

A.P.P.L.E.

PRESENTS:

APMAIL.Pro

**a complete
mailing list system**

Apple PugetSound Program Library Exchange

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APMAIL.Pro

**by
D.D. Redhed
and
F. W. Merchant**

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**ProDOS version
performance enhancements
and additional documentation
by
Ken Kashmarek**

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1.0 Introduction

The APMAIL.Pro system of programs is designed to create and maintain a list of names and addresses. This system of programs has been developed over a five year period resulting in numerous options for outputting data in convenient forms for record keeping as well as for printing mailing labels. Special attention has been paid to having flexible and powerful data entry functions which minimize the keystrokes necessary to input and edit the data.

APMAIL.Pro is based on the ProDOS operating system for the Apple II+ and IIe computer systems (ProDOS is a trademark of Apple Computer, Inc.) All references for comparison in this document will be to Version 3.0, which served as the base for conversion to ProDOS.

1.1 Major Features and Required Computer Configuration

APMAIL.Pro system requires 64K RAM, Applesoft in ROM, and a single disk drive for successful execution. The use of a printer is optional; however, one is recommended. The programs supplied on this disk are bootable on any 16 sector APPLE controller. See the section on conversion of Version 3.0 files concerning the use of a second disk drive.

As with Version 3.0, APMAIL.Pro has a last name index that is always resident in memory. This index is dynamically updated as each new entry is made or existing entries are modified. No separate process is required to create the index. This index is used primarily for easy access to individual records when the user knows the last name. Of course, if the user knows the actual record number containing the information, this may also be used. The maximum size index occupies 7680 bytes of memory (file size of 850 names).

APMAIL.Pro contains 10 data fields, most of which can be used for sorting. Most commands are activated by a single keystroke and are of the immediate execution type. Except for data input, most user interaction is through menu selections. The label printing program will print labels in sorted order 1, 2, 3, or 4 abreast.

Because APMAIL uses a particular function to monitor the keyboard, some kinds of typeahead features will cause a malfunction of some APMAIL features. An example is the typeahead features of the Global Program Line Editor. Such capabilities should be disabled when running APMAIL unless you are sure that they do not cause a problem.

APMAIL.Pro requires ProDOS for successful operation. It makes extensive use of ProDOS features. ProDOS is distributed on the disk with APMAIL. You should be familiar with ProDOS to understand the APMAIL file structure. A mailing label data base on the same diskette with APMAIL is limited to 250 names. A mailing label data base on a separate diskette (containing data only) is 850 names.

1.2 Some Conventions Used By APMAIL

Throughout the document and the APMAIL programs, there are a number of conventions that are followed. These conventions are designed to minimize keystrokes as well as make things clear and reliable in operation.

In this document, when a character string is referred to, it will be enclosed in double quote marks (""). This is done so that you can be sure just what characters are included in the reference. Under no conditions are quote marks required as part of APMAIL input.

The symbol "[CR]" is used to denote a carriage return. Whenever this 4 character symbol appears in the document, it implies hitting the return key on the Apple keyboard.

The use of control characters will be indicated by "CTRL-" followed by the desired character. So a Control D will be specified by CTRL-D. This means that you must hold down the control key with one finger and press the other key with another finger (in this case, the other key is a D).

All menu selections are single keystroke entries that do not require a [CR] to complete the input.

Whenever a yes or no question is being asked of the user, the question will always be terminated with "(Y/N)" and either a "Y" or an "N" must be supplied. Any other response will be rejected. The user response is acted on immediately and a [CR] is not required; The single keystroke is sufficient and if a [CR] is given, it will be the first character used by the next prompt. This may or may not cause a problem, depending on the next prompt.

All inputs to APMAIL involving more than one keystroke must be followed by a [CR]. Note that the reverse of this is not necessarily true. There are some inputs that may be only a single character and yet require a [CR]. For instance, in the labels program the user is asked for the left margin for the labels. This could be a number like 5 or it could be 25. The only way the program can know when your input is complete is for you to give a [CR].

1.3 General Description of APMail Files

APMail makes extensive use of the ProDOS file structure. Each mailing label data base is stored under a ProDOS directory. The APMail diskette volume name is /APMAIL. The APMail program directory on this diskette is also /APMAIL (the slashes are part of the ProDOS pathname convention). Throughout this document, only the partial pathnames are used. The complete pathname is:

/volume/directory/file.name

which is used automatically by APMail. Version 3.0 required the title file to be on the same diskette with APMail, and the data base file could be on a separate diskette. APMail.Pro requires all data base files to be under a directory for each data base (multiple data bases are supported). A mailing label data base on the same diskette must be stored under its own directory (which is automatically created by APMail). A mailing label data base on a separate diskette must also be under its own directory (the diskette must be formatted by the ProDOS FILER program).

APMail data is kept in three kinds of files. The primary file is the one that contains the address records and this always has the file name "NAMES." The second kind of file is the index file which contains an abbreviated version of the first and last name and record number for each record in the NAMES file, and this file always has the name "NAMES.INDEX".

The third kind of file is used to keep sort information. These files are named after the field that has been sorted to produce the particular index (e.g. ZIP-CODE). These files contain a list of record numbers representing the order of the records when sorted by the indicated field. There can be as many of these files present as there are data fields to be sorted. The details of how these files are generated is in section 8.0.

1.4 Operation of the NAMES.INDEX File

The NAMES INDEX file contains a list that is always in alphabetical order with respect to last name and first name. Actually, what is used is an abbreviated version of the first and last name. Each last name that is contained in the index is the first 6 characters of the last name. Each first name associated with a last name is the first 3 characters of the first name. This abbreviation is required in order to be able to keep the index in memory and write it to and from a binary file.

If at any time the names index appears to contain bad information, the safe thing to do is to UNLOCK NAMES.INDEX AND DELETE NAMES.INDEX. The next time you run APMail, you will be informed that the names index is being reconstructed. Several kinds of things that can happen to invalidate the names index, some of which are due to a user mistake, and some of which may be due to a computer malfunction. These are not very common, but when it does happen, it is always safe to delete the file and reconstruct it.

Duplicate names are not a problem to APMail. A duplicate name means identical characters in the first and last name of an entry. Note that a name may be duplicated in the names index and not in the NAMES file. This is due to the abbreviation in the names index. However, duplications in either way will be handled by APMail as long as the user wants to do it. Each time a duplicate is entered, the user will be notified and allowed to not enter a duplicate if it is undesirable. Duplicates in the names index alone are not dealt with in any special manner. When the user sees a listing of the names index, the two or more identical names will not be distinguishable, but of course they will have different record numbers. Looking at the data record on the NAMES file is the only way to know exactly which name is which.

When the name that is put in the NAMES.INDEX is displayed, it will always look like the following;

[LLLLLL, FFF]

The LLLLLL is the 6 character last name and the FFF is the 3 character first name. If a last name is less than 6 characters, the blank characters will appear as periods (.). Likewise if the first name is less than 3 characters.

1.5 Data Input to APMAIL

APMAIL.Pro uses an assembly language routine for data input. This routine eliminates the data entry bottleneck of Version 3.0, and includes some additional capabilities (see section 4.3.1).

