

XII (F3-4) Interface to 4PRINT Utility

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[**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 ½ by 11” paper with two formatted pages on each side of the paper. Printing on both sides of the paper can be accommodated, 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 were 80 characters by 66 lines, the utility could similarly handle documents that were 110x66, 165x66 and 230x66 in size. The 110x66 and 230x66 sizes were printed using a tiny but readable downloadable font that came with the utility. The other sizes were printed using the compressed line printer font that is built into the Laserjet. The 165x66 and 230x66 sizes were 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 “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 Generalized BOX Charts.

NOTE: *Recent updates to the Family History System have provided more support for “duplex” (front and back) printing of reports by allowing you to print “Only Odd” and “Only Even” numbered pages separately, and by providing Inside/Outside margin settings. As a result, there may not be as much need for this program as in the past, especially for producing family booklets. I believe it still has some usefulness for producing convenient and economical printing of working documents.*

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 provided a new Main Menu option, F3-4, to serve as an interface to the program. However the option does *not* appear on the Main Menu panel. When you choose that option, the screen is cleared and reformatted as shown below.

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      * * * Interface to 4PRINT Utility * * *

Report File: _____ 4PRINT Destination: LPT1:
Title Location: __ (T/B/A/N)
Title: _____

F1 Report File/DEST F2 Title F4 4PRINT Options F5 4PRINT Command F9 Main Menu
-----
                        4PRINT Utility Options

Print Options:
  _ Front Only      _ Back Only      _ Single Side      _ HP Duplex
  * No Scan (____)  _ Word Wrap      _ NO Prompt
  Print Pages:____ to ____ (These are 4PRINT page counts)
  Lines/Page: 72    Use Download Font #:____

Format:  _ 1x165    _ 1x230    * 2x80      _ 2x110    _ 3x76      _ 4x55
Frame Style: * Full  _ None    _ T      _ I      _ =      _ O      _ M      _ U      _ !      _ -

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View 1: Screen Display for Interface to 4PRINT Utility

The screen format 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. 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 fields of this display, identified by their descriptive labels, will be described in the following paragraphs:

“Report File:” - This field gives the name of the file containing the report that is to be printed. The default value is “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). Recognized 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” - 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).

A 60-character line is provided for the Title. The limitation of 127 characters for a command line may limit the size of the title line depending 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.

(F3-4) INTERFACE TO 4PRINT UTILITY

There are some special symbols that are recognized 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. The options include:

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

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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.

XII.A Steps for Printing an FHS Report or Chart with 4PRINT

There are several steps involved for printing an FHS report or chart using the 4PRINT utility. Of course the first is to acquire and install the 4PRINT program. I will assume that that has already been done. The next section describes some printer setups for use with the 4PRINT program and I will also assume that you have become familiar with those and have selected the appropriate setup for your purposes. (Section XII.XII.C on page XII-5 also provides some suggestions for option settings that you may wish to consider when printing different reports or charts.) Basically the steps include:

- Print the Report/Chart to a file using an appropriate Printer Setup
- Select Main Menu option F3-4 to invoke this program
- Use Program Option F1 to identify the Report File that will be printed. (*If you have just printed the report or chart, this value should already be properly set*)
- Use Program Option F2 to change the Title options. When you select this option, the bottom portion of the screen display will be cleared and reformatted with descriptions of some special 4PRINT controls that can be used within the text of the title. (*The title field will probably contain a default title, generated from the “T 4 9” Title Line in the RDF (Report Definition File) entry for the report or chart being printed*)
- Use Program Option F4 to make changes to 4PRINT Option settings. (*Many of the option settings will have been already set based upon the form size parameters that were used in the Printer Setup*)
- Use Program Option F5 to examine the 4PRINT command and submit it for execution. The bottom portion of the screen display will be cleared and reformatted with a line(s) describing the command that will be used to invoke the 4PRINT program. Notice that the name of the report file dataset will have a prefix identifying the Report Group Directory from the Family File setup that you are using. You may also find that the Title supplied on the 4PRINT command line has been truncated if the other option settings are very long. A DOS command line can not be more than 127 characters.

