ID number to begin with.

If you get the message:

"Unmatched Files...Do you want to Continue?"

when you select the F2 option then the program has determined that the "header record" of the ".ADR" or the ".OTH" dataset does not have the same date or time of creation as the ".NAM" dataset does. This may happen as the result of a problem with previous versions of the file update program in which the "date time stamps" in the header records were not "synchronised" when the files were first CREATED. In very early FHS versions, the programs didn't make use of these date and time fields for determining whether files went together, so you may not have had any problem until you updated your version of the programs to one that DID check these values....If you are absolutely certain that the files you are using DO belong together, you may reply "Y" and the header records will be "synchronized" during the validation procedure.

Actually this validation procedure is divided into several phases. More will be said about what is done in each phase later but they may be described briefly as follows:

- I. Validate information in Name records (this is by far the most time consuming of the phases, taking perhaps 90% of the total execution time); this is the only phase of checking performed if you request to begin with an ID# other than 1;
- II. Check for broken "sibling" chains (determine children who are not "listed" as a child of a recorded parent);
- III. Check Address dataset free record chain;  
Check for isolated or unreferenced address records;
- IV. Check Miscellaneous dataset free record chain;  
Check for isolated or unreferenced miscellaneous records;  
Check for "partially referenced" marriage records;
- V. Synchronise date time stamps in "header" records if files are "unmatched" and updates are being performed.

The suggested procedure for using this program is:

1. Backup your family file datasets. If none of the datasets exceed the capacity of the diskettes you use, the DOS COPY command can be used to back them up, otherwise you will have to use the DOS BACKUP command (or some equivalent utility) to back them up;
2. Run option "F2" of this program with output going to the printer and allowing the program to make file changes;
3. Run option "F2" again with output going to the printer...all program correctible errors should now be gone.
4. Using the file update program (Main Menu option F1), review information for individuals whose ID# appeared in any of the error messages.

Some suggestions and comments concerning the use of this program:

if possible, run this program with your family files located on a RAM disk. It will greatly reduce the time required for the run; (incidentally, running the validation program against my files, which contain information on about 1500 individuals, required about 55 minutes using a standard IBM-PC with all datasets on a single floppy diskette using the uncompiled version of the program; it takes about 55 seconds running the compiled version off the hard disk of an AT);

a "progress report" is given when you tap the space bar while the program is processing the name record file (phase "I" above); the validation procedure can also be interrupted if you press the ESCape key during this phase of operation.

The remainder of this section gives more detailed descriptions of the various phases of the validation process. This information is primarily for my own documentation so don't feel that you have to understand it to make use of the program.

Before discussing the phases in detail, let's first look at the type of "identity" information stored in the "prefix" of each address and misc info record. Each record begins with a 1 character record type as shown in the "RTYPE" table which follows. (The record types were changed in the December 1985 update of the system. This program

recognises both the old and new record types, but changes all old record types to the new type when updating the datasets.) In addition, the "header" record of each family file dataset has a leading 1 character file type which is used to check that a dataset used in one of the report programs has been properly initialized. This "file type" is also shown in the following table.

TYPE Table:	Old RTYPE		New RTYPE
	CHAR	ASCII	ASCII
Name record	1	049	001
Address record	2	050	002
Spouse Record	3	051	003
Place Record	4	052	004
Comments	F	070	005
Education record	7	055	007
Work record	8	056	008
Military record	9	057	009
Medical record	A	065	010
NAME dataset	N	078	078 (unchanged)
ADDRESS dataset	A	065	065 (unchanged)
MISC dataset	M	077	077 (unchanged)

In addition, each address and misc info record contains the record type and record number of the "source" record to which it is appended. In the error messages produced by this program, the "source record type" is labeled "SRTYPE" and the "source record number" is labeled "SRNO". (For example a "family" residence will have SRTYPE=3, the record type of a spouse record. A comment record attached to an Education record will have SRTYPE=7.)

I. During "Phase I" of the validation process, each name record is read successively (beginning with the ID# specified by you at the beginning) and the following checks are performed:

1. Mother and Father ID

a. must be between 0 and the highest ID# on record (invalid parent ID's are set = 0);

2. Sibling chain

- a. the name record for the oldest child is retrieved and parent ID's checked to make sure that ID# of name record being validated is either the father ID (FID) or mother ID (MID);
- b. younger children's records are retrieved and parent ID's are similarly verified; (if the ID# of the name record being validated is not found as a parent in a child's record, the sibling chain is terminated);
- c. if a child's ID is encountered a second time while following the sibling chain, the "loop" is noted and the sibling chain is terminated;
- d. a note is made of each child correctly located on sibling chain; this information will be used later for identifying "broken" sibling chains;

3. Birth/Death Place Record

- a. record number must be between 0 and max Misc Rec #;
- b. if record number > 0 then record is retrieved and record type

and source record information is checked (see previous table of record types and discussion of source record information);

4. Comment Records for individual
  - a. first comment record ID must be between 0 and max Misc rec#;
  - b. if comment records are present, first comment record is retrieved and record type and source record information checked; total comment record count from first record is saved; backward pointer should be 0;
  - c. successive comment records are retrieved and record prefix verified as for first record; backward pointer should point to previous record;
  - d. after last comment record is retrieved, total record count is compared to what had been stored in first comment record; (if record type or source record information is incorrect, the comment chain is terminated; all other discrepancies are corrected by the program);
  
5. Address Records for individual
  - a. first address record # must be between 0 and max addr rec#;
  - b. if address records are present, first address record is retrieved and record type and source record information checked;
  - c. successive address records are retrieved and record prefix verified as for first record; (if record type is incorrect it is corrected; if source record information is incorrect, the address chain is terminated);
  - d. address comment records are checked (as in 3.)
  
6. Spouse information
  - a. first spouse record # must be between 0 and max misc rec#;
  - b. if spouse records are present; each spouse record is retrieved and checked for valid record type and source record information;
  - c. spouse ID's in the record are checked to see if one corresponds to the name record being validated; (if record type or source record information is incorrect, or ID# is not in spouse record, the spouse record chain is terminated);
  - d. if marriage place record is present for any of them, that record is retrieved and record type and source record information is checked;
  - e. spouse comment records are checked (as in 3.)
  - f. spouse residence records are checked (as in 4.)
  
7. Miscellaneous information
  - a. first misc record # of each type must be between 0 and max misc rec#;
  - b. if misc information is present, first record is retrieved and record type and source record information is checked; (if record type or source record information is incorrect the chain is terminated for that type of misc info);
  - c. misc info comment records are validated (as in 3.)
  - d. misc info address information is validated (as in 4.)

- II. After all name records have been individually checked, the record of all validated parent pointers is checked to see if any name record was not located on a parent-child chain. (Unverified parent ID's are set =0 in the name record.)
- III. Records on free chain of Address dataset are checked to see if they have been referenced during Phase "I". Address records which were unreferenced in Phase "I" and not on FREE record chain are noted and added to FREE record chain. Count of FREE records in the address dataset header record is compared to the number of records on the FREE chain. A discrepancy is noted and corrected.
- IV. Records on free chain of Miscellaneous Info dataset are checked to see if they have been referenced during Phase "I". Records in Misc Info dataset which were unreferenced in Phase "I" and not on FREE record chain are noted and added to FREE record chain. Count of FREE records in the misc info dataset header record is compared to the number of records on the FREE chain. A discrepancy is noted and corrected.

While checking for unreferenced misc records, the number of references (during Phase "I") to each spouse record is checked. A message is displayed if a spouse record was not referenced exactly 2 times. This situation may be correct in the case that a marriage record was created with a spouse ID=0. This is permitted by the system to allow for the (unlikely) case that a marriage date is known but insufficient information about the spouse exists to justify creating a name record (the spouse name is given as "(Unknown)" in descendant and family group reports). If both spouse ID's are shown to be non-zero in the error line produced by the program, then an incorrect situation does exist. You must then use the file update program (main menu option F1) to retrieve the marriage record from the spouse ID from which it IS accessible, delete the marriage record, and then re-add it.

#### B. DATA VALIDATION (F3-E-2)

Actually, this option might be more aptly described as a "DATE Validation" option, because most of the error checking involves the many dates that can be entered into an FHS family file. But the checking extends beyond merely determining whether a date represents a valid calendar date. In addition, the program attempts to determine whether two separate dates have a proper "logical" relationship to one another. For instance, a birth and death date in a NAME record should represent a reasonable "age span" for the individual represented by the record, and the birth dates of a child's parents should bear a "reasonable" relationship to the birth date of the child.

When you select Main Menu option F3-E-2, the display changes to show a format which appears similar to others in the Family History System. The file names involved in the validation process appear in the upper left part of the screen, and Printer Parameters for the Error Report appear in the upper right portion of the screen. The lower left part of the screen shows the program options that are available to you, including:

- F1 Change FILE Names
- F2 Change PRINTER Parameters
- F3 Change OPTIONS

- F4 Change VALIDATION Parameters
- F5 Perform VALIDATION of Data
- F6 Build SELECT File of ERROR ID's
- F9 Return to Main Menu

Options F1, F2 and F9 should be familiar to you so the remainder of this document will describe options F3-F6.

#### (F3) DATA VALIDATION OPTIONS

The lower right portion of the screen contains a list of the types of error checking that the FAMCHECK program can perform at this time. The types of errors that are looked for, and the method of determining them are:

1. "Invalid Dates" - by checking to see that the mm, dd and yyyy parts of the date represent a true calendar date and that they are not greater than the "current date". All types of dates may be checked, including birth and death dates, beginning and ending marriage dates, beginning and ending address dates, and beginning and ending dates in each of the "miscellaneous" record types: Medical, Educational, Military and Occupational. Invalid dates also include death dates which precede birth dates, and ending dates which precede beginning dates in marriage, address, or miscellaneous record types;
2. "Ages" - by checking to see that the birth and death dates (or birth and current date) yield a "reasonable" value for the person's age;
3. "Ages at Marriage" - by determining whether a person's age at marriage was either "unreasonably" young or old;
4. "Ages of Spouses" - by determining whether there is an "unreasonable difference" between the ages of two married person's;
5. "Ages of Parents" - by checking whether a parent was unreasonably young or old at the birth of a child;
6. "Unmarried Parents" - by determining whether each parent is married to the other parent of each child;
7. "Blank Marriage Records" - by looking for marriage records which have only a single spouse recorded, no dates or places, no addresses or comments...these are records which were probably created accidentally by starting to add or create a marriage record, deciding against it, and then terminating the process by pressing the F1 key (thus SAVEing the empty record) rather than using the ESCape key;
8. "Father-Child Surnames" - by checking to see whether each child has either the same surname as the father, or one which "sounds similar" to the father's;
9. "Sex Codes" - by determining whether each Name record contains either a Male or Female sex code;
10. "Sex of Parent" - by determining whether each father is a Male and each mother is a Female;
11. "Sex of Spouse" - which would report marriages in which the spouses are of the same sex.