1.6 Conversion From APMAIL II Version 3.0

The complete conversion process is discussed in section 9. It is only necessary to convert the NAMES file. The TITLE file must be rebuilt when APMAIL is initialized, or when the mailing label data base is added to the data base directory (complete pathname /APMAIL/APMAIL/DATA.BASE). All other files are generated by APMAIL.Pro (the build index function now takes $\frac{1}{3}$ the amount of time). Sorted index files can be created for only a few seconds longer than it takes to read the NAMES file (sorts are now significantly faster).

1.7 Major Changes From Version 3.0

APMAIL.Pro is based on ProDOS. It makes extensive use of ProDOS features. These features have made APMAIL a better and faster product. For example, ProDOS can read a 50 block (100 sectors) sequential file in 15 seconds. This same operation takes 85 seconds under DOS 3.3.

Major components of APMAIL have been converted to assembly language for speed improvement. This includes the field editing for data entry, creation and display of the index, and the sort. These features, and others, are documented in section 9 under the ampersand routines.

As a standard feature, APMAIL.Pro supports multiple mailing label data bases. This is done through the ProDOS directory structure. Two data base sizes are standard: 250 names (same diskette with APMAIL) and 850 names (seperate diskette). The user may specify any size that will fit on a diskette).

ProDOS supports the record length parameter for random access files. The APMail.Pro default length is 140 bytes. The user may override this value. A utility is provided to analyze the distribution of data field lengths and record lengths for optimal space utilization.

The CHAIN command is used to switch between programs. This has reduced program sizes and improved program switching time.

The MERGE program supports the field select options of Version 3.0 and the word match option found in Version 2.0. The four utility functions have line numbers beginning at line 10 and incremented by 5. This will allow you to modify the routines (only if necessary) without having to renumber the programs.

All file names have been changed to ProDOS conventions (no spaces, 15 character maximum). Spaces are replaced with periods. Version 3.0 program GENERAL APMail FUNCTIONS is now named GENERAL, although the documentation still uses the longer name in many places.

Overall, performance improvements have been made by using ProDOS features or assembly language programs. All file handling is now significantly faster. Program switching is now faster. Return from any of the utility programs now goes back to GENERAL rather than HELLO (except for MERGE). Loading of GENERAL APMail FUNCTIONS under DOS 3.3 took over 25 seconds. Under ProDOS, it takes less than 6 seconds.

Since ProDOS supports larger disks, APMail is not limited to 850 names. The file can be as large as necessary if the disk will support it. However, larger files have not been tested. Larger files also increase the size of the index and sorted index. At best, a file of 1500 names could be handled. Beyond this, program GENERAL must be made smaller (it is already 5K smaller than Version 3.0).

IMPORTANT: READ THE FOLLOWING BEFORE RUNNING APMail

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2.0 Initialization

The following instructions apply to your *first* use of Apmail as well as every subsequent use when you wish to create a new list of names and addresses.

2.1 Making a Copy of the Program Diskette

The *first* procedure you should complete is to copy the entire APMail System diskette to another diskette. It is necessary to do this because some file modification takes place during the initialization process. You must use the ProDOS FILER program to make the copy. If you are using a machine language program to drive your printer instead of a standard interface card, you will need to place the machine language program on the APMail program diskette copy that you make. The machine language program must be in a binary file of the name DRIVER. Your printer driver must conform to the ProDOS standards to be invoked by "CTRL-D PR#A\$address" command. See the ProDOS documentation for complete information.

2.2 Preparation of a Separate Data Diskette

If you have more than one disk drive, or you are going to use a separate disk for your data on a single drive, you should initialize another diskette using the ProDOS FILER. If you have a single disk drive, you will need to use a separate diskette for the mailing list if you require more than 250 names in the list. When the list is stored on the same diskette as the APMail programs, there is room for only 250 names.

2.3 Executing APMail for Initialization

At this point you must boot up the duplicated APMail program diskette. The following message will appear on the screen:

APMAIL.PRO

NOW INITIALIZING

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This information is followed by:

<----- T I T L E ----->

0 EXIT APMail

1 ADD ENTRY

2 PROMPT FOR ENTRY

SELECT

If you select "0", then APMail is terminated. If you select "1", you will be prompted for a mailing label data base title, volume name, and directory. These values will be stored in pathname /APMAIL/APMAIL/DATA.BASE. The volume and directory are used as a ProDOS prefix when accessing the mailing data base indicated by the title. If "2" is selected, you are prompted for the same information, but it is not stored in DATA.BASE.

If option "1" is selected, the disk will be active for a very short time and then you will see,

W A R N I N G

**SINCE SOME NEW FILES WILL BE WRITTEN,
THE DISKETTE TO BE USED SHOULD BE A
DATA ONLY DISKETTE, OR A COPY OF THE
MASTER DISKETTE FOR**

APMAIL.PRO

**GIVE 'YES' [CR] TO PROCEED
OR
'NO' [CR] TO TERMINATE
?**

If you are working with a copy of the APMail master diskette, then you should type in 'YES' [CR]. Otherwise, enter 'NO' [CR] and follow the instructions given in section 2.1. If you entered 'YES' [CR], the disk will be active again while the first phase of initialization is completing.

2.4 Supplying the Mailing List Specifications

When the disk drive stops, you will see a title line and the first in a series of prompts for specifications. These are all documented below with explanation of what response is to be made to each prompt.

INPUT MAILING LIST SPECIFICATIONS

MAILING LIST NAME

The title that was given earlier will be displayed. This title will be displayed with the main menu of APMail. This title has no functional value other than identification of the current list being used. The next two prompts are:

DEFAULT FOR CITY

DEFAULT FOR STATE

When you are putting addresses into APMail, you have the option of entering the default city and state with a single keystroke (see section 4.1 for details). This is useful when a large number of your addresses are in a single city.

IS A PRINTER ONBOARD(Y/N)?

If you do not have a printer, respond with a "N" and then the next prompt will be related to the disk drive configuration. If you do have a printer, respond with a "Y" and the next prompt will be,

USING INTERFACE CARD(Y/N)?

There are two basic ways to interface a printer, and one uses a special card that you have to insert into one of the slots in the Apple II. If this is your arrangement, respond with a "Y" and the next prompt will be:

PRINTER SLOT =

and you should give a number from 1 to 7 (most people have the printer in slot 1 or 2). The next prompt is:

SET PRINTER WIDTH (Y/N) ?

Some printers require a special set of characters to achieve output that is wider than the 40 character Apple II screen (typically this is CTRL-L80N). If your printer does not need this, respond with a "N" and the next prompts will be for disk drive configuration. If you answer "Y," then you will be prompted with:

GIVE WIDTH SPECIFIER

Type in the necessary characters and follow it with a [CR]. The next prompts will be for disk configuration.

If your printer is not hooked through an interface card, but is controlled by a special machine language program, you should have answered "N" to the question about an interface card. The next prompt will be:

PRINTER DRIVER LOAD ADDRESS =

and you should respond with a decimal number representing the address at which the machine language program should be loaded for execution. This program must be on a binary file on the APMail program disk and have a file name of DRIVER (it must be copied to the APMail directory). The load and call address must be the same since APMail will use this address in CTRL-D PR#A to tell ProDOS that a program is handling printed output (the printer driver must meet ProDOS specifications in order for it to work).

The next prompt will be:

NEED TO POKE COLUMN WIDTH(Y/N)?

