

## **Printing Reports Under Windows with the Family History System**

The *Family History System* software was originally written for the PC-DOS operating system before the Windows OS existed. In that environment, printers were identified in each program by the type of attachment to the PC (usually either by connection to a “parallel port” designated by LPT1, LPT2, etc, or to a “serial port” designated by COM1, COM2, etc.). The printer “drivers” were relatively simple and most printer formatting functions were invoked by “control characters” sent to the printer by the program along with the text of the document being printed. The formatting control characters were typically dependent upon the manufacturer of the printer, although there were some sets of control characters that became “standards” and were recognized by many printers (e.g. the printer controls used by Epson impact printers and those used by HP Laserjet printers).

For the DOS environment, the *Family History System* provided a “Printer Setup” option for identifying the type of connection (by the printer “DEST”, which would typically be LPT1, LPT2, COM2, etc) and a set of control characters for performing very basic formatting actions such as executing a LineFeed or PageAdvance or selecting a compressed, fix width font for the document. The most recent version of the *Family History System* provided for multiple printer setups of this type but the software remained a DOS application, relying upon this very simple interface to the printer.

When Windows was introduced, one of its purposes was to standardize and simplify the interface between programs and devices attached to the personal computer. (Another purpose, of course, was to standardize and simplify the interface between the user and the programs.) In this environment both printers and fonts became “resources” of the operating system. Printers were identified and selected by names or identifiers in a list maintained by the operating system and more complex “printer drivers” were developed to standardize and simplify the interface between programs and printers.

Although the Windows environment was much different from the old DOS environment, it continued to support most of the documented “features” of the earlier operating system so that most DOS programs continued to operate under the Windows OS. Even though the most recent versions of Windows have become almost completely separated from their humble beginnings and no longer promise to support the DOS environment, many of those older programs, including the *Family History System* (for versions dated 1993 or later) continue to operate under these operating systems. However, over the years the means of attaching printers to the computers have changed so that most newer printers are attached to USB connections or are accessed over a network. Both of these modes of accessing printers were unknown to DOS and are not formally supported for programs designed for that environment.

The paragraphs below describe several ways for obtaining printed output from the *Family History System* software.

### **Solution #1: Use a printer attached to a parallel port on the PC.**

Windows continues to accept requests from DOS programs for access to printers attached to ports identified as LPT1:, LPT2:, etc. If your computer and your printer have parallel ports allowing them to be connected by the older style printer cables, then the *Family History System* should be able to communicate with the printer using an FHS “Printer Setup” having a DEST of “LPT1”. The printer must also be able to process a set of printer control codes that are well known.

As an example, I have a fairly recent Compaq Presario PC that has a parallel port and an HP Laserjet 1320 printer that has both USB and parallel ports for connecting to the PC. The PC is using Windows XP as the operating system. I have been able to use the following FHS printer setups with this configuration. The “Base” in these descriptions is the name of the set of printer controls/symbols supplied with FHS that is presented in a list when you choose to Change the “Printer” in the setup.

The first setup produces print lines of 135 characters on a standard letter size page:

Base: HPLJ3                      DEST: LPT1  
Width: 135 characters              Length: 79 Lines  
Top Margin: 0 lines              Bottom Margin: 0 lines  
Inside Margin: 8 characters      Outside Margin: 5 characters  
Options: SingleSide=Y    FormFeed=Y    PageWait=N

The second produces print lines of 160 characters on a standard letter size page, with more generous margins.

Base: HPDJ500                      DEST: LPT1  
Width: 160 characters              Length: 79 Lines  
Top Margin: 0 lines              Bottom Margin: 0 lines  
Inside Margin: 13 characters      Outside Margin: 10 characters  
Options: SingleSide=Y    FormFeed=Y    PageWait=N

Notice that the first uses printer codes used by the HP Laserjet III printer and the second uses printer codes used by the HP Deskjet 500 printer. Both of these use very similar control codes that are part of a standard PCL (Printer Control Language) that has evolved from those used by early HP Laserjet printers and both will work with the HP1320 and other HP printers. Many other manufacturers printers will recognize these same control codes.