You may choose to include any combination of these types of error checking during a validation process. The reason for not performing a type of error checking may be to simply concentrate on one or a few types of errors, or to avoid the overhead of checking certain types of errors when you know that no errors of those types exist. Use program

option F3 (Change OPTIONS) to make changes to the list of error checks. You will be asked to press the key corresponding to the character next to an error type to alternately select or deselect a type from the list. The types of errors that will be checked will be the ones whose identifying character is hilited. When all options have been properly identified, press the Enter key to terminate the process.

#### (F4) DATA VALIDATION PARAMETERS

In the descriptions of the types of error checking that take place, there were repeated references to "reasonable" or "unreasonable" values for various ages. Of course you may have been concerned about just what determined an "unreasonable" value. You might also wonder how the program distinguishes between "Males" and "Females". To avoid making "unreasonable" assumptions about "reasonable" values, you are permitted to enter your own definitions of "reasonableness". If you select program option F4 (Change VALIDATION Parameters), the viewing area in the lower right hand corner of the screen will be cleared and reformatted to show you various parameters that are used during the validation process. The format appears as follows (with default values):

Check Dates for:	N:Y	M:Y	A:Y	O:Y
Surname Check	Same	_	SNDX	X
Person's AGE	Max=100	MDIF=	50	
Age at Marriage	Y=14	O=80	E=21	
Age at Child's Birth	Y=15	O=65	E=22	
Sex Codes	Male=M	Female=F		

Some of these may require a little explanation at first, but once you are familiar with the meanings, I believe you will have no trouble interpreting them, even with the rather "cryptic" abbreviations.

The first line identifies the types of dates that will be checked. The "N" refers to "Name" records (birth and death dates), the "M" to Marriage records, the "A" to Address records, and the "O" to the various "Other" types of records: Medical, Military, Educational and Occupational. Dates in a record type will be checked only if there is a "Y" in the associated field. Addresses under the "Other" records will be checked only if both "A" and "O" have a "Y" next to them.

The second line indicates the type of checking that is performed between the surnames of a father and child. An "X" next to "Same" means that an error will be reported unless the surnames are exactly the same. An "X" next to "SNDX" means that an error will be reported if the surnames do not have the same "Soundex" value, which means they must have "similar sounding" surnames.

The third line indicates the conditions that are placed on a person's age, and on the age differences of spouses. The MAX value is the value above which a person's age will be reported as an error. The MDIF value is the maximum acceptable age difference between married individuals (MDIF="M"arriage age "DIF"ference).

The line labeled "Age at Marriage" indicates the "Y"oungest and "O"ldest ages at which persons might be expected to marry. The "E"

value is intended to be used for "Estimating" the age of a person from a known marriage date if the person's birth year is not known. This might be used to allow making some "reasonableness" checks involving ages even when a birth year is not known. The current version of the FAMCHECK program does not attempt to estimate unknown birth dates.

The line labeled "Age at Child's Birth" indicates the "Y"oungest and "O"ldest ages at which a person might be expected to be a parent for a child. Again, the "E" value is intended to provide a means for making a reasonable guess of a parent's birth year if the birth year of a child is known (or of a child's birth year if a parent's birth year is known). This might then allow examining other date relationships that would not be possible if the birth date is not known. The current version of the FAMCHECK program does not attempt to estimate unknown birth dates in this way.

The line for "Sex Codes" allows you to identify the codes that you have used to identify "Male"s and "Female"s. When I originally wrote these programs, the actual values for sex codes were not used by the programs in any way so there was no attempt to force any "standard" upon FHS users. However, when the Export/Import program was written for sharing information using a PAF GEDCOM format data transfer file, it became necessary to distinguish between "husbands" and "wives". Prior to that, marriage partners were simply identified as "spouses" and the values of the sex codes were unimportant. I used the value of "M" for the Male sex code in that export/import program (and assumed that non male spouses were "wives"). So far I have not had anyone remark about having problems with this, although at least one user that I know of uses sex code values of "M" and "W" (presumably for "Man" and "Woman").

#### SAVING VALIDATION PARAMETERS AND OPTIONS

When the "Validation PARAMETERS" are displayed for you to update, you will notice a line at the bottom of the screen which indicates the effects which pressing various Function keys will have. F1 should be used to end the parameter update option; F2 can be used to SAVE the Validation Parameters AND the OPTIONS in a file called FAMCHECK.OPT on the default drive (the program diskette or \FAMILY directory). F3 allows you to LOAD the values that were previously saved in that file. If you do save a set of PARAMETERS and OPTIONS, then those values will be automatically reloaded when you first select the DATA Validation option during a FHS working session. Therefore, the SAVED values become the DEFAULT values.

#### (F5) PERFORMING THE DATA VALIDATION

Pressing the F5 key starts the Data Validation process using the OPTIONS and PARAMETERS that you have specified. You will first be asked to:

Select Validation for 1) Full File 2) SELECTed records

If you press "2" then the SELECT file, identified among the File Names in the upper left hand portion of the screen, will be used to identify the records that are to be checked. This SELECT file must have been previously created either by the Search/Select/LIST program of the extended system, by one of the Family Group report programs, or by the data validation program itself, using the F6 program option (see

below). A line will be shown indicating the number of records that will be checked and the total number of records in the family file.

You will next be asked if you want to:

Send Report to: 1) SCREEN 2) PRINTER 3) FILE

If you select "1" then the errors will be shown as one line messages on the bottom line of the screen, otherwise they will be sent as part of a "Data Validation Report" to the chosen destination. If you select "3", then you will also be asked to:

Enter REPORT File Name: x.REPORT .FIL

you can then enter a 14 character name for the output file, including the drive ID for the receiving drive.

If you are sending the error report to the Printer or a File, you will be asked if you also want to: ECHO Error Messages on Screen? (Y/N) If you press "Y" then you will receive the same error indications as if you had selected SCREEN for the report destination.

The first stage in a data validation process (unless you are only checking surnames and/or sex codes) is to build tables of birth years and sex codes for all name records in the family file. This stage is noted by the message:

"Building Birth Year Table..."

at the bottom of the screen. The purpose of the tables is to reduce the number of times that a name record may have to be retrieved when checking the relationships between various data items. The ages at time of marriage, the ages of parents at time of birth of a child, and the age differences of spouses are actually determined from the birth years of the individuals involved. The month and day of birth are not used because we are only interested in "reasonable" values, not the exact values of ages.

After the birth year table has been created, you will see the message:

Validating DATA at hh:mm:ss

At this time, or even when the Birth Year Table is being built, you can press any character key (the space bar is a convenient one to use) to cause the program to pause and display the option line:

F1 Counter On F2 Error Pause On F3 Echo Off F4 Beep On F5 Quit

Pressing the F1 key will turn ON (and OFF) the display of counters showing the ID number currently being processed (in the lower left hand corner of the screen) and the total Error Count (in the lower right corner of the screen). Showing the running counters can slow down the processing a bit, which is the reason the counters are not just shown by default, but they can give you a reassuring feeling that something is actually happening when you are waiting for a validation process to complete.

Pressing the F2 key will turn ON and OFF an option for requesting the program to Pause when an error message has been displayed on the bottom line of the screen. The program will continue processing after you press a key (or tap the space bar). This can be useful when the errors are being flashed on the screen so fast that there is no time to read them. (If the "Pause on Error" option is in effect and you want to turn it off, you may press the ESCape key when "Waiting" at an error and the above option line will be redisplayed, giving you an opportunity to turn the "Pause" mode OFF.)

Pressing the F3 key will turn OFF and ON the option for displaying error messages on the bottom of the screen. If you had originally chosen to have the error report sent to the printer or a file and had chosen NOT to ECHO the messages on the screen, you could use this to turn the ECHO on at a later time during the validation procedure.

Pressing the F4 key will turn ON and OFF the option for sounding a tone whenever a new error message is generated.

The F5 key is used to terminate the entire Validation Process.

After you have selected all the options that you wish, you can press any character key (again the space bar is convenient) to continue the validation process, using the processing options that you have selected.

As "errors" are found, running totals of the numbers of each type of error are shown in the table of error types in the lower right portion of the screen. If you have chosen to "display counters", then the total number of errors found of all types will be shown in the lower right corner of the screen (as "EC=xxxx", where EC="E"rror "C"ount).

#### DATA VALIDATION REPORT

Each error message produced by the Data Validation program is of the form: ID=nnnn .....Error Message.....

Where the error message may be one of the following (the date format is actually determined by the format that you have selected for entering dates):

Invalid Death Date=MM-DD-YYYY  
or Invalid Marriage Begin Date=MM-DD-YYYY  
or Invalid Medical Address End Date=MM-DD-YYYY etc.

Age of xxxx exceeds yyyy (where yyyy=MAX age)

Married to spouse with ID=xxxx at age yyyy < zzzz  
or Married to spouse with ID=xxxx at age yyyy > zzzz

Spouse with ID=xxxx differs in age by more than zzzz

Father was xxxx years old when this person was born  
or Mother was xxxx years old when this person was born

Not married to mother of child with ID=xxxx  
or Not married to father of child with ID=xxxx

Has Blank marriage record

child with ID=xxxx has surname different from father's  
or child with ID=xxxx has surname with soundex different from father's

Has invalid SEX code=x

Father has sex=x if x is not Male sex code  
or Mother has sex=x if x is not Female sex code

Has same sex as spouse with ID=xxxx

As you can see, the error messages give minimal information about the individuals involved, but they do give adequate information to easily go to the file update program and call up the records that are affected.

If the error report is sent to the printer or to a file, then there are additional "header" and "trailer" portions of the report. The "header" portion includes a list of the types of errors for which error checking is being performed, and the "trailer" portion gives a summary of the total numbers of errors found of each type.

(F6) SAVING THE ERROR IDs IN A SELECT FILE

Program option F6 allows you to create a SELECT wrk file containing a list of the ID's for which errors were found during a data validation procedure. This can be used in the Search/Select/LIST option of the extended system, or in the Family Group Report options, to print a report of information about the individuals for whom errors were found. You may also use the SELECT file to perform a data validation again, perhaps after you have made some corrections, and avoid having to reprocess all the records that were found to be error free during the first validation process.