If APMAIL needs to give a column width to the machine language program, answer "Y" and the next prompt will be:

ENTER LOC,WIDTH (E.G. 940,80)

At this point APMAIL will determine if you have more than one disk drive:

DO YOU HAVE MORE THAN 1 DRIVE (Y/N)?

The answer to this question plus the volume name will determine where APMAIL will put the mailing label data base. If the volume name is /APMAIL, then the data base is stored on the same volume as the programs. If the volume name is different, then this answer will determine if you must switch volumes each time you switch programs in APMAIL.

For single drive operation, by far the most convenient is to place the data base on the APMAIL volume. Under this option, the user will place the one diskette in the drive and there need be no switching of diskettes during processing. However, if 250 names is insufficient, you should specify a different volume name. This allows a much higher number of names in the list, but processing does involve the swapping of diskettes if you have only one drive. When the programs are on one diskette and the data on a different diskette, each time a new program is run the program diskette must be inserted. Then when the program is loaded, the data diskette must be put back again. At the appropriate times you will see the following messages:

**INSERT PROGRAM DISKETTE
AND GIVE [CR]**

**INSERT DATA DISKETTE
AND GIVE [CR]**

The presence of these messages is not indicated in the remainder of this document, but you should expect them at the proper times. This option is for those with just one drive and must have a large list. ProDOS uses a sequence different than DOS 3.3 for determining that a diskette has been inserted in the drive. If you have been using the technique of closing the drive door after the disk begins to spin, you must move faster with ProDOS, or else you will get an error. This may cause some problems when switching diskettes, so be prepared.

If you store your data base on a separate volume, it must be initialized in advance by ProDOS (to perform this operation, you need the ProDOS FILER. APMAIL will store a file of 850 names on a ProDOS data only diskette. You may change the file size by responding to:

FILE SIZE = number of names

DO YOU WANT A DIFFERENT NUMBER OF NAMES (Y/N)?

If "Y" is selected, then APMAIL will prompt for a new file size. Following this, you may specify a file record length:

RECORD LENGTH = 140

DO YOU WANT A DIFFERENT RECORD LENGTH (Y/N)?

If "Y" is selected, then APMAIL will prompt for a new record length. The default is 140. The record length may be changed later, so let APMAIL take the default for now (unless you already know what length you plan to use).

When you respond to this question, all specifications will be displayed for your approval. If you wish to change your mind about an item, respond with a "N" and the entire specification sequence will be repeated. If you respond with a "Y," initialization will be completed and this will be signified by the message

NOW WRITING SPECIFICATIONS

After a short time of disk activity, the following message will be seen as APMAIL is activated:

NOW TRANSFERRING TO GENERAL APMAIL FUNCTIONS

Because you have just completed initialization, APMAIL will automatically put you into the mode of adding names to the names list. This function is described in section 4.1.

2.5 Using An Existing Label File

If your mailing label data base already exists, then APMAIL will display the title when the HELLO program is run (boot on the APMAIL disk or RUN HELLO). The title is displayed with the initial entries described in section 2.3. As new mailing label files are added, they are also displayed as part of the prompt selection for which label file to use. The HELLO program allows for 15 mailing labels file sets to be stored on DATA.BASE. The APMAIL HELLO program may be run at any time as long as BASIC.SYSTEM has not been displaced by any system program.

3.0 Normal Execution of APMAIL

After the initialization process is complete, you have performed some actions with APMAIL, and have terminated execution of APMAIL, how do you get it running again? There are two ways to do this, depending on the state of your computer when you want to run. If the computer is off, all you have to do is to insert your program diskette into drive 1 of the designated slot and initiate the booting process (normally this means to just turn the computer on).

If your computer is already on (with ProDOS in memory), you may put the program diskette into any drive, set the prefix to /APMAIL, and enter "—BASIC.SYSTEM." The disk STARTUP program will be run after BASIC.SYSTEM is initialized. STARTUP will load the ampersand routines, set the prefix to /APMAIL/APMAIL/ and RUN HELLO. After you have selected which mailing label data base to use, the next thing to be displayed is the standard APMAIL header lines followed by the system menu shown below:

CHOOSE ONE OF THE FOLLOWING

**G... GENERAL APMAIL FUNCTIONS
(ADD, EDIT, ETC)**

L... PRINT LABELS

M... MERGE

P... PRINT ALL DATA

S... SORT RECORDS

Q... QUIT

SELECT

This menu shows the five programs of APMAIL. The bottom four programs (PRINT LABELS, MERGE, PRINT ALL DATA, and SORT RECORDS) are accessible as stand alone programs and are also executable from inside the GENERAL APMAIL FUNCTIONS program. If all you want to do is print some labels, it would be awkward and time consuming to have to execute the general functions program and then immediately request an execution of the print labels program. If any maintenance of the mailing list records is to be done, you must select the GENERAL APMAIL FUNCTIONS item in the menu. If you change your mind about doing anything, you can select the quit option. The program called GENERAL APMAIL FUNCTIONS cannot be run without going through the HELLO program, since some critical initialization activity takes place in the HELLO program.

The possible menu selections are "G", "L", "M", "P", "S," and "Q". Explanations of each of these programs can be found in the section specifically for that program.

Program	Section
GENERAL APMAIL FUNCTIONS	4.0
PRINT LABELS	5.0
MERGE	6.0
PRINT ALL DATA	7.0
SORT RECORDS	8.0

After any of the standalone functions terminate, they transfer control to GENERAL APMAIL FUNCTIONS, except for MERGE, which returns to HELLO. The program which performs GENERAL APMAIL FUNCTIONS is actually pathname /APMAIL/APMAIL/GENERAL on the APMAIL volume (the original name was longer than 15 characters, so it was shortened).

Special Note:

As indicated earlier, the STARTUP program loads the ampersand routines, changes HIMEM, and locks the routines into memory. If another system file (type SYS) has not been used, then APMAIL may be restarted by running HELLO. If another system file is used (CONVERT, FILER, or a different copy of BASIC.SYSTEM), then APMAIL must be restarted by

—/APMAIL/APMAIL/BASIC.SYSTEM

where "—" is the intelligent ProDOS RUN command. When you exit APMAIL, the prefix is set pointing at the mailing label data base directory. If you then RUN HELLO, this program resets the prefix accordingly. Only the HELLO program may be run directly. All others must be invoked via the menus.

If HELLO is terminated with option "0" (see section 2.3), then the ProDOS prefix remains set at /APMAIL/APMAIL. However, if you have performed any APMAIL functions, the QUIT option leaves the prefix set to the volume and directory of the mailing label data base that you used.

4.0 General APMail Functions

When the main program of APMail is executed, the last name index is read into memory (assuming it exists) and then the main menu is displayed as shown below:

MAILING LIST NAME

CHOOSE ONE OF THE FOLLOWING

A . . . ADD NAMES
C . . . CATALOG
E . . . EDIT RECORDS
L . . . LIST NAMES
M . . . MERGE
P . . . PRINT
R . . . REPORT STATUS
S . . . SORT RECORDS
Q . . . QUIT

SELECT

Each function is selected by pressing the appropriate key, A,C,E,L,M,P,R,S OR Q. If you press any other key besides those listed a "BEEP" is heard, and a flashing curser will show ** INVALID DATA ENTRY **. This lasts for just a short time and then the screen repaints itself and you can try again.