To use Landscape printing to produce a print page having 59 lines of 175 characters each (suggest using Inside and Outside margins of 10 characters each), change the printer codes of the HPLJ3 printer setup (in hexadecimal mode) to be:

Initial              1B 45 1B 26 6C 31 4F 1B 26 6B 32 53 1B 28 31 30 55

To use the duplex feature of the HP1320 to print on front and back, using landscape printing and flipping the pages UP, change the printer codes to be:

Initial              1B 45 1B 26 6C 31 6F 31 53 1B 26 6B 32 53 1B 28 31 30 55

Inserting the same (underlined) sequence of codes into the “Initial” string of the HPDJ500 printer codes will provide a landscape print page having 59 lines of 210 characters each.

### ***Solution #2: Print to a File and Use a Word or Text Processor to Print the File***

This is the suggestion that I have usually given for those who must attach their printer through a USB port. That is, first print the FHS report to a file and then use a Windows word or text processor to reformat the report file and print it using Windows printer drivers. When I finally got around to trying that myself, I found that it probably requires some additional instructions. In fact, I found that the most satisfactory solution for me makes use of the Open Office software, the “free and open productivity suite” that can be downloaded from the web site: <http://www.openoffice.org>. This product has proven to be very compatible with various documents (both text and spreadsheet) that I have created with MS Office 2000, and it has the additional feature of being able to easily convert the documents to PDF format for sharing with others.

Begin by setting up an FHS Printer setup for printing to a file as follows:

Base: FILE                      DEST: FILE  
Width: 160 characters              Length: 66 Lines  
Top Margin: 0 lines              Bottom Margin: 0 lines  
Inside Margin: 0 characters      Outside Margin: 0 characters

Options: SingleSide=Y FormFeed=Y PageWait=N

The numbers used in the setup are assuming we are going to print in Landscape mode using a 7.5 pt fixed width font. Experiment with changing these for printing in portrait mode or with other size characters.

When printing reports in FHS, you will be asked whether to print the report to “1 Screen, 2 Printer, 3 File”. Reply “3” to print the report to a file. You will then be asked to enter a name for the file. Use something like “REPORT.TXT” or “ANCRPT.TXT” and press enter. After the “printing” is complete, open the “My Computer” or similar application on your Windows desktop, browse to the location of the output file (probably either in the C:\FAMILY directory or C:\FAMILY\REPORT directory). Then right click on the report file and select “Open With” from the options shown. After installing Open Office, “swriter” should be one of the applications listed to open the file.

After the file has been opened with “swriter”, click on “Format” (among options near the top of the window) and “Page” in the option list that opens. On the “Page” tab of the option window that opens, set the “Orientation” to “Landscape” and the Margins to: Left=.5, Right=.5, Top=.3, Bottom=.3. Then Click “OK” to return to editing the document.

With the document in view, click on “Edit” and “Select All” to cause the entire document to be “hilited”. The name of the Font shown at the top of the document will probably be “Courier New”. This is a fixed width font that will be OK for most text reports. To print charts, or if you have entered international characters into your file using the DOS version of FHS, you will want to use the “MS Linedraw” font. (If it doesn’t appear in the list of selectable fonts, you can install it from the file “LINEDRAW.TTF” that is distributed with FHSW, the preliminary Windows version of FHS.) The size of the font will probably be “10”. Change this to 7.5 (by typing 7.5 in place of the 10 near the top of the window). This should cause the size of the text in the whole document to adjust so that each page fits within the chosen margins. You can then click “File”/”Print” to open the interface for the Windows driver for your printer. Or click “File”/”Export to PDF” to “print” the formatted document to a file that will be more universally accessible by ones with whom you may wish to share the report.

**Solution #3: Use FHSW, the Windows version of the Family History System.**

When it became apparent that printing under Windows was going to be a major problem for most users, I began work (back in 1998) on a Windows specific version of FHS, using MS Visual Basic to convert the software. This was (is) not a trivial project, due to the 16 year history of previous development of the software which produced a relatively complex file structure and rich variety of reports. As a result, the conversion is still not complete although the software that is now downloadable from the FHS web site: <http://www.familyhistorysystem.com>, is able to produce most reports (except the index reports that are part of the extended system sent to registered users) and supports the entry and update of all of the information in an FHS Family File (except the Event records that were added in 1997). Using FHSWIN (or FHSW), you can print all of the available reports using standard Windows printer drivers and they should appear just as they would when produced by the DOS version of the software.

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I hope the above remarks help you to continue using the *Family History System* to produce reports for sharing your information. If you wish to find out more about the Printer Codes that are used in the FHS printer setups, I recommend the book: *Printer Bible* by Winn L. Rosch and published by MIS Press. The First Edition that I have was published in 1996.