This is the first version of this DATA Validation program and it is likely that additional types of error checking will be added in the future. I have found the program to be a useful tool, even in its initial form. I hope that you do to.

## VII. Export\Import Utilities.

Whenever you spend a great deal of time entering information into a file on your PC, there are invariably instances when you would like to be able to get to that information for processing by another program. When the file is in a format that was designed especially for the program used to originally create it, it may be very difficult or impossible to use it with any other software. At such times you may get the feeling that your own information is being held "captive" within the "non-standard" format file.

To alleviate the anxiety of users, most software that employs special formats for storing information will supply utility programs for "converting" information into a more generally usable form. The process for converting information from a "special" format file to a "standard" format file is called "EXPORT" while the term "IMPORT" refers to a process of converting information from a "standard" format file to a "special" (non-standard) format file.

This section describes two FHS programs that allow you to EXPORT family file information into "text" files that can be used by other software. One of these utilities also supplies an IMPORT procedure for moving (possibly large quantities of) information from a "text" file into an FHS family file. The first of these programs uses the GEDCOM (GENealogical Data COMMunication) format for sharing information with other genealogy software. The other creates files that can be used with a shareware organization chart utility for printing graphical descendant charts.

### A. GEDCOM Export/Import Program (F3-D-1)

The PAFGEDCM Export/Import program allows you to transfer information between Family History System files and family files maintained by other software packages that support the GEDCOM format. The "Export" option converts information from a FHS family file 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 family file, or may be appended to an existing family file. In the latter case, the system's file maintenance program may then be used to establish relationships between old and new individual records. All family relationships between transferred records are preserved across the export/import procedure.

The format of the transfer dataset is based upon the descriptions of the format provided by the LDS Family History Department as implemented in the Personal Ancestor File (PAF) software, v2.0 and v2.1. This format prescribes 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 3-4 character "Tag".

Actually, the GEDCOM formats introduced by PAF 2.0 and 2.1 have some significant differences, both in the TAGs used and the methods for representing family and marriage relationships. When this GEDCOM option was first added to FHS, in Sept 88, only PAF 2.1 was actually using the new format. The other GEDCOM supporting packages were

designed to the PAF 2.0 specifications. Since PAF 2.1 could handle either format, there seemed to be no loss of generality by having the FHS utility able to import either PAF 2.0 or 2.1 format GEDCOM files, but export information using the 2.0 format.

In the subsequent year and a half, many other genealogy packages added GEDCOM utilities, but nearly all embraced the 2.1 format only. As a result, in the March 1990 update, the FHS utility was modified to permit exporting or importing information using either GEDCOM description. The format used during an export operation is determined from the DEST item in the GEDCOM header record. If the DEST is "PAF 2.0", the GEDCOM file is processed using the rules introduced with PAF 2.0. Otherwise it will be processed using the rules introduced with PAF 2.1 and continued with PAF 2.2. During an import operation you will be asked whether the file being imported follows the rules for PAF 2.0 or PAF 2.1.

#### 1. Program Operation

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 the NAM and OTH datasets from a family file, an index dataset (name records may be exported in ID# sequence or in an indexed sequence), a SELECTION dataset created by the system's Search/Select/LIST program or the Family Group Report Program, and a new TRANSFER dataset. 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 (F6) is selected for printing the information in the TRANSFER dataset. 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. (Note: this program will only process those FHS record types that provide information that is found in the PAF implementaton of GEDCOM.)

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
- 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.

## 2. 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 transferred might be that you want to exclude sensitive information among the remarks.

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

Enter 1,2 or 8 to Toggle Transfer of Information Type appears at the bottom of the screen. If you press one of the indicated number keys 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.

## 3. Exporting Data from your Family file

(NOTE: Prior to using the Export option, I would recommend that you use the Validation option (F3-E) to verify that there are no inconsistent relationships between the family file records that could cause problems during the export procedure. The export procedure will also assume that husbands have a sex code of "M" and that only one of the participants in a marriage is a "M"ale. This is because marriage participants must be identified in a GEDCOM file as Husband and Wife.)

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

Export 1) ALL Records 2) SELECTed Records

If you choose to export selected records, you must have previously used the system's Search/Select/LIST program (Main Menu option F2-E of the extended system) or the Family Group Report Program to create a "selection table" and save it in the SELECT dataset.

You will next be asked to:

Select: 1)INDEXed 2)ID # Sequence

that is, you must specify whether the exported individual name records are to be in indexed order or in ID# sequence. To export in an indexed order, you must first have created the INDEX file using Main Menu option F3-F of the extended system. 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. 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, and up to 3 lines of comments. If the SOURCE system is "PAF" or the DEST system is "PAF 2.0", the information will be exported in PAF 2.0 GEDCOM format, otherwise the rules for PAF 2.1 GEDCOM files will be used. You may choose not to enter anything in the header record for datasets only used for local transfer of information. Press the F1 key when you are ready to continue with the export procedure.

You will next be asked to:

Enter Drive ID (A,B,C,...) for POINTER Workfile

This workfile is a temporary dataset needed only for the duration of the export operation to place information concerning the relationships between records in the TRANSFER dataset. It is needed because of the differences in the ways records are connected in the FHS family file and in the PAF GEDCOM file. A RAM disk would be a good place for this dataset if you have one available.

The process of building the POINTER workfile is accompanied by the sequential display of the messages:

Building POINTER Workfile

Reversing Direction of Sibling Pointers (only PAF 2.0 format)

Finding Family Record of Parents

If there are children in the file whose parents are not married, a dummy marriage record will be created for the parents because within PAF GEDCOM files parent-child relationships are established through the marriage record of the parents. In this case, at the termination of the building of the pointer workfile, the message:

xxx NEW Parent Family Records Created...

will be displayed. You must press a key to acknowledge the message before the export process will continue.

When the export process begins, the viewing area in the lower right corner of the screen will again be cleared and the list of Information to Transfer will be redisplayed. As the export process continues, the number of records exported of each type will be shown next to the line describing the record type. You will see that family records are created only after all the name records have been processed.

Perhaps I should note that I have chosen to include a few "non-standard" data items to allow for information that seemed too significant to omit. In particular, an adoptive parent relationship will be noted by tags of ADFA (for ADOptive FATHER) or ADMO (for ADOptive MOther), and comments under a marriage record will be exported as NOTES under the GEDCOM family record...Although individual record ID's in the GEDCOM file are numbered sequentially, beginning with 11, the original ID # of the source record in the FHS file is given as an RFN tag (in PAF 2.0 format) or a REFN tag (in PAF 2.1 format) under the INDI record.

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...

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

#### 4. Importing Information into your Family Files

The process of moving 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 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.

The program must keep a table of name and marriage records created so that it may subsequently go back and update the internal "pointers" to these records. Therefore, you will be asked to:

"Enter Maximum for Name Record ID in Transfer File: 1000"

and "Enter Maximum for Family Record ID in Transfer File: 1000"

The number entered (1000 is the default) tells the program how big the table needs to be to hold this information. The program will not import records that would cause it to exceed the capacity of this table. The numbers entered don't necessarily indicate how many name or marriage records are to be imported, but rather the highest value that is used for an ID of a name or marriage record

in the TRANSFER file that is being imported.

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 doesn't recognise the type of information on the line) and these unprocessed lines will also be displayed on the bottom line of the screen, 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.

You will also be asked whether you want to:

Import Long PLACE Names into Notes? (Y/N)

If you respond with a "Y" then birth, death or marriage place names which exceed the FHS limit of 22 characters will be placed in the COMMENTS under the name or marriage record, and the literal "see Notes" will be stored in the PLACE field in the file. If you reply "N" then long place names will be truncated to 22 characters, but the incoming line will also be listed among the "unprocessed" data lines to call attention to the fact.

If there is Baptismal or Burial information in the transfer dataset then it will also be imported into comment records under the individual's NAME Record.

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 will see the message:

"Updating Family Record Pointers"

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

Following this, the message:

"Updating Other Family & Sibling Pointers"

and "Final Cleanup"

document the beginning of other cleanup phases.

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.

#### 5. Producing Listings of GEDCOM format exported data

Program option F6 may be used to produce listings of the contents of the TRANSFER dataset. 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). These listings will be in "outline" format with each data item offset according to its "level number".

#### B. ORGCHART Export Program (F3-D-2)

Late in 1988 I ran across a shareware program which produced rather nice organization charts in "inverted tree" format. The data used to produce the charts is taken from a simple text file, created by a text editor or word processor (in non-document mode). Because the charts were in a format that appeared useful for representing family descendency, I wrote a little program for "Exporting" information for descendants in an FHS family file to an ORG format text file that could be used for printing such a descendant chart. That is the program invoked by Main Menu option F3-D-2.

While the procedure had some short-comings, I felt that it may prove useful for some among you. Of course you must have a copy of the ORGCHART program to produce the charts, and if you decide to add this to your "genealogy toolkit", it will be necessary for you to send a (\$20.00) registration fee to its author. While the program is available from public software libraries (in particular, "The Public (Software) Library" in Houston Texas, you should also be able to order copies from the author:

Jerming Lee, P.O. Box 102, Chappaqua, NY 10514-0102

(NOTE: an FHS user has brought to my attention the fact that the same dataset that is created for the ORGCHART utility can be used with the Sidekick Plus utility to produce a similar type chart.)

The operation of the "ORGCHART Export program" is similar to other programs in the system. You must have first created a descendant "relationship" work file, DESCNDNT.WRK, using Main Menu option F2-A-2. You may then use option F3 of this program to export information from your FHS family file, using the DESCNDNT.WRK file as a guide, into the ORGCHART file.

When you select program option F3, you will be asked to:

Select Name Format: 1) SURNAME, Given 2) Given Surname

The first option will result in the name appearing on 2 lines within the "information box" on the chart, with the surname, in CAPS, centered on the first line and the Given name centered below it. If the second option is chosen, the name will appear in a

single line of the box. The first option may result in slightly more compact charts.

You will also be asked if you wish to:

    Include BIRTH/DEATH Dates? (Y/N)

If you include dates, they will appear centered below the name in the format:     14 Oct 1884-12 Nov 1969

You will have the option to:

    Include NAME of Most Recent Spouse? (Y/N)

and if you choose this and have also chosen the first form for the Name, you will be asked if you wish to:

    Substitute Husband's Surname for WIFE's (Y/N)

Choosing "Y" for this option may produce slightly more compact charts. If you do substitute the husband's surname for the wife, and the wife is the "subject" of the box of information, then an "\*" will appear to the right of the SURNAME at the top of the box, to note that it is the married surname and not the surname at birth.