4.1 A . . . ADD NAMES

This function allows the addition of new names and addresses in the NAMES file. The names are added in record number order, except when vacant records are available from prior deletions. Then new records are created in the vacant records starting with the lowest available number first.

Note that when the current list has no names in it, you will automatically be put into this option. The following fields are available for data entry:

1. First name.
2. Last name.
3. Optional (May be used for company name, etc.).
4. Address (Requires a minimum of one character to print labels).
5. City (The default city and state will be used if you give a [CR] instead of a name).
6. State (If the default city was selected, this will be set automatically).
7. Zipcode (May use the nine digit code — **do not insert dashes** — the program does this automatically).
8. Phone (If you ever want to sort on this field, be sure to put in all phone numbers consistently; e.g. use area codes on all numbers, even local ones).
9. Code (This is a field provided to keep any arbitrary information about an entry; typically this is used to hold information that may want to be sorted at a later time).
10. Comment (This is another field that may be used for arbitrary information about the record).

The maximum number of characters allowed in a record is determined by the file record length. Normally, APMail uses 140 bytes for record length. This length must also include room for 11 carriage returns (the eleventh field is the record number). If you exceed this limit, then a "BEEP" is heard and the message "TOO LONG CUT ENTRY" appears. If this happens, either eliminate any extraneous data or abbreviate some data in the fields. NOTE — This diagnostic will appear only when all fields of the record have been completed, not when the length is exceeded.

Five options are possible in the ADD NAMES module:

1. ADD NAMES

You may continue to do this until the limit is reached. After completing each record, you will be prompted to decide if the record is what you want. A "Y" response will add the record to the NAMES file. Note that after each 25 consecutive names have been entered the program will automatically update the index on disk so that no more than 25 names can be lost in the event of program or computer failure during the adding of names. When adding more than one name, each addition after the first will begin with the data from the previous addition so that similar information may be accepted with the Ctrl-A function described in section 4.3.1.

2. EDIT

After the last entry in the ADD NAMES is entered the screen will show the data entered and ask if this is what you want. If you answer "N" then you will be placed in the edit mode. The Ctrl-X, Ctrl-D, Ctrl-I, and Ctrl-A functions listed in section 4.3.1 are all available for editing the record. The "ESC" key function is not the same, and is described below under option 3.

3. ESC

Hitting the ESCape key at any time during the entering of data will clear the CRT and allow you to start the current entry from the beginning.

4. LABELS

You can print labels (up to 50) of the name just entered. Type "L" as the first letter of the first name of the next entry and follow it with a [CR]. You will then be prompted for label printing for this entry alone.

5. QUIT

To stop adding names, type "Q" as the first letter of the first name of the next entry and hit [CR] (the index will be written out to disk at this time and then a status report of the NAMES file will be given).

If you want to put data in the code or comment field for sorting, be sure that the data is organized properly for sorting. For example, in order for a chronological date sort to work properly, it is imperative that you enter dates according to the following format: year/month/day. The computer will treat this entry as a six digit number. Any other way, including the standard method of date notation, will result in an erroneous sort.

The default city and state may be entered by giving a [CR] for the first character of the city. If a city has been entered, the default state may be entered by giving a [CR] as the first character of the state.

4.2 C . . . CATALOG

This routine will catalog your diskette(s) and return to the main menu upon completion.

4.3 E . . . EDIT RECORDS

This module will allow editing of any existing record in the NAMES file. In order to edit a record, the record number must be determined. This is done via the first menu under the EDIT option, which looks like:

SELECTION FOR EDITING RECORDS

RECORD SELECTION OPTIONS

N . . . LAST NAME, FIRST NAME IS KNOWN

R . . . RECORD NUMBER IS KNOWN

S . . . NEED TO SEARCH FOR NAME

Q . . . QUIT

SELECT

Selecting "N" implies that you know the name and wish the program to locate the record number for you. Selecting "R" implies that you already know the record number. Selecting "S" implies that you are not sure of the name you are after and need to browse through the index to locate the right one.

If you selected "R," you will be prompted for the record number and once it is given, the program will read the record and display it for you to make changes. If you selected "N," you will be asked for a last name and first name. The index will be searched and if it is found, it will be displayed for verification.

If you selected "S," you will be asked for a name with which searching can begin. This name should be as close as possible to the actual name, but always earlier in the alphabet than the name. This is because the search always moves towards the end of the alphabet from its starting point. Names and record numbers will be displayed in a scrolling fashion. A pause in the scrolling will occur when you hit any key except [CR]. Hitting the [CR] will cause the termination of the search. The behavior of this option is identical to that described under the LIST option in section 4.5.

When the record is read, it will be displayed and the following question will be asked:

WISH TO CHANGE THIS DATA(Y/N) ?

A "N" answer will return you to the record selection option to choose another record or quit. This means that you decided not to edit this particular record after all. A "Y" answer will display the following choices:

OPTIONS:

D . . . DELETE RECORD

E . . . EDIT RECORD

Q . . . QUIT

A choice to delete the record will ask for a verification before doing the actual deletion. A choice to edit the record will display the data for editing and all the editing functions shown in 4.3.1 are available for editing. A choice to quit will terminate editing and the NAMES INDEX will be written if required.

4.3.1 Special Editing Features

Whenever information is entered into the data fields of APMAIL records, there are several special commands that may be used to aid in the editing and entering of data. The list of commands is below, and it is followed by an expanded explanation of how to use each command.

CTRL-X	cancels the entire line
CTRL-D	deletes the character under the cursor
CTRL-I	enters insert character mode
CTRL-A	accepts the edit field as is
"ESC"	exits the editing of the current record
CTRL-R	restores the field to its initial value
CTRL-B	positions cursor to beginning of edit field
CTRL-N	positions cursor to end of edit field
CTRL-H	or left arrow (←)
CTRL-U	or right arrow (→)
CTRL-M	or carriage return

CTRL-X

Suppose you have entered part or all of a first name and wish to erase that name and start over. Type a CTRL-X at any cursor position and all characters will be erased in the edit field and the cursor will be at the beginning of the field.

CTRL-D

If you wish to erase a single character from a line, position the cursor over the character and press CTRL-D. That character will disappear and all characters to the right of the deleted character will be shifted over one position on the screen. If you use this command where there are no data characters in the edit field, a beep will sound.

CTRL-I

This command begins the insert character mode. Characters typed at this point are inserted into the edit field. All characters to the right are pushed over. The cursor moves to the right for each character inserted. Insert mode is terminated when any control character is used (including left or right arrow). If you attempt to insert characters outside of the data, a beep will sound.

CTRL-A

If an entry needs only slight modification, you need only to enter the new characters and then press CTRL-A. The entire entry that is visible on the screen will then be accepted as the entry you want. If you wish to keep the entry the same, press CTRL-A when the cursor is on the first character. (Note that pressing [CR] will result in an entry that consists of just those characters to the left of the cursor; thus a carriage return when the cursor is on the first character will result in an empty entry.)

CTRL-R

If you have suitably messed up a field by editing it, the original value may be restored with CTRL-R. This will work even after CTRL-X.

CTRL-B

This command will position the cursor to the beginning of the edit field.

CTRL-N

This command will position the cursor to the end of the edit field. This is very convenient for adding characters to the end of a field.