You can make any changes that you feel are appropriate and then use option F6 to submit the commands. The program will create a FH\$4PRNT.BAT file in the FHS program directory and then use the Basic SHELL command to “Call” the .BAT file. The screen will be cleared and you will be able to view the messages from 4PRINT as it processes your request. At the end of the printing, you must press a key on the keyboard to complete the process and return to this program.

XII.B Printer SETUPS For Printing FHS Reports for 4PRINT

I have provided a separate Printer Definition File (4PRINT.PDF) containing suggestions for setups to use when “printing” a chart or report to a file in preparation for using the 4PRINT utility to print the file. To view the contents of that file, select Main Menu option F3-C, then press F1 (File), 2 (Load) and type “4PRINT” for the prefix of the PDF file name. After the printer setups are read from the file, press F3 to see a list of them. You will find that there are actually 9 setups there. They are:

HPLASER	A printer setup for HP Laserjet III (and compatible) printers
SCREEN	A printer setup for viewing reports on the screen (80 character page width)
FILE	A printer setup for printing to a report to a file with maximum (255 character) page widths
4PRINT1	A setup for printing to a file with 230 character lines (4PRINT 1x230)
4PRINT2	A setup for printing to a file with 165 character lines (4PRINT 1x165)
4PRINT3	A setup for printing to a file with 110 character lines (4PRINT 2x110)
4PRINT4	A setup for printing to a file with 80 character lines (4PRINT 2x80)
4PRINT5	A setup for printing to a file with 76 character lines (4PRINT 3x76)
4PRINT6	A setup for printing to a file with 55 character lines (4PRINT 4x55)

The 4PRINT1 setup has proven satisfactory to me for printing box charts and other wide reports or charts.

The 4PRINT2 setup is convenient for printing Ancestor Charts (4/5 Gen forms) with inside/outside margins of 15 characters.

The 4PRINT3 and 4PRINT4 have been satisfactory for printing free format style reports. The 80 character print line is a bit more readable, but the 110 character print line may be necessary for printing some descendant reports with a large number of generations of descendants.

The last two styles may be useful for printing report indexes in “multiple column” format.

XII.C SUGGESTIONS FOR USING 4PRINT TO PRINT FHS 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 first be “printed” to a File. The option for sending a report to a file is provided by a “bottom line prompt” when you request printing a chart or report in each of the FHS report programs.

XII.C.1 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 that 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 4, just enough for the line reference indicators.

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. You may also consider including in the 4PRINT generated title your name and address as original source of the report.

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XII.C.2 Printing Vertical Box Charts (F2-C-2-1)

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 ½ by 11 inch sheets or even 8 ½ 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. (**NOTE:** This 1997 update also provides for printing Ancestor charts in this same format... using Main Menu option F2-C-1-2.)

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 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.

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 can *not* use the NO SCAN option because 4PRINT must scan the file to 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 on the screen. (This symbol set is identified as CP437 among the “standard” symbol sets that can be chosen in the printer setup program). 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.]

XII.C.3 Printing Generalized BOX Charts (F2-C-3)

The horizontal format of the Generalized 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 to “Print Line Reference numbers” on Both the left and right sides of the page.

I prefer an alignment that 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 ½) 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.

XII.C.4 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.

(F3-4) INTERFACE TO 4PRINT UTILITY

When printing the 4 or 5 generation charts to a file for processing by 4PRINT, you should of course select the Printer SETUP for 2x165 4PRINT printing and set the Inside 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 to one of the Standard symbol sets, CP437 or CP850.

XII.C.5 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.

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.

XII.C.6 Printing Report INDEXes

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

When printing a report index with the 4PRINT utility I have found it useful to set the Margins to 0. 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 a HP compatible printer, I hope you will give it a try. There are additional parameters for 4PRINT that 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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