After the creation of the ORG workfile is complete, you may choose to use option F8 (if you have DOS 3.0 or later) to temporarily go into DOS mode for running the ORGCHART program. After completing your work there, you can return to FHS by entering the EXIT command. You should be aware that the ORGCHART program is completely separate from FHS. It does not use the FHS printer or screen tables and any questions about it should be directed to that program's author.

NOTE: The "Generalised Box Chart" option, Main Menu selection F2-C-3, introduced in the January 1993 update to FHS, provides the same type of chart as that produced by the ORGCHART program, with many more options for controlling the printing of the chart. As a result, I will probably eliminate this export option in a future update unless there is a significant number of users (5 or 6 would be significant to me) who want to keep it. Please let me know if you would miss this option.

## VIII FAM4PRNT - A Driver for the 4PRINT Utility (F3-4)

[NOTE: the 4PRINT utility described in this document is NOT a part of the Family History System. It is distributed on a SHAREWARE basis by Korenthal Associates, Inc., 230 West 13th Street, New York, 10011. If you decide to use the 4PRINT program, it will be necessary for you to register with that company. The registration fee is \$49.95 + postage for which you will receive the latest update to the 4PRINT utility, some additional formatting utilities, and printed documentation.]

Late in 1991 I ran across a utility, called 4PRINT, which allowed printing ASCII documents on HP Laserjet, Deskjet or compatible printers in a way that conserved paper and provided convenient viewing of the document. With this utility, standard reports, using non-proportional fonts, with 80 character lines and 66 lines per page, could be printed in landscape mode on 8 1/2" by 11" paper with two formatted pages on each side of the paper. Printing on both sides of the paper is accomodated, even on non-duplex printers, by first printing the fronts and then the backs of each page. The printing is also done so that, when placed in a binder, adjacent pages can be viewed "upright" without having to turn the binder to view each page.

In addition to formatting documents which are 80 characters by 66 lines, the utility can similarly handle documents which are 110x66, 165x66 and 230x66 in size. The 110x66 and 230x66 sizes are printed using a tiny but readable downloadable font that comes with the utility. The other sizes are printed using the compressed line printer font that is built into the Laserjet. The 165x66 and 230x66 sizes are printed with a single column on each page, rather than the "parallel column" format of the other two sizes.

[In version 4.1 of the 4PRINT utility, it is possible to change the number of lines per page. I've found a 1x230x80 format to be suitable for printing descendant charts, and a 2x80x72 format to be appropriate for other reports.]

The utility also provides for "framing" the pages of the document and printing titles outside the framed area. The total effect is a very pleasing one which I felt would enhance the appearance of the Family History System reports. It could permit printing large reports more economically while increasing the amount of data that could be viewed on each page. The parallel page format of printing would be suitable for the new "free format" styles of ancestor/ descendant/ relative and family group reports, as well as the report indexes. The wider, single column formats, would be more suited for printing large Ancestor MAPs, Descendant CHARTs, or the Generalised BOX Charts.

To make it easier to use the 4PRINT utility, which is normally executed from the DOS prompt with options specified by command line parameters, I have written a program, FAM4PRNT, which supports a new Main Menu option, F3-4. However the option does NOT appear on the Main Menu panel.

The screen format produced by the FAM4PRNT program allows you to identify the file which contains the formatted report that is to be processed and the (optional) title that is to be printed "in the margins". You can also easily select the 4PRINT options that you

want to use. The 4PRINT utility is executed using the BASIC SHELL command, which requires at least the 3.0 version of DOS and may require at least 512k of RAM. It is not necessary to exit from your Family History System session to use the 4PRINT utility. You must have the 4PRINT.EXE program file in the \FAMILY sub-directory of your hard drive, on your default program diskette, or in the DOS command search PATH.

The remainder of this section will discuss the fields of the FAM4PRNT screen. The fields will be identified using the descriptive labels from the screen display.

"Report File:" - This field gives the name of the file containing the report that is to be printed. The default value is "x:REPORT .FIL" or the file name that was last used to receive a report;

"DEST:" - This field identifies the destination for the 4PRINT utility output. It will probably be set to "LPT1:".

"Title Location:" - This field identifies where the 4PRINT generated title is to appear (outside the area occupied by the report page). Recognised values are: N - Don't print titles  
T - Print the title at the Top of each page  
B - Print the title at the Bottom of each page  
A - Alternate printing the Title between the Top and the Bottom so that it always appears in the "outside" margin when the report is placed in a binder;

"Title(S)" - This field contains the TITLE or Heading that is to be printed in the "margins" of the 4PRINT formatted page as specified by the "Title Location". The title can either be centered between the left and right margins of the full page, or it may be divided into two parts, each of which is centered on the left or right half of the page (centered between the margins of the two parallel columns when that type format is chosen). For those who have requested a way to show their name and address as the producers of FHS reports, this may serve the purpose until I provide more direct support for that option within the FHS report programs.

Two 60 character lines are provided for the Title. You should type continuously from the beginning of the first line and only use the second as you type past the first line. Actually, the limitation of 127 characters for a command line makes it impossible to request a title which is 120 characters long. The maximum length title depends upon the other parameters used. If the command line generated for 4PRINT (which will be shown when you execute the 4PRINT utility using the F4 key) shows that the title area has been truncated, you will have to reduce the size of the title or eliminate some options.

There are some special symbols that are recognised within the text of the Title. These symbols are:

// separates the text for "split" titles  
\$fn the file name being printed will be substituted for

this symbol  
 \$fd the creation date for the file being printed will be substituted for this symbol  
 \$ft the creation time of the file being printed will be substituted for this symbol  
 \$td the current date will be substituted for this symbol  
 \$tt the current time will be substituted for this symbol  
 \$pn the current page number will be substituted for this symbol. This is the page number of the 4PRINT output, not of the document in the file  
 \$pp the total number of pages in the 4PRINT output will be substituted for this symbol  
 \$cn the current column number will be substituted for this symbol. This value increments from the value of 1 by 1 for each column that is printed. It is not just the number of the column on the page.  
 \$cc the total number of columns that will be printed will be substituted for this symbol. If a single column format is being used, this will be the same as \$pp. If a double column format is being used, this will have the value 2\*\$pp.

The lines below the "Title(S)" field on the screen serve as reminders of these special symbols.

The default title is: \$fn \$fd \$ft//Page \$pn of \$pt

"Print Options:" - This area of the display groups together several parameters. For each one, the equivalent 4PRINT command line parameter is given [in brackets] as well as a description of its effect.

Front Only [-f] this causes the 4PRINT utility to only print the front sides of the pages. If "Single Side" printing is not in effect, only the ODD pages will be printed.

Back Only [-b or -r] this causes the 4PRINT utility to only print the EVEN numbered pages.

Single Side [-s] this causes the 4PRINT utility to print all pages on the same side of the page instead of alternating pages between the front and the back.

Duplex - HP IID [-d] this is used for printers, such as the HP Laserjet IID, which allow two sided, single pass, printing.

No Scan (xxx) [-qxxx] this causes 4PRINT to skip the initial scan of the input file which is used to determine the number of pages of output that will be generated. This might be used if you do not intend to use the \$pp or \$cc symbols in the Title or if you already know the number of pages, from a prior attempt to print the file. In the latter case, you can enter the known number of pages in the parentheses following the "No Scan" option and this value will be passed to the 4PRINT utility.

Word Wrap [-ww] this causes long lines in the file, that exceed

the column size for the chosen format, to be wrapped around, rather than being truncated. If you have not chosen the "No Scan" option, the 4PRINT utility will tell you if there are any lines that exceed the width of the columns.

NO Prompt [-u] this is the "unattended" mode of operation of 4PRINT

LN/PG [-lpp#] this sets the number of lines per page (for 4PRINT v4.1 or later)

Print Pages: \_\_\_ to \_\_\_ [-pm-n] this allows you to request only printing a range of pages rather than the entire file. The page numbers are the 4PRINT page numbers, not the page number within the file that is being printed.

"Format:" - These parameters are used to select the style that 4PRINT is to use for the output. They are described by the number of columns on each page and the width of each column in characters. The 4PRINT parameters that are generated for each format are:

2x80	standard format, no additional parameters
2x110	-tiny
1x165	-wide
1x230	-tiny -wide

Of course, you may only select one style of format. The first one that has a non-blank selection box will be the one that is used.

"DNLD Font #=" - This is used to direct 4PRINT to use a previously down loaded font that has been identified in the Laserjet printer by the entered number. The 4PRINT parameter that is generated is -#xx or -t#xx (the second form will be used when you have chosen to use the "tiny" font) where "xx" is the number entered following "DNLD Font #="

"Frame Style:" - This is used to request the style of "Frame" that 4PRINT is to generate surrounding each page. A "Full Frame" has lines across top and bottom, each side and down the middle, between the columns (when 2 columns are printed). A variety of "partial" frames may also be requested, or you may ask that no frame be generated at all. The partial frames are represented by letters or symbols that depict the style of the frame. For instance, "T" represents a frame which has a line at the top of the page and the line that separates columns; "M" represents a frame which has all the lines except the bottom; and "=" represents a "frame" with lines only at the top and bottom of each page. There are 10 different styles (including "None"). You may only select one style frame, of course. The first one that has a non-blank selection box will be the one that is used.

## SUGGESTIONS FOR USING 4PRINT TO PRINT FAMILY HISTORY SYSTEM REPORTS

I have found the 4PRINT utility quite useful for creating pleasant looking booklets of FHS reports. The following section of this document contains a few suggestions that you may find helpful in printing your own reports.

Perhaps I should first mention again that reports that are to be processed by the 4PRINT utility must be routed to a File. The option for sending a report to a file is provided by a "bottom line prompt" in each of the FHS report programs after you have used the appropriate function key to cause the report to be generated.

### A. Creating a Printer SETUP For Printing FHS Reports for 4PRINT

From the Main Menu, enter: F3-C, F3, D

to select the FHS supplied printer setup for output to Datasets. You will find that the printer table has no controls for "Initialising" the printer or for selecting a font. Even the entry for "Advance to Top of Page" has been set up so that no "form feed" is generated at the end of each page. Instead the program will "count lines" and use blank lines to fill out each page. Actually, I would recommend using option F1 to change the printer table so that the "Advance to Top of Page" option is:

```
012 255 0 0 0 0
```

This will cause the program to use "form feeds" which the 4PRINT utility will recognise. Press the F1 key when you are through making this change.