CTRL-H

This is the left arrow function for moving the cursor to the left. If the cursor is at the beginning of the field, a "beep" will sound. This function is invoked with the left arrow key.

CTRL-U

This is the right arrow function for moving the cursor to the right. If the cursor reaches the end of the edit field, a "beep" will sound. If the cursor moves beyond the current data characters but is still within the field, blanks are added. This function is invoked with the right arrow key.

CTRL-M

This is the [CR] function, which is invoked by the return key. When entered, all characters to the right of the [CR] are deleted, and only characters to the left remain in the data value that was being edited.

“ESC”

Pressing this key will result in an exit to check the corrections you have made up to this point. All fields of the record that have not been altered (i.e. those below the cursor on the screen) will continue to be in the record. You do not have to accept (with CTRL-A) all the fields in order to keep them in the record. If ESC is hit during the add record function, the fields are cleared and you start over with that record. If ESC is hit during the edit record function, you return to a display of the record.

The standard left and right arrow keys work in the normal manner for an Apple II or II plus.

We will now give an example that shows the use of several of these features used on a single field. Let's suppose that you have noticed a bad first name in a record and you call this record up to edit. The first name shows on the screen as,

FRADERRIK

The name should be FREDERICK and so there is one wrong character, one extra character, and one missing character. When starting, the cursor will be over the F. You should use the right arrow key twice to move the cursor over the A and then type in an E. Use the right arrow key again and move three characters to the first R. Press CTRL-D and the characters RIK should move left one place as the first of the pair of Rs disappears. The cursor should now be over the R of the RIK. Use the right arrow twice to position it over the K. Now press CTRL-I followed by a "C." Now you type CTRL-A to indicate you wish APMail to accept the entry.

4.3.2 Completing the edit of a record

After completing an edit of a record (by entering the last field, or doing an "ESC"), the record will be displayed and the following question will be at the bottom of the screen:

WISH TO CHANGE THIS DATA(Y/N) ?

A "Y" answer means that you are not yet satisfied with the record and wish to make additional changes. You will immediately be back to the editing screen. A "N" answer means that you are satisfied with the record contents and wish to have it replace the old one on the NAMES file. There is a third possibility at this point that might come up. You might conclude that you wish you had never started modifying this record in the first place and you want to forget you started on this record and go onto another one. The only way to abort the editing of a record is to give a "Y" answer to the above question, and when the editing screen appears, type a Q as the first character to quit editing. This will take you back to the main menu as described below. You will then have to re-enter EDIT in order to do more editing.

If you pressed "N," in order to replace the old record, the next display will be:

RECORD NO. XXX HAS BEEN EDITED

MORE EDITING TO DO(Y/N) ?

If you press "N," you will be returned to the main menu (if you changed any names that caused a NAMES INDEX change, the NAMES INDEX will be written out to disk before the main menu is displayed). If you press "Y," you will be taken back to the record selection menu.

4.4 L . . . LIST NAMES

This function allows the user to search the index for a name alphabetically by entering a letter or group of letters to begin the search.

LIST NAMES OPTION

GIVE A LAST NAME OR A LETTER OF THE ALPHABET AT WHICH TO BEGIN THE LISTING OF NAMES ?

The listing will start with the first name that is alphabetically equal to or greater than the name you specified. A [CR] will start the listing at the beginning of the NAMES INDEX. Names and record numbers will be displayed in a scrolling fashion. A pause in the scrolling will occur when you hit any key except [CR]. Hitting the [CR] will cause the termination of the search (assuming you wish to do another search or you found out what you want to know).

The purpose of this function is to find record numbers or names. A hard copy listing of the index is also available in the PRINT option (section 4.6).

4.5 M . . . MERGE

This function allows the transfer of data or blocks of data from one diskette to another. This is an important utility in the maintenance of a mailing list. It gives the user the flexibility to restructure the names data, allowing for growth and changing requirements of the mailing list. The selective feature is a key to the usefulness of MERGE. Merge is a separate program that may be executed from the main program.

See section 6.0 for a complete description of the merge process.

4.6 P . . . PRINT

This function is divided into printing an entire record, the NAMES INDEX, or a mailing label. The initial menu is:

PRINT OPTIONS

A . . . ALL DATA

I . . . INDEX

L . . . LABELS

SELECT

4.6.1 ALL DATA

As the title of this function suggests, all ten fields of data are printed, along with the record number. There are several ways to do this, and they are selected from the following menu:

OPTIONS FOR PRINTING DATA

M . . . MULT. RECORDS IN RECORD ORDER
O . . . PRINT JUST ONE RECORD
S . . . ALL RECORDS IN SORT ORDER
Q . . . QUIT

Multiple records in record number order may be for a range of records or the entire file. You may display records on the screen or send them to a printer. If you want these printed, this will always be done by the PRINT ALL DATA program described in section 7.0.

If a single record is chosen, the same option table for search is given as in section 4.3. Output to the printer or screen is selectable. There is no option about the print or display format. When printing just one record, it is done without the use of the PRINT ALL DATA program and so it will occur immediately.

The data can be printed in the order according to a sort file. In this case, the sort file must have been created previously by running SORT (section 4.8). This option can only print; there is no ability to display on the screen in sort order.

4.6.2 INDEX

This option prints in a compact form the NAMES INDEX FILE. This is an alphabetical listing of the abbreviated version of the first and last name, the record number and the index number. The print format is fixed. The program will always pause to let you be sure that the printer power has been turned on.

4.6.3 LABELS

Labels may be printed as a single or multiple copies of a single name or they may be printed in sort file order. The selection menu is:

OPTIONS FOR LABEL PRINTING

O . . . LABEL(S) FOR ONE RECORD
S . . . ALL RECORDS IN SORT ORDER
Q . . . QUIT

If you want one or more labels for a single name, you will be taken to the record selection option that is described in section 4.4. After you select the record number, you will be asked how many labels you would like printed for that record.

If you want labels based on a given sorted field, the particular sorted field will be selected prior to transferring to the print program. The selection menu is:

OPTIONS FOR SORT FILE

A . . . ADDRESS
C . . . CODE
F . . . FIRST NAME
L . . . LAST NAME
M . . . COMMENT
O . . . OPTIONAL
P . . . PHONE
S . . . STATE
Y . . . CITY
Z . . . ZIPCODE

Q . . . QUIT

SELECT

As is true with PRINT ALL DATA, a sort option means that the sort file must have been created by running SORT RECORDS (section 4.8) before running PRINT LABELS.

See section 5.0 for the details of running the PRINT LABELS program.

4.7 R . . . REPORT STATUS

This function will display the total number of records on the data diskette, the number of deleted records, and the number of records that can be added. The records added are inserted in the deleted ones first. This display looks like:

YOU NOW HAVE 137 RECORDS
STORED ON THIS DISKETTE

YOU MAY ADD 113 MORE ENTRIES

HIT [CR] TO CONTINUE

If there are any deleted records this will also be reported. The number of records given as stored on the diskette is always the maximum record number that has ever been occupied.

4.8 S . . . SORT RECORDS

Because the sort option creates files that you may wish to delete or rename, the first menu under the sort option is:

OPTIONS:

D . . . DELETE
R . . . RENAME
S . . . SORT RECORDS

SELECT

The first two options allow you to give a file name which will be deleted or renamed, as you specify.

If you choose to sort records, This will create an index that represents the order of the records if they were sorted by a particular field. You will be given the following menu before the sorting process begins:

OPTIONS FOR SORT FILE

A . . . ADDRESS
C . . . CODE
F . . . FIRST NAME
L . . . LAST NAME
M . . . COMMENT
O . . . OPTIONAL
P . . . PHONE
S . . . STATE
Y . . . CITY
Z . . . ZIPCODE

Q . . . QUIT

If you wish to do any printing according to some sorted order, you must create the appropriate sorted index prior to attempting the print. The program called SORT RECORDS will be executed to do the sorting. This program may also be run in stand alone mode and it is described in section 8.0.

Note that the NAMES INDEX always provides you with a last name sort that is valid within the first 6 characters of the last name. If you wish a sort on the full last names, it will have to be done through this option.

See section 8.0 for the details of running the SORT RECORDS program.

4.9 Q . . . QUIT

This allows you to exit APMail in a way that maintains the integrity of the data files and allows the backup of the data diskettes. **ALWAYS EXIT USING THIS OPTION.** You should always backup your files after making changes. Use APMail's ProDOS FILER utility to make backup copies of your diskettes.

5.0 Print Labels

This program may be run from the APMAIL general function program or as a stand alone program. If you select the print labels option in the general function program, the first thing you will see after the sign on message of the program will be:

LABELS WILL BE DONE IN SORTED ORDER ACCORDING TO XXXXX

IS THIS OK(Y/N) ?

The XXXXX will be the name of the field for which you want to use the sorted index. This is just a verification of the request you made. If it is correct, respond with a "Y" and the program will continue. If it is not, respond with a "N" and you will then be at the same point in the program you would have been if you ran the program in the stand alone mode. The next menu will be:

OPTIONS FOR ORDER OF LABEL PRINTING:

**A... ADDRESS
C... CODE
F... FIRST NAME
L... LAST NAME
M... COMMENT
N... NAMES INDEX
O... OPTIONAL
P... PHONE
S... STATE
Y... CITY
Z... ZIPCODE
Q... QUIT**

SELECT

Note that for all choices except the NAMES INDEX, you must have created the sorted index at an earlier time. If the sorted index is not available, you will be notified.

Once the order of label printing is established, you will be asked:

HOW MANY COPIES OF EACH LABEL DO YOU WANT TO PRINT

Depending on the number you give, you will be asked about options for printing 1, 2, 3, or 4 abreast labels. If you want 2 copies each, your only choices will be 1 or 2 abreast. If you want 3 copies, your only choices are 1 or 3 abreast, etc. You will be prompted accordingly. If you want more than 4 copies of each label, they must come out 1 per line. More than 4 copies would best be done with multiple passes of 2, 3, or 4 abreast, depending on the types of label forms you have.

You will always be asked for the left margin for label #1; this is the label to be printed first in a left to right scan on the printer line. Then if you have more than one abreast, you will be prompted for the left margin of each succeeding label that is to be printed on a single line. Once all the margins are specified, they will be displayed for verification. If you have specified something you do not like, you may repeat the specifications. No checking is done to insure that the margins specified are sensible or proper. You must decide this at verification time.

The program will print the labels in batches and during printing the program will display which labels are being printed.

When printing is done, you will be asked if you have more to do or wish to quit. When you quit, you will be taken back to the APMail general functions menu.

6.0 Merge

The purpose of the MERGE program is to extract selected records from a NAMES file and place them on a different NAMES file. In this way you can create specialized lists that contain only a portion of your total mailing list. The MERGE program will always add records to the destination NAMES file so you can extract records from several NAMES files and put them together on a single file. While backup files can be made with MERGE, this is not the normal use of MERGE. A much more efficient way to make backup copies is with the ProDOS FILER.

This program may be run from the APMail general function program or as a stand alone program. In either case, the first thing you will see after the sign on message of the program will be:

THE SOURCE FILE IS (/VOLUME/DIRECTORY)

/volume/directory/

MAX. NO. OF NAMES IN NAMES FILE = n

IS THIS SPECIFICATION OK(Y/N)?

This information is taken from the specifications file that you set up at the initialization of APMail. Because MERGE is always a separate process that can work with any configuration, you may wish to use a different file for input. If you respond with a "N," you will be prompted for a different source file:

SOURCE FILE PREFIX (INCLUDE SLASHES)

/VOLUME/DIRECTORY/

This will be followed by a similar prompt asking for the output file:

DESTINATION PREFIX (INCLUDE SLASHES)

/VOLUME/DIRECTORY/

And finally:

DO YOU HAVE MORE THAN ONE DRIVE(Y/N)?

MAX. NO. OF NAMES IN NAMES FILE =

If you have more than one drive, MERGE will be much faster when the files are on different volumes. The number of names refers to the destination file.

The next display will be:

OPTIONS FOR RECORD SELECTION

A... ADDRESS
C... CODE
F... FIRST NAME
L... LAST NAME
M... COMMENT
O... OPTIONAL
P... PHONE
S... STATE
Y... CITY
Z... ZIPCODE
R... RECORD NUMBER
Q... QUIT

SELECT

Any field may be used for selection when creating a subset of the NAMES file, or adding records to an existing NAMES file. In a practical sense, some of the fields are not useful for MERGE selection (phone, first name, or optional). However, this depends on what you have chosen to put in the fields. Therefore, all fields are available for selection.

Once you have selected a field, the following will appear:

YOU HAVE CHOSEN FIELD # n

WHICH IS field name

ENTER MERGE SELECTION OPTION:

R... RANGE "LOW" <= FIELD <= "HIGH"

V... VALUE "VALUE" = FIELD CONTENT

W... WORD "STRING" MATCH WITHIN FIELD

SELECT

For the range option, you will then be prompted for a 'low' and 'high' value. Selected records must then be in the range indicated.

For the value option, you will be prompted for a 'value'. Selected records will have matching field values.

For the word option, you will be prompted for a 'string' to match within a field. This option was available with Version 2.0, but dropped with Version 3.0. For example, if the CODE field contained "DOCTOR LAWYER" and you selected word match with string "DOCTOR," the record would be selected. If the 'string' or sequence of characters in 'string' is found anywhere within the field, then the record is selected.

After the range, value, or word is entered:

FOR FIELD # n

YOU HAVE CHOSEN OPTION x

'LOW' VALUE =

'HIGH' VALUE =

IS THIS OKAY (Y/N)?

For range, the low and high are as entered. For value, low and high are the same. For word, low is the string entered and high is blank.

You will be prompted to insert the various diskettes in specified drives, depending on the disk configuration that was specified at the beginning. When processing starts you will see the following displays on the screen as the data is being read and written:

NOW SCANNING THE SOURCE FILE SOURCE RECORD nnn

NO. OF SELECTED RECORDS =

As soon as the first set of selected records has been collected for the destination file, the display will change to,

NOW WRITING ON THE DESTINATION FILE

DESTINATION RECORD mmm

and if more records are to be read off of the source file, the top message will return to indicating that the source file is being read. When the program is finished, there will be a summary of what was read from the source file and what was written on the destination file.

When merging is done, you will be asked if you have more to do or wish to quit. When you quit, you will be taken back to the initial APMAIL menu.