I would also recommend using F3 to change the "Forms Width" to 80 and the "Forms Length" to 72 for producing "free form" reports that can be printed in "2x80x72" format.

Finally, use F8 to SAVE the printer table as one of the alternate Setups (#2-9) which can be selected within any of the FHS report programs when you wish to generate a report file for use with the 4PRINT utility.

### B. Use Free Form Styles of Reports

The "free form" styles of ancestor/descendant/relative and family group reports can usually be printed with forms width as narrow as 80 characters. The only exception might be Descendant or Relative reports which include large numbers of generations of descendants, resulting in very long "bloodlines" or offsets for lower level descendants. Even these may be printed with a Forms Width of 110 characters using the "2x110" format, or they can be printed in single columns of 165 or 230 characters. If you intend to print Indexes for the reports, then you will probably want to request "line reference" indicators in the left margins of the reports. The 4PRINT utility provides appropriate "binding margins" so the Margin for FHS reports and charts can usually be set to 0. The "Blank Lines" at the bottom of the page should also be set to 0 or 1.

When using the 4PRINT driver (Main Menu selection F3-4), you may want to use a title such as "Relative Report for Enoch Russell". If you do, then you could also request "No Scan" since neither \$pp nor \$cc is used in the title. As noted previously, you may also want to include in the 4PRINT generated title your name and address as original source of the report.

### C. Printing Descendant Charts (F2-C-2)

The graphical descendant charts introduced in the July 90 update of FHS have until now been most appropriate for displaying "on the wall" because charts of more than 3 or 4 generations, when printed on standard 8 1/2 by 11 inch sheets or even 8 1/2" fan-fold paper, required that multiple printouts be joined together to produce the entire chart. However with 4PRINT, using the "1x230" format, it is possible to print charts showing 6 generations of descendants so that they may be easily viewed when placed in a binder.

In printing descendant charts I have found a "Data Width" of 27 characters, using 2 lines for names, to be the most efficient. This allows a full 6 generations of descendants within a 230 character print line. You should request "line reference" indicators, especially if you intend printing an index for the chart. You should indicate that you are using "Continuous Forms", even though you will eventually be printing the report on cut sheets in your laser printer, because the 4PRINT utility will handle the page breaks. You do not have to change the Forms Width among the Printer Parameters because the descendant chart program will always print the full width chart when you request "FILE" output.

For the Title of the 4PRINT output, I have used something like:

Descendant Chart for Frank Robbins (p.\$pn of \$pp)

In this case, you cannot use the NO SCAN option so that 4PRINT can find out what to substitute for \$pp. One thing you will note when printing these charts with the 4PRINT utility is that the symbols used for the charts is the less pleasing "+", "!", and "-" rather than the nice "box drawing characters" that are part of the extended IBM character set. That is because the TINY font supplied with 4PRINT does not print those graphic characters.

[If you are using the shareware "tiny" font distributed with v4.1 of 4PRINT, you may change the box drawing symbols to be the ones used by the "IBM Graphics" Printer setup. I've also found that 80 lines per page is best for printing descendant charts as the vertical line symbols will not be "connected" otherwise.]

### D. Printing Generalised BOX Charts (F2-C-3)

The horizontal format of the Generalised BOX Charts produced by Main Menu selection F2-C-3 makes it necessary to follow a different procedure for printing them than that described for the Descendant Charts in the previous section.

It is still necessary to limit the number of generations charted so that the number of lines in the chart will not extend beyond the bottom of an 80 line page. Also, the Forms Width should be set to 230 characters. A Data width of 27, with names on Two Lines, is still appropriate, and I usually choose both "Print Column Ref Line" and "Print Row REF" ("A"), with "Place REF" set to "B" so that the line numbers are printed on both the left and right sides of the page.

I prefer an alignment which places the "base record" on the left side of the chart (align with First child in a descendant chart or

with Father in an ancestor chart). You should also request that boxes not be allowed to "span strips" and when printing the chart to a file, request that it be printed in strips rather than "full width". Each strip will provide one page of the chart in a bound book.

Since the chart extends to the right for multiple pages rather than extending down (as with the descendant chart), the pages of the chart should be bound on the left (8 1/2") side rather than at the top, and the back sides of the pages should be printed with the "top" of the chart along the same edge of the paper as the front side of the page. Consequently, when you print the back sides of the pages with 4PRINT you should simply flip the pages over and keep the same edge of the paper on the left side of the printer (instead of turning the pages as you did when printing the reports or descendant charts).

Since the pages of the chart are not numbered, you may want to include the "page numbers" in the title that is printed by 4PRINT.

#### E. Printing Ancestor Charts

Unfortunately the 4-generation ancestor charts require at least 132 characters to print, so neither of the 2 column formats can be used for printing these charts with the 4PRINT utility. However the "1x165x68" format produces a nice looking chart in landscape format with some advantages over printing the chart in the usual "upright" format.

When printing the 4 generation charts to a file for processing by 4PRINT, you should of course select the Printer SETUP that was discussed earlier. You should also choose a "Forms width" of 165 and set the "Margin" to 15. This will center the 132 character chart on the 165 character line. An advantage of using this procedure for printing charts is that there is room for the much longer chart references that occur when charting very extended ancestries.

When printing the "1x165x68" format, 4PRINT uses your printer's internal compressed line printer font. If your printer supports the IBM box drawing characters, or if you are using one of the shareware fonts distributed with v4.1 of 4PRINT, you may change the chart drawing symbols in your printer setup accordingly. (Use the same ASCII values for the chart symbols as you find in the selectable setup for the IBM Graphics printer.)

#### F. Printing Ancestor MAPs

Although the All Generation Ancestor MAPs produced by FHS tend not to be as wide as the descendant charts, very extended printouts can exceed 132 characters in width and run to several pages of fan-fold paper. The 4PRINT utility can "tame" these printouts as well, making them suitable for placing in binders. The ROYAL family file provides an interesting example. The 39 generation Ancestor MAP of Prince Charles (ID #1) fits nicely within 229 characters, even when printing dates and places on a single line. You may find that your own Map will fit one of the other formats, but whichever proves appropriate, the output will fit nicely in a standard binder.

When printing Ancestor MAPs, you should set the "Forms Width" among the FHS chart program's Printer Parameters to 230. That program, unlike the descendant chart program, uses the Forms Width to determine the size of the print line, even when the output is routed to a File. If you use a smaller column width for the 4PRINT utility (and you have not selected the NO SCAN option), it will let you know if there are any lines that will be truncated during its initial scan of the report file.

G. Printing Report INDEXes.

Registered users of the Family History System have an additional Main Menu selection, F2-D, for printing report indexes. To print an index, you must choose the option for creating a REFERENCE work file when printing the FHS report. The report index program will determine the report type and the locations of all references from that work file.

When printing a report index for the 4PRINT utility I have found it useful to set the Margin to 0, eliminate ID's and SEX Code from the report line and use the "Name Width" value to adjust the print-line to 80 characters, as determined by a preliminary "printing" to the SCREEN. I also choose not to number the pages of the report index because the index is sequenced by the sorted order of the Index file that is used to print it. This allows several additional lines of data for each page of the index.

You may again use the Title generated by 4PRINT to identify more completely the report being indexed as well as the source of the information.

I suppose you have gathered by now that I find the 4PRINT utility to be a valuable addition to my own "tool box". If you are using an HP compatible printer, I hope you will give it a try. There are additional parameters for 4PRINT which you may find useful. Be sure to thoroughly read the documentation that comes with the 4PRINT utility itself...Please remember too that the 4PRINT program is NOT part of the Family History System but is distributed as SHAREWARE by Korenthal Assoc. whose address is given below.

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For more information about the 4PRINT Utility, write to:

Korenthal Associates, Inc.  
230 West 13th Street  
New York, New York 10011  
Tel: (212) 242-1790  
Fax: (212) 242-2599

## Appendix A: Extended Options for Registered Users

These programs were first made available for public use in March 1985. Since then the system has been going through an almost continuous process of revision and extension. The relative report, ancestor map, "BOX" charts, GEDCOM utility and Validation options are some significant enhancements that have been made to the basic set of programs. In addition, a number of other options have been made part of an "extended" system which is available only to registered users of the programs (see the introduction to this manual).

As of January 1993, the extended options include:

1. A program for creating INDEX files which permit processing the Family History System files in various orders. An index may be created based upon one or more of: Surname, GivenName, BirthDate (YMD or MDY), DeathDate (YMD), Latest Marriage Date (MDY) and ID#. Further, you may request that a husband's surname be substituted for a wife's when creating the index. An index may also be created which sequences related individuals in relationship sequence.
2. A program for producing printed indexes for ancestor, descendant, relative and "batched" family group reports, for sets of ancestor charts, for ancestor Maps and for the "box" charts.
3. A program for searching the files based upon up to 9 selection rules stated in terms of:
  - ranges of ID#, Birthdate & Deathdate, Sex,
  - substrings or soundex of Surname, GivenName, BirthPlace and DeathPlace, and
  - existence of Marriage records, children or residence information.The program produces detailed listings in indexed or ID# sequence of selected information including comments, latest residence information, and relationship (if any).
4. A program for producing Summary reports. The SURNAME Summary report provides a means for evaluating the completeness of certain types of information among selected records, grouped by Surname. Similar ANCESTOR and DESCENDANT Summary reports show statistics, such as numbers of males & females and ranges of birth and death dates, for records grouped by generation level. The RELATIVE Summary report is presented as a 2-dimensional relationship table with the number of relatives in each relationship category.
5. A RELATIONSHIP CALCULATOR, which accepts two name record ID numbers and "dynamically" determines the "blood relationship", if any. It also shows the nearest common ancestor of two related ID's.
6. A program for producing TINY TAFEL files or listings. This format for representing the contents of a family file has become popular for indicating research interests on genealogy bulletin boards.
7. An `IMPORT/EXPORT' utility which permits copying information from a set of family files into an ASCII (standard character) dataset and transferring the information from that ASCII dataset into another

FHS family file. While this program was designed using a preliminary GEDCOM definition which was not widely used, it does permit you to transfer all types of information between FHS family files. The export/import program provided with the basic set of programs only supports those fields of data which are common to both FHS files and the current PAF GEDCOM description.

A "MailMerge" utility for exporting certain family file information (including most recent residence address) in a format which may be used with database programs such as the publicly distributed PC-FILE III or File Express to print mailing labels. The file may also be used with many word-processors for printing form letters.

Registered users are notified of major updates to the system, though there is a \$15.00 fee for updates after the initial registration. All updates are cumulative, so it isn't necessary to order each update as it is announced.