To assist you with the MERGE process, program APMAIL.UTILITY (described in section 9) can be used to reset a NAMES file to empty status. This is done by setting the number of records to zero (0) and deleting the associated names index file. In this fashion, you can create a dummy mailing label data base that is used strictly for the output of MERGE. This file can then be used for printing a list or labels, and then reset for subsequent merge operations.

7.0 Print All Data

This program may be run from the APMAIL general function program or as a stand alone program. If you select the print all data option in the general function program, the first thing you will see after the sign on message of the program will be:

DATA WILL BE PRINTED IN SORTED ORDER

ACCORDING TO XXXXX

IS THIS OK(Y/N) ?

or:

DATA WILL BE PRINTED IN RECORD ORDER

FROM RECORDS r1 TO m

IS THIS OK(Y/N) ?

The XXXXX will be the name of the field for which you want to use the sorted index. This is just a verification of the request you made. If it is correct, respond with a "Y" and the program will continue. If it is not, respond with a "N" and you will then be at the same point in the program you would have been if you ran the program in the stand alone mode. The next menu will be:

OPTIONS FOR PRINTING ALL DATA:

R...RECORD ORDER

S...SORTED ORDER

Q...QUIT

SELECT

If you want record order, records for the entire NAMES file will be printed in record number sequence.

If you want sorted order, the next selection will be for the field to be used:

OPTIONS FOR ALL DATA SORT:

A... ADDRESS
C... CODE
F... FIRST NAME
L... LAST NAME
M... COMMENT
N... NAMES INDEX
O... OPTIONAL
P... PHONE
S... STATE
Y... CITY
Z... ZIPCODE
Q... QUIT

SELECT

Note that for all choices except the NAMES INDEX, you must have created the sorted index at an earlier time. If the sorted index is not available, you will be so notified.

Once the order of all data printing is established, you will be asked:

DO YOU WANT THE 132 COLUMN FORMAT (Y/N)?

There are two printing modes for this program, that which will fit on a standard 80 column printer and another that will use 132 columns to print the data. If you use the 132 column mode, the program assumes that you can make any required adjustments to your printer outside the control of the printing program. If this is not true, you will not be able to use this mode of printing.

The program will print the data in batches, and during printing the program will display the count of records currently being printed.

When printing is done, you will be asked if you have more to do or wish to quit. When you quit, you will be taken back to the APMail general functions menu.

8.0 Sort Records

This program may be run from the APMail general function program or as a stand alone program. If you select the sort option in the general function program, the first thing you will see after the sign on message of the program will be:

SORTING WILL BE ACCORDING TO XXXXX

IS THIS OK(Y/N) ?

The XXXXX will be the name of the field for which you want to create a sorted index. This is just a verification of the request you made. If it is correct, respond with a "Y" and the program will continue. If it is not, respond with a "N" and you will then be at the same point in the program you would have been if you ran the program in the stand alone mode. The next menu will be:

OPTIONS FOR SORTING:

**A... ADDRESS
C... CODE
F... FIRST NAME
L... LAST NAME
M... COMMENT
O... OPTIONAL
P... PHONE
S... STATE
Y... CITY
Z... ZIPCODE
Q... QUIT**

SELECT

Once the sorting field is determined, the program will begin operations and you will see the following messages in succession:

NOW EXTRACTING DATA FROM THE NAMES FILE :

A T T E N T I O N

SORTING IS NOW TAKING PLACE IN MEMORY

WRITING TO DISK !!

SORTING COMPLETED !!

It will only take about 4 seconds to sort an 850 record file in memory after the data is read in.

When sorting is done, you will be asked if you have more to do or wish to quit. When you quit, you will be taken back to the APMail general functions menu.

9.0 Miscellaneous Utilities

The utilities described in this section are included with APMAIL as aids to the creation and maintenance of a data base and the index.

9.1 APMAIL Version 3.0 to APMAIL.Pro

Version 3.0 files can be converted to APMAIL.Pro with program APMAIL.3.TO.PRO. This program has two parts. One part is intended for execution under DOS 3.3, while the other part must run under ProDOS. The first step is to use the ProDOS CONVERT program to copy this program to DOS 3.3 on your APMAIL Version 3.0 disk.

The next step of the conversion process is to create a new TITLES file for your mailing label data base under APMAIL.Pro. This must be done running APMAIL.Pro and going through the initialization of section 2.3. When APMAIL enters the add record mode, reply with "Q" on the first record, and exit APMAIL. Then, unlock and delete the empty NAMES and NAMES.INDEX files. Then proceed to convert your Version 3.0 NAMES file to APMAIL.Pro.

9.1.1 Conversion Under DOS 3.3

When the APMAIL.Pro conversion program is run, the first display is:

PRODOS CONVERT SEQUENTIAL TO RANDOM (Y/N)?

When run under DOS 3.3, the answer must be N. The program will then ask:

CONVERT NAMES FILE (Y/N)?

If the response is N, the program will terminate. When the response is Y, the names file is opened, and will be converted from a random access file to a sequential file, since ProDOS CONVERT will not convert random access files. The new file name is "NAMES 4.0." If the diskette does not contain sufficient free space to contain the converted file, it will be necessary to direct the output to a separate diskette (in a separate drive). This can be done by changing line #180 and adding the drive option. If you do not have two drives, then the NAMES file must be split into smaller files with the APMAIL 3.0 MERGE program. The smaller files can then be converted separately, and put back together with the APMAIL.Pro MERGE program.

When the conversion to sequential is complete, NAMES 4.0 can then be converted to ProDOS format with the ProDOS CONVERT program.

Special note: At the time that this was written, ProDOS CONVERT could not convert a file greater than 90 sectors. If this is still true, you must break your names file down to smaller names files (with MERGE under Version 3.0). Once the smaller files are converted, they can be put back together with the APMAIL.Pro MERGE program.

9.1.2 Conversion Under ProDOS

When APMAIL.3.TO.PRO is run under ProDOS, it is used to convert the sequential version of the NAMES.4.0 file to a random access file. The following will appear:

INPUT FILE PREFIX?

NAMES FILE PREFIX?

For the first prompt, give the prefix (/volume/directory/) of the sequential version of your names file (NAMES.4.0). This should be the same prefix used when ProDOS CONVERT copied the file from DOS 3.3 to a ProDOS volume. For the output file, give the prefix (/volume/directory/) that will be used for your mailing label data base. If the volumes are different, then you must have two disk drives for the conversion. You can use the same volume (and directory) if there is sufficient space on the diskette for both versions of the file.

9.1.3 Special Notes On Conversion

Only the names file must be converted. If both the random access version of the file and the sequential version of the file fit on the same diskette, then the conversion should be fairly easy. However, if the file is very large, it will take two additional diskettes to complete the conversion. The process looks somewhat like this:

Original diskette: APMAIL Version 3.0 NAMES file

Convert NAMES from random to sequential NAMES 4.0 with program APMAIL.3.TO.PRO (output is on a separate DOS 3.3 diskette)

Use ProDOS CONVERT to convert DOS 3.3 file NAMES 4.0 to a ProDOS pathname /volume/directory/NAMES.4.0 where /volume/directory/ is on an intermediate ProDOS volume.

Use APMAIL.3.TO.PRO under ProDOS to convert NAMES.4.0 from sequential to random access under /volume/directory/NAMES where /volume/directory/ is your mailing label volume and directory.

Once the conversion is complete, use APMAIL.Pro to build the NAMES.INDEX file and any sorted index files that you need.

This conversion process places the proper record length in the directory entry for the NAMES file.

9.2 Program APMAIL.UTILITY

This program provides five different functions:

- 1. RECORD DISTRIBUTION ANALYSIS**
- 2. CHANGE RECORD LENGTH**
- 3. DATA BASE SPACE REQUIREMENTS**
- 4. SECTOR BLOCK COMPARISON**
- 5. RESET NAMES FILE**

Option 1 will read a NAMES file (under ProDOS) and display statistics about the lengths of the data fields and the file overall. This information can be used to determine if your file can have a shorter record length.

Option 2 will convert a random access NAMES file from one record length to a new record length. The converted file is called NEW.NAMES and must be renamed when the conversion is complete. If sufficient space exists on the same diskette, the conversion is straight forward. Otherwise, a separate diskette must be used for the NEW.NAMES file, and the file copied back to the mailing label diskette after the old NAMES file is deleted. When a separate diskette is used for output of NEW.NAMES, it must be on a separate drive.

Option 3 will tabulate several different file sizes giving the block requirements for the NAMES, NAMES.INDEX, and sorted index files. With this information, you can choose the file size accordingly.

Option 4 provides a comparison of sector and block counts (including bytes of storage) for a range of file sizes. You will be prompted for the range. The sector count and bytes reflect DOS 3.3 space on a diskette while the block count and bytes reflect ProDOS space on a diskette.

Option 5 is used to set a NAMES file to empty status. Only the record count in record 0 is changed (back to 0). This is useful with the MERGE function to maintain a dummy names file for merge output.

9.3 ProDOS Requirements

It is helpful, but not essential to have a version of ProDOS, the new operating system for Apple II+ and Apple IIe computers. Likewise, you should have ProDOS documentation, or at least be familiar with the new filing concepts. Conversion from Version 3.0 to APMAIL.Pro will be a lot easier if you have used the utilities as outlined in the ProDOS documentation. You should be prepared with several blank diskettes, both DOS 3.3 and ProDOS formatted.

While two disk drives are not required to use APMAIL.Pro, it is very convenient. For large files, conversion almost requires two drives. ProDOS itself will be much easier to use with two drives.

To run ProDOS, you must have 64K of RAM.

9.3.1 CONVERT and FILER

Both of these ProDOS utilities are included on your APMAIL.Pro diskette. CONVERT is needed only if you are converting files from APMAIL 3.0. FILER is required to initialize new ProDOS diskettes and to copy ProDOS diskettes. Both programs are menu-driven and self-prompting. Complete information on their use may be found in the *ProDOS Users Manual*.

9.4 User Requirements

When all else fails, read the documentation. Better yet, read the documentation first. When converting from DOS 3.3 to ProDOS, be sure to use a backup copy of your APMAIL 3.0 files. After conversion, test out the new files with APMAIL.Pro, and then make a backup copy before proceeding (don't make any changes until you have backed up the files). If you have different mailing label data bases, start with the smallest.

9.5 Ampersand Routines

When the APMAIL.Pro disk is booted, ProDOS is loaded, BASIC.SYSTEM is loaded, and STARTUP is run. STARTUP loads the ampersand routines for APMAIL.Pro. The file is MU.MD under the /APMAIL directory. These routines are locked into memory by STARTUP. If BASIC.SYSTEM is rerun, they will be reloaded if the prefix is /APMAIL. They can be removed from memory by running any other BASIC.SYSTEM. The size of the ampersand routines is eight pages (2048 bytes). This routine uses the ampersand front end from PRINT USING & FRIENDS (from All About Applesoft, In Depth #1).

9.5.1 &PEEK/&POKE

These are the 16 bit PEEK/POKE routines described in the February 1983 issue of *Call -A.P.P.L.E.*

& PEEK location,value

This will get a 16 bit value from "location" and put the result into variable "value" (second argument must be a variable).

& POKE location,value

This will place "value" into "location". These routines use 16 bit addresses (0 to 65535, or -32768 to 32767), and fetch or store 16 bit values from or to memory locations (values are fetched in LO/Hi byte form and stored the same way).

9.5.2 &MU/&MD

These routines are used manipulation of the resident index file. When an element is added to the index, memory is moved up (&MU) to make room. If an element is deleted, memory is moved down (&MD).

& MU,source,target,length

MU is used to open a hole in memory to insert some data. The move begins at the end of the "source" field (source + length -1) and moves data to the end of the "target" field (source < target).

& MD,source,target,length

MD is used to close a hole left in memory left by removed data. The move begins at "source" and data is moved to "target" for "length" bytes (source > target).

9.5.3 &GET

This is the APMail field edit routine described in *Call -A.P.P.L.E.*

& GET vtab,htab,len,last,edit\$[:]

This routine will display a value at screen location "vtab", "htab" from the variable EDIT\$. The cursor is then placed at the beginning of the field. The user then may input or edit the value using the controls described in section 4.3.1. The field is limited to "len" characters. The "last" character keyed is returned as a numeric value. If the trailing semicolon is present, the value is left in the input buffer, otherwise it is moved back to the original string location (if it will fit; if it will not fit, then new string memory is allocated).

9.5.4 &ADRS

This routine returns the address of a symbol table entry. It is used to locate the index arrays in memory for manipulation by MU/MD and BLOAD/BSAVE.

& ADRS,variable,address

The memory location of "variable" is returned as a 16 bit value to the variable "address." The address value points at the data portion of the symbol table entry (not the variable name). &ADRS,Q\$(0),AD is used to get the address of the beginning of an array.

9.5.5 &INSTR

This routine is used for the word match of MERGE. It is described in the January 1981 issue of *Call-A.P.P.L.E.*

& INSTR,string\$,pattern\$,loc

"string\$" is searched for the value of "pattern\$" and the location is returned to "loc." If pattern does not exist in string, then a zero (0) is returned.

9.5.6 &DEL ARRAY

Also described in All About Applesoft, this routine will delete an array from the array symbol table.

& DEL ARRAY,a[b],...

Multiple arrays may be specified, separated by commas. Only the array name is coded (no subscripts).

9.5.7 &PACK/&SHOW

These routines create and display the internally coded index values.

& PACK,last\$,n,first\$,f%

The first 6 characters of "last\$" are converted to a floating point value "n." The first 3 characters of "first\$" are converted to an integer value "f%". These values are stored in the last name and first name arrays of the index. Only the alphabet characters are encoded (each character takes 5 bits in the encoded number).

& SHOW,n,f%

This routine will decode and display the character values for the encoded last name "n" and first name "f%." Non-alphabet characters (or spaces) are displayed as periods (".").

9.5.8 &SRT

This routine will perform an in memory sort of the data selected by the SORT program. The in memory sort takes approximately 4 seconds for 850 elements.

& SRT,q\$,l%

Where "q\$" is the character array of values to be sorted. The data in memory is not moved. The output is "l%," an array of elements which acts as an index into the original "q\$" array. If "q\$" has N elements, the subscript to the lowest element in the array is located in "l%(N + 1)." This value is the record number of the element in the NAMES file (list the SORT program to see how this works).

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