## Appendix B: Recording information for the Family History System

This section is not intended to be a 'How to' for doing genealogical research. For that information I would suggest that you go to a local library or bookstore to get one of the many excellent books you can find there on that subject. What I do want to tell you here, is how to use the Individual/Family Group worksheets to record information for the systematic entry of this information into the Family History System files.

Before continuing with the discussion here you should get several blank copies of the Individual/Family Group worksheets. You may get copies by using MAIN MENU option F2-B-1 to select the System Function for producing Family Group worksheets, and then selecting option F5-1 of that program's option menu. (You should also request that space for ID numbers be included on the worksheets by selecting this option from the menu of report options.)

Now, you should have before you several blank Individual/Family Group worksheets. The first thing to note on these worksheets is that every individual mentioned, whether a parent, spouse or child, has an associated ID number. This number is assigned sequentially to individuals when they are first identified to the system. The numbers assigned to individuals does not have anything to do with the family relationship that may exist between these individuals, however these numbers are used whenever family relationships are being defined between individuals. It isn't necessary for you to remember the ID number of every individual (they are easily determined by searching the files by 'name' or other key information), however you will probably be able to recall the ID numbers of many of your close relatives or significant ancestors.

To begin filling in one of your blank worksheets, select one of your ancestors that you would like to start with. Eventually you will have a file of family group worksheets produced by the system (1 for each of your direct ancestors, at least, and probably others for uncles, cousins, etc. as you systematically expand the information in your files). But first you should record the information on a blank (or partially blank) worksheet. If you do not have a very distant ancestor whose line of ancestry you particularly wish to record, I would suggest choosing one of your grandparents. Fill in his/her name in the first block of individual information provided on the worksheet. Put the last name first (this is the 'SURNAME'), then a comma, followed by the 'GIVEN' name(s). If it is a grandmother that you have selected, use her maiden name for the surname, not the name of your grandfather. Fill in as much as you can of the remaining personal information about the individual including birth and death dates and places.

Concerning the recording of dates on these worksheets, the almost universally recommended format (the one used when these reports are printed from information in the system) is: DD MON YYYY, where MON is a 3 character abbreviation for the month. However, when entering dates in the file maintenance program, the required format is MM-DD-YYYY (or DD.MM.YYYY or YYYY.MM.DD), so I would recommend that you use here the format in which you intend to enter the dates. If the month or day is not known, enter 00, and if the person has died, but the

year of death is unknown, use 9999...(This is recognised by the system as a "don't know" year of death and will eliminate the calculation of ages or anniversaries). Do not use 9999 for an unknown Birth year, instead use 0000. (Also see "Appendix C" for a discussion of another way of indicating uncertain dates.)

When recording Birth and Death places, do not put 'addresses' but rather the CITY, COUNTY and STATE or country. You will only have 22 characters for entering the information so you may have to abbreviate.

Enter '1' for the ID number of the individual for whom you are filling out this worksheet. This is the first person you will be entering into the system files.

For the meantime, ignore the information about the individual's parents; we have agreed that this individual is the most distant ancestor we are interested in now.

Proceeding to the spouse information, enter the appropriate data according to the 'rules' we have mentioned above, again using the maiden name if the individual is a female. An additional piece of information for the spouse is the date of marriage. If the marriage has been terminated, either thru divorce or by death of one of the persons, this date should also be recorded if known. The ID number of this person should be '2'. You will note that additional spouses may be identified. The marriage records are maintained within the system in a most recent to least recent order.

Next you should enter information concerning the children of the individual with ID #1. (See Appendix C. for the handling of adoptive relationships within the system.) These should be recorded in increasing order of birth with ID numbers assigned sequentially following that of the last recorded spouse. The last name of a child should be the same as that of the father. If more than one spouse is recorded for individual #1, then the ID # of the appropriate spouse should be recorded in the space for 'Parent ID#' under the child's name. You needn't bother recording spouse information for each child. This would more appropriately be entered on a Family Group worksheet for that child.

Incidentally, the children will be recorded in the file in increasing order of birth under each parent, no matter what order you enter them into the file. This has the unfortunate consequence that individuals whose birth year is not known may end up listed in the wrong order of birth in reports. The order will be corrected however, as the birth information is learned and recorded correctly.

The remarks or comments section is not intended for writing a person's life history, but rather for making notes; for example concerning sources of birth, death information or for burial information. You will find that there are many places in the Family History files for recording remarks such as these. I trust that you will develop a feeling for the types of information you will want to record in each place. (The comments that are placed under a spouse record should have relevance for both partners of the marriage. These remarks will appear under the marriage information for either spouse.)

Now set the 'completed' worksheet aside and take another blank worksheet and set about filling it out, in the same way, for your ancestor that was included among the children on the previous worksheet. (If you started with a grandparent, then one of your parents was listed among the children). The only information you need enter for the individual is the name and ID#. You can also write down the ID#'s of the parents in the appropriate places, as a reminder that this information is already available. Then continue filling in spouse and child information just as before, assigning ID#s sequentially, following the ID# of the last child of the previous worksheet.

When the second worksheet has been completed, set it aside and fill out another for your ancestor listed among the children on this worksheet...continuing in this way until you have filled out a worksheet for yourself.

Now, with the several worksheets you have completed in hand (in the order that you have created them), you should be ready to start putting information in your Family files. (see section II.C)

## Appendix C. Date Status Fields and Adoptive Relationships

I will try to explain in this section the purpose of several `status' fields which have been added to the NAME record information. Each field appears as a one character extension to the right of the Birth & Death dates and Mother & Father ID numbers in the NAME information view in the file maintenance program (Main Menu option F1).

For the Birth & Death date fields, these status indicators permit you to assign 3 different levels of `assurance' regarding the accuracy of the dates shown. Symbols recognized in these fields are "!", " ", and "?". The "!" symbol would indicate a date backed by a primary source of information (this can mean whatever you want it to, but might include a `birth' or `death' certificate or family Bible entry). A blank (" ") would indicate a secondary source such as a document whose own source is not known, and a "?" would indicate a questionable source of information (such as a computed date from vague recollections). Explanations for the choice of symbols could be included in the comments for the individual's name record. These symbols are displayed in all reports produced.

The status fields appearing to the right of the mother and father ID numbers may be used to indicate that a parent-child relationship is an adoptive one or is questionable (for example when it is uncertain which of the spouses of an individual parented a child). The symbols recognized by the program are "\*" for an adoptive relationship and "?" for one whose information is uncertain. Descendant reports may optionally include or exclude adopted individuals and their descendants, and if included, the relationship is marked with an "\*" in the bloodline next to the entry corresponding to the adoptive relationship.

Perhaps a few remarks might be in order to try to explain my reason for treating adoptive relationships as I have. When I first began designing the formats for the Family History files, I intended allowing for maintaining a complete history of both biological and adoptive parent/child relationships. However, because of the complexity of handling the record of adoptions, which could conceivably involve one or more `parents' singly, in pairs, or in groups and because of the relative rarity of the situation, the limit of my commitment was allowing for a `pointer' field to an unimplemented adoption record.

As I have worked on adding information to my own family files from an extensive list of descendants of a 7th generation ancestor, gathered through the dedicated efforts of a distant cousin, I have been repeatedly faced with the decision of how to treat children who are identified as being adopted. In all cases, I had chosen to omit establishing the parent/child relationship. However, I was troubled by the thought that such individuals would be left out of reports which would include "siblings" with whom they shared a common traditional heritage, if not a biological one. I did notice, though, that in the information I had, the `missing' biological parent was seldom indicated; therefore, I opted for an alternative approach to the `adoption problem' which would permit including an adoptive relationship and would allow producing reports which would optionally include or exclude information for such relationships, but which

forces one to decide, when full information is available, whether to record a biological or `traditional' ancestry for an individual. Though I am not entirely satisfied with this approach, I feel that it is an improvement over the previous situation.

I do have plans for providing a more complete treatment of adoptive relationships in a future update. It may be possible to include this within the current file design by providing "alias" name records, or it may be part of a planned redesign of the file format. I would be interested in receiving any remarks you may care to make about what you expect in the treatment of adoptive information.

## Appendix D: DATECALC, a RAM Resident Date Calculator Utility

The program DATECALC.COM that has been placed on your Family History System program diskette (or in the \FAMILY sub-directory of your hard disk) is a utility program to assist you in performing some standard operations involving dates, including:

- Determining the day of the week on which a given date falls;
- Computing the number of years, months and/or days between two given dates;
- Determining the date that is a given number of years, months and/or days before or after another date;
- Displaying a calendar for the month containing a given date;
- Converting between "old style" and "new style" dates.

In providing these functions, the DATECALC utility also permits you to select the format for dates entered or displayed from among:

- DD MON YYYY (e.g. 10 APR 1943)
- MON DD, YYYY (e.g. APR 10, 1943)
- MM-DD-YYYY (e.g. 04-10-1943)
- DD.MM.YYYY (e.g. 10.04.1943)
- YYYY MM DD (e.g. 1943 04 10)
- or YYYY DDD (e.g. 1943 100).

The "difference" or length of interval between dates can be displayed in several formats also, including:

- +/- Yr,Mon,Day (+ 0044 Y 004 M 02 D)
- +/- Yrs,Days (+ 0044 Y 124 D)
- or +/- Days (+ 016195 Days).

(A "-" before the date difference indicates that the second date occurs before the first one.)

The DATECALC utility can be invoked in several ways. If you are using DOS 3.0 or later and have sufficient RAM available, you should be able to invoke it from the MainMenu of the Family History System by pressing the F7 key. It can also be executed as a command from the DOS prompt, for example by entering: A>datecalc assuming the DATECALC.COM program is on the diskette in the "A" drive. Finally it can be made memory resident by entering: A>datecalc r (again assuming the DATECALC.COM program is on the diskette in the "A" drive) after which it may be called up at just about any time by simultaneously pressing the ALT and CTRL keys. The utility will not "pop up" when the screen is being used to display graphics and it may be incompatible with some other resident utilities or with some programs which take control of keyboard input.

The AUTOEXEC.BAT file created on program diskettes during the standard INSTALL procedure has a command line in it which will make this utility memory resident when you boot from those diskettes. If you are running from a hard disk or do not boot from your Family History System program diskette, you may consider modifying the AUTOEXEC.BAT file used during your normal boot procedure to automatically make the DATECALC utility RAM resident. Be aware that making the program resident in memory will "permanently" reduce the available memory for other programs by about 7k.

When you invoke DATECALC in one of the above ways, it "pops" into

view, overlaying the previous contents of the screen. The utility's options are listed together with the function keys that are used to select them. (Note that the ESCape key is used to exit from the program. The previous contents of the screen are restored when you do.) Below the list of options you will find the descriptions for the current formats for DATES and Date DIfference. If "old style" dates are being processed, then the characters "OS" will appear to the right of the literal describing the date format. Near the bottom of the viewing area, on separate lines, appear two dates (DATE1, DATE2) and the computed DIF (calendar interval) between the dates. The day of the week for each date is also shown for each date. The first time the utility is used the dates will have the value of the current date (or 01 JAN 1980 if you don't have a clock calendar board and haven't previously corrected the date using the DOS DATE command or some other utility) and the computed DIF will be 0 years, 0 months and 0 days.

You can use the cursor control keys (as well as the HOME, END, PGUP, PGDN keys) to move the viewing area for the utility to different locations on the screen. This allows you to reveal any area on the screen in which a date appears that you may want to examine. If you are running DATECALC as a memory resident utility, then the location of the viewing area will remain unchanged between separate invocations of the program.

The list of program options appears as follows:

- F1 Enter DATE1 (find DAY)
- F2 Enter DATE2 (find DIF)
- F3 Enter DIF (find DATE2)
- F4 Show Calendar for DATE1/2
- F5 Change DATE Format/Style
- F6 Change DIF Format
- ESC Exit

#### USING THE DATE CALCULATOR:

If you press function key F1 or F2 then a reverse video cursor will appear in the first position of the value field for the corresponding date at the bottom of the viewing area. You can then type in the value you wish and press the Enter or RETURN key when you are through (or press the ESCape key to restore the previous value for the date). Month literals should be among:

JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC

Any other values entered will be changed to "JAN". Lower case characters are automatically changed to upper case when entering these values. If a value is entered for the day of the month which is greater than the "legal" number of days in the month, then the month and day (and year if necessary) will be automatically adjusted accordingly. For example an entered date of "MAR 35, 1987" will be changed to "APR 04, 1987". Similarly, if a value greater than 12 is entered for the number of the month, then the month and year (and day value if necessary) will be adusted accordingly. For example an entered date of "14-30-1987" will be changed to "03-01-1988".

If you press function key F3 then a reverse video cursor will appear in the first position of the value for the DIF field at the bottom of the viewing area. The first character must be a + or - (indicating whether the computed value for DATE2 is to be after or before DATE1).

Press the Enter or RETURN key when you are finished (or press the ESCape key to restore the previous value for DIF).

When entering any of these values you can use the left and right cursor control keys to move the cursor and you can use the TAB key to move quickly to different parts of the field. The cursor automatically skips over the "filler" characters (such as "-" or ",") so you don't have to enter these.

If you have changed either DATE1 or DATE2, then the program will compute and display the day of the week and compute and redisplay the value of DIF, the difference between the two dates. If you change the value of DIF, then the program will compute the value of DATE2 which is the specified interval before or after the current value of DATE1 and will compute and redisplay the DIF between the dates. Note that in computing date differences the following procedure is used:

The larger of the two dates is determined and the sign of the difference is set to - if DATE1>DATE2 and + otherwise;

The smaller date is subtracted from the larger, first days, then months and then years.

On the other hand, when DATE2 is computed from DATE1 the adjustment of the components of the date are made in the reverse order, first years, then months and then days. (This is an important distinction and one which was not followed by an early version of the DATECALC utility. If the components of DATE2 are computed in days, months, years order then the computed DIF between DATE1 and the computed DATE2 will sometimes not match the original DIF value entered.)

#### DISPLAYING A MONTHLY CALENDAR

If you press the F4 key then the middle portion of the viewing area for the DATECALC utility will be cleared and a calendar will be displayed for the month of the year containing DATE1. (If instead you press the SHIFT and F4 keys simultaneously, then the calendar for DATE2 will be displayed.) Once the calendar is displayed, you can scroll the calendar backward or forward by months by pressing the left or right cursor keys respectively. The calendar may also be scrolled forward or backward by years by pressing the up or down cursor keys respectively. The calendar display is terminated by pressing the ESCape key. (Note: if you are currently using "old style" dates then the calendar will be computed using "old style" rules.)

#### CHANGING DATE AND DIF FORMATS

Pressing the F5 key causes the DATES to cycle through the various formats described previously. Both the literal describing the format and the values for DATE1 and DATE2 will automatically change. All dates will be entered and displayed in the currently selected format.

Similarly, if you press the F6 key then the value for DIF will cycle through the various formats described above. All DIFs will be entered and displayed in the currently selected format.

If you are running DATECALC as a memory resident utility, then the format for DATES and DIF will be retained between invocations of the utility.

## CONVERTING BETWEEN "OLD" AND "NEW" STYLE DATES

It is generally well known that the "standard" calendar year of 365 days differs from the "solar" year by an amount that makes it necessary to insert extra days occasionally (as a 29th day in the month of February) to get back in synch with the sun. The years in which such days are added are called "leap years". The rule for determining leap years that has been used in English speaking countries since 1752 (and from earlier dates in other enlightened areas of the world...in fact the new calendar is called a "Gregorian" calendar after Pope Gregory XIII who requested that Catholic countries begin using it in 1582) may be stated as follows:

A given year will be a leap year if it is evenly divisible by 4  
UNLESS the year ends in "00" in which case it is NOT a leap year  
UNLESS it is divisible by 400 in which case it IS a leap year.

Prior to the establishment of this leap rule, most of the Western world employed a rule which was just the first line in the above statement, that is every fourth year was a leap year. The effect of using this simplified rule over a long period of time was that the planting season, which is determined by the sun, would creep a calendar day earlier every 133 years or so. By the Spring of 1752 people were having to plant their potatoes the day after Groundhog Day instead of Valentine Day. Therefore to correct the situation all English subjects were asked to go to bed the evening of 02 SEP 1752, get up the next morning on 14 SEP 1752, and from that day forward use the new leap year rule for constructing calendars.

Today this calendar change is just a curiosity for most of us, but to people of that day and genealogists today who have to deal with dates both before and after this adjustment it is a problem which has been recognised by labeling dates based upon the old leap rule as "old style" dates and designating those following the new rule as "new style" dates.

The calendar adjustment to "new style" dates occurred at different times in different countries so rather than just treating all dates prior to 14 SEP 1752 as "old style" dates, the DATECALC utility provides an option for converting between the two "styles". Pressing the SHIFT and F5 keys simultaneously causes the program to shift between old and new style treatment of dates with a corresponding adjustment of displayed DATES and DIF values. When dates are being treated as "old style" dates the characters "OS" will appear to the right of the literal describing the current Date format. When the new leap rule is in effect there is no special indicator to the right of the Date format descriptor (though genealogists will sometimes use an "NS" suffix for such dates).

As an example, call up the DATECALC utility, press F1 and enter the new style date: 22 FEB 1732 (or equivalent for the date format you are using). You will find that George Washington was born on a Friday. But if you press F4, the "new style" calendar displayed will not be the one that George's parents used to mark his birth. Instead, press ESCape (to erase the calendar display) and then SHIFT+F5 to switch to "old style" dates. You will find that George's birthdate was actually 11 FEB 1732 (still a Friday though) and if you then press F4 you will see the "old style" calendar that was in effect at the time.

Before ending this discussion, perhaps I should note another distinction between some old and new style dates. Prior to the implementation of the new leap rule, the first day of the new year was considered variously as Jan 1, Mar 1 and Mar 25 (e.g. according to some, 25 MAR 1645 was the day after 24 MAR 1644). This left some ambiguity concerning the year for such dates as: 11 FEB 1732 OS. Therefore the custom was developed of using "double dating" to take note of the fact that this discrepancy had been considered. The above date might then be written: 11 FEB 1731/2 OS. You should be aware that the DATECALC utility will always assume JAN 1 to be the first day of the year. You may even use this to determine the correct double dating for an event. For example, suppose it is known that a person was born on Saturday, 30 JAN 1691 OS, but it is not known which new year rule was in effect. The DATECALC program will show that 30 JAN 1691 OS is a Friday but that 30 JAN 1692 OS is a Saturday. Therefore the correct double-dating would be: 30 JAN 1691/2 OS and the person who originally recorded the date was apparently using something other than JAN 1 as the date for the beginning of the new year.

For those wanting to find out more about various calendar systems I would recommend your reading the discussions in the books:

"Tracing Your ROOTS" by the editors of Consumer Guide and distributed by Bell Publishing Company, New York (p. 47)

"Ancestry's Guide to Research" by Johni Cerny & Arlene Eakle, published by Ancestry, Inc., Salt Lake City



## Appendix F: Some Relationships between Relationship Rules

According to the book "Order", an Everton publication, the two systems for determining relationships are called "Common" and "Civil or Canon" Law. The chart in that book shows that the "Common" rule would assign the relationship "first cousin once removed" to the child of a "first cousin" whereas the "Civil Law" rule would use the term "second cousin". In general, in the civil law rules, the child of an "n"th cousin would be a "n+1"st cousin, whereas the common law rule would use the 'removed' terminology to indicate the difference between the relative generation levels of the two persons.

The number of the cousin relationship in the civil law system bears a simple relationship to the number of generation levels or parent-child relationships that would be traversed in going from one relative to another along the family tree. That is, "n"th cousins will be separated by (n+3) parent-child relationships.

There is also a simple formula for converting from common to civil law cousin relationships. If "xCyR" is a common relationship, then  $(2x+y-1)C$  would be the corresponding civil law cousin relationship. There is no similar rule for converting from civil law to common relationships. For instance, a 5th cousin under civil law rules could be a 1C4R, 2C2R or a third Cousin in the common rules.

One unusual characteristic of the civil law rules is that a person has only 1st, 3rd, 5th, ... cousins in their same generation level. The generation level of their parents or children would have only 2nd, 4th, 6th, ... cousins. In general, a given generation level will have only odd or only even cousins in it. Under common rules, all simple 1st, 2nd, 3rd, cousins are in a person's own generation level and all other cousins are 'removed' by one or more generations.

The Family History System has made use of the "common" rules for relationships since the relative report was first introduced back in 1986. I've now modified all programs that show relationships to allow you to select either of these Rules for constructing relationships. Hopefully this will help make both rules more familiar to FHS users.

## Appendix G. Responses to Some Frequently Asked Questions

Among the many questions and requests regarding the Family History System, there are some that have been repeated often enough that they seem to indicate a general interest, or state of confusion, regarding the item. In this appendix, I will present some of those queries, along with my usual response.

1. Can I use my own scheme for ID numbers?
  - A. Probably not. The FHS Name record ID numbers are simply a convenient means for uniquely identifying each record. You should not try to attach any special meaning to them by entering name records in an order that would cause the ID numbers to have some "relational" significance. The program automatically generates relationship identifiers that conform to the most commonly used schemes, including lineage or "ahnentafel" numbers for ancestors and "bloodlines" for descendants (which are essentially the same as the "Henry" system for denoting descendants) so there is really no need to make the ID numbers serve that purpose.
  
2. How do you delete duplicate or unwanted name records?
  - A. There is no direct means for deleting name records. At first, I left the option out because I didn't think there would be much need for it, but as the file update program grew, there just wasn't room to add instructions for deleting a name record along with all the "subordinate" information that may be associated with it. I usually tell someone who has a record that they wish to delete to manually delete all associated records (marriages, addresses, comments, etc.), dis-associate any parents or children (by setting the parent ID to 0), and "space out" the remaining information in the Name record. The record may then be used to "add" the next new name to your family file. If there are several name records to be "deleted" and you don't have any new names to add, you may want to change the Surname of these records to something like: (UNUSED). You can then Search for them the next time you have new names to add. If you accumulate a large number of (UNUSED) records, you may effectively remove them by EXPORTing all except the (UNUSED) records and IMPORTing them back into an empty family file. The Search/Select/LIST option of the extended system allows you to search for records with surname "#UNUSED" (which is read: "Not Equal to UNUSED") so that it is easy to select the desired records for exporting. It is also best to use the "older format" GEDCOM program in the extended system for doing the transfer because it will process all types of information that are allowed in a FHS family file.
  
3. Should I create separate family files for each of my parents and my spouse's parents? How can I print reports from several files?
  - A. Each FHS report can only have information from a single family file. Therefore I always recommend that all information for individuals who are linked in any way, whether by marriage or family relationship, be kept in a single family file. The only exception would be if the file were so large that it exceeded the maximum size allowed for the disks you are using (currently 3600 name records for 360k diskettes, 7200 records for 720k

diskettes, 12000-14000 records for high density diskettes or 32000 on a hard disk). When you reach that point, it is possible to subdivide a family file, along family lines, into two or more separate files. (The Search/Select/LIST option and Export/Import option of the extended system are best suited for doing this.) If the subdivision is done carefully, you may be able to make each family file correspond to different "chapters" of a family history so that you may not need to be so concerned about being able to include information from multiple files in a single report.

4. I only have about 2500 names in my family file but my data diskette is almost full!

- A. Name records are each 100 characters so it is possible to have up to 3600 name records on a 360k diskette. However, birth & death place records, marriage records, and comment lines each require a 50 character record in the ".OTH" dataset, and each address places a 108 character record (152 characters for the long format) in the ".ADR" dataset. Therefore, if you keep all of your datasets on a single diskette, you will not be able to get the maximum number of name records into your family file.

If you have two diskette drives, you can ease the situation some by "splitting" your family file datasets between two data diskettes. For instance, you may place the ".NAM" dataset on a diskette which you will keep in the "B" drive and place the ".ADR" and ".OTH" datasets on a second diskette which will share time in the "A" drive with the program diskette. The program diskette is required only when you are starting the system and when you are going back and forth between the Main Menu and the option processing programs. At all other times, you may remove it and replace it by a data diskette. If you do this, then you should always wait until you are prompted to replace the program diskette when you are returning to the Main Menu. This assures that your family file is properly "closed" and all updates written before you remove the data diskette.

By following this procedure of employing two diskettes for your family file, you should be able to approach the maximum number of name records for your family file on the size diskettes that you are using.

5. Can an address be automatically attached to more than one name?
  - A. The only way of associating a single address record with more than one name is by placing the address under a marriage record. Such addresses are treated as a "residence" of each spouse and will appear as a residence in the family group report for either spouse. Some persons have asked about having a parent's address associated with the children and I have given some thought to it but I don't have any plans for doing that in the near future.
6. Can the addresses and phone numbers be made more flexible?
  - A. This was the most frequently expressed complaint from users outside the U.S. and was the reason for providing an alternate "long" address format in the January 1993 update to the system. Hopefully the new format will provide the flexibility needed. Please let me know if it still proves inadequate for your own

purposes. Any further change will probably not take place until a full redesign of the FHS Family File format is undertaken.

7. What about Baptismal and Burial information?
  - A. I originally intended to make Baptismal information part of a separate "Religious information" record, and provided a separate "pointer" field to support it, but could never decide just what other information should go into that record. Eventually there just wasn't enough room left in the file update program to implement another record format. When I do get around to "reworking" the FHS file design, baptismal and burial information will be given special consideration. In the meantime, the name record comment area is the place to put those details. In the new "free form" reports these comments appear as a more "natural" extension of the name record so that the baptismal and burial information "almost look like" they are part of the file design.
  
8. Can I incorporate "note files", created by my word processor, into FHS reports?
  - A. No. Only information from your FHS family file, or generated by the programs (such as lineage numbers and "bloodlines") can appear in the FHS reports. I have given some consideration to providing an "<.IM filename>" option within the text of FHS comments for IMbedding an ASCII text file with name "filename", but don't know just when I might be able to incorporate that into the programs.
  
9. The Comment area is too limited!
  - A. It is true that the routine for entering comments is rather "primitive" and the area for entering comments appears rather small, but it is still possible to include rather extensive notes with this facility. Some persons have the impression that only 9 short lines of comments can be entered, however when the comment viewing area is "full", you can press the PGDN key to continue entering additional remarks. The "theoretical limit" for these notes is about 32000 of those 38 character lines. That would be roughly 200,000 words. The "practical limit" is much less than that, although it still allows for fairly extensive notes. Each comment line is held in a single record of the ".OTH" dataset of your family file and the ".OTH" dataset can have up to 32000 records. But that dataset also holds Marriage records, Birth/Death and Marriage Places, Education, Medical, Military and Occupation information, and these also contribute to that maximum of 32000 records. I've yet to come across anyone who is nearing this limit, although several persons have mentioned having almost 10000 name records in their family file.
  
10. Are there versions of the Family History System for other types of equipment (besides those compatible with the IBM family of PC's)?
  - A. No, and I don't expect that I will ever have time to work on versions for any other equipment. There are some ways of making programs written for the MSDOS world run on other machines. I have heard of users who have run the programs using "emulator" software (and/or hardware) for the Atari, and there may be such

"setups" for the Apple or Amiga as well. There is usually a "performance penalty" to be paid though. It is almost always best to have software that is designed for the equipment on which it is being run. With the growing number of genealogy programs supporting the GEDCOM format for data sharing, it is likely that one can be found for those other environments as well. In that case, you can at least be "data conversant" with your friends who are using other equipment, even though you may not be using the same software.

11. Are there versions of Family History System for other languages?
  - A. Actually, I have received copies of the system that have been modified to provide screen displays and/or reports in German and Dutch and have heard of similar modifications in Swedish. None of these are supported by me though, and you may not receive the system extensions in these other languages. In recognition of the interest in these programs in countries where English (or "American") is not the native language, I do have plans for enhancements that would at least provide for customizing reports so that the report headings and field labels could be easily tailored for different languages. This will be my primary goal for the next FHS update. (Alas, it has been my primary goal for the past several updates as well. However the program changes required are quite extensive and the available time has been too limited.) I am also planning to make the program messages and screen displays "customizable" as well so that it may be possible to provide both programs and reports (though not documentation) in "multi-lingual" versions.

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## Appendix G. Rules for Assigning Relationship Labels

The following rules for assigning relationship labels are based upon the "common" or Canon law but are stated in terms of the concept of "generation level". This may seem a bit abstruse to most persons, but is much more "programmable" than the usual tabular or word-example description that is given in many texts. Recall that the "generation level" of a descendant is the number of parent-child relationships that separate the descendant from the ancestor. Suppose the two relatives whose relationship is to be described have generation levels GL1 and GL2 with respect to the nearest common ancestor, and we want to assign a label describing the relationship of "GL2" to "GL1".

Then:

- 1) If  $GL1=0$ , the second individual is a direct descendant of the first. The label assigned depends upon  $GL2$  as follows:  
If  $GL2=1$ , the label is "Child" (the term which distinguishes sexes would be "Son" for males or "Daughter" for females);  
If  $GL2=2$ , the label is "gChild", which is read "grandChild" (or "gSon" or "gDaughter");  
If  $GL2=3$ , the label is "ggChild", read "great-grandChild";  
If  $GL2>3$ , the label is "gNgChild" where  $N=GL2-2$ ;
- 2) If  $GL2=0$ , the second individual is a direct ancestor of the first. The label assigned depends upon  $GL1$  as follows:  
If  $GL1=1$ , the label is "Parent" (the term which distinguishes sexes would be "Father" or "Mother")  
 $GL1=2$ , the label is "gParent" (or "gFather" or "gMother") for grand-Parent;  
 $GL1=3$ , the label is "ggParent" for great-grand-Parent;  
 $GL1>3$ , the label is "gNgParent" where  $N=GL1-2$ .
- 3) If  $GL2=1$ , then:  
If  $GL1=1$ , the label is "Sibling" (the term which distinguishes sexes would be "Brother" or "Sister");  
If  $GL1=2$ , the label is "Aunt" for females or "Uncle" for males;  
If  $GL1=3$ , the label is "gAunt" or "gUncle";  
If  $GL1=4$ , the label is "ggAunt" or "ggUncle";  
If  $GL1>4$ , the label is "gNgAunt" or "gNgUncle" where  $N=GL1-3$ ;
- 4) If  $GL2>1$  and  $GL1=1$ , then:  
If  $GL2=2$ , the label is "Niece" for females or "Nephew" for males;  
If  $GL2=3$ , the label is "gNiece" for females or "gNephew" for males;  
If  $GL2=4$ , the label is "ggNiece" or "ggNephew";  
If  $GL2>4$ , the label is "gNgNiece" or "gNgNephew" where  $N=GL2-3$ ;
- 5) If  $GL1>1$  and  $GL2>1$  then:  
If  $GL1=GL2=2$ , the label is "Cousin";  
If  $GL1=GL2>2$ , the label is "nCousin" where  $n=GL2-1$  ( $=2,3$ , etc);  
If  $GL1>GL2$ , the label is "nCmR" where  $n=GL2-1$  and  $m=GL1-GL2$   
(Note: "2C3R" is read "Second-Cousin-Three-times removed")  
If  $GL1<GL2$ , the label is "nCmR" where  $n=GL1-1$  and  $m=GL2-GL1$ .