

VIII (F3-C) Printer Setups

VIII (F3-C) PRINTER SETUPS VIII-1

VIII.A FHS PRINTER SETUPS VIII-1

VIII.B MODIFYING THE PRINTER SETUP TABLE..... VIII-2

VIII.C CHANGING THE CURRENT PRINTER SETUP..... VIII-3

 VIII.C.1 Changing Printer Codes VIII-4

 VIII.C.2 Modifying Printer Chart Drawing Symbol Tables VIII-5

VIII.D ADDING, DELETING AND MODIFYING PRINTER SETUP TABLE ENTRIES..... VIII-5

The types of controls, which the Family History System programs exercise over printers, are really quite primitive. Basically, the report printing programs require that:

- The printer must use **“fixed width” characters**; that is, all characters must be the same width on the printline, unlike the “proportional” fonts that are popular today. The FHS program determines the print position on a line by the *number* of characters that precede that position, *not* the *total width* of the characters that precede the position. The programs assume that all printed lines have the same number of printable characters per line. The number of characters that can be printed using proportional fonts depends upon the total width of the individual characters on the line
- The printer must recognize a **“line feed” command** for advancing to the first print position of the next line
- The printer must recognize a **“form feed” control code** for establishing the next print line at the top of a new page (*or* there must be a fixed number of printable lines from the top of one page to the top of the next page)
- The programs must know what **symbols** to use **for forming boxes and lines** when printing charts (and, possibly, how to tell the printer to recognize those symbols).

In addition, there are some printing options that do not involve any special printer commands but control how the programs will process report output.

To accomplish this limited amount of control over the printing process, the Family History System programs do not use “printer drivers” but rather a “Printer Setup” table. Each printer setup is identified by a short (8-character) Name and a brief description. You can have an unlimited number of Printer Setups, all stored in a Printer Definition File (xxxxx.PDF). Within each report program, you can switch between printer setups using program option F2, which displays a “printer setup selection list” in a viewing area in the lower right corner. Each entry in the selection list consists of the Name and Description for the corresponding Printer Setup. Use the Up/Down cursor control keys to select the desired Printer Setup and press Enter to end the selection process.

SETUP	Description
DEFAULT	EPSON Standard
CANONBJC	Canon BJC Printer
PROPRINT	IBM ProPrinter
HPLASER	HP Laserjet
4PRNT80	File Output - 80 Chars
4PRNT110	File Output - 110 Chars
UP/Down/Enter Select ESC Cancel	

View 1: Printer Setup Selection List

The Printer Definition File is maintained using Main Menu option F3-C.

VIII.A FHS Printer Setups

A printer setup in the Family History System consists of several parts, including:

- Parameters describing the “size” of the forms being used on the printer. The parameters are:
 - *Form Width* - the number of printable positions across the page
 - *Form Length* - the number of printable lines down each page

FAMILY HISTORY SYSTEM

- Parameters describing the amount of “white space” to be placed around the printed portion of each page. The parameters are:
 - Top Margin* - the number of blank lines to place at the top of each page (before the heading)
 - Bottom Margin* - the number of blank lines to allow at the bottom of each page (after the footing)
 - Inside Margin* - the number of blank characters to allow for binding (on the left side of each page when printing single sided; on the left side of odd numbered pages and the right side of even numbered pages when printing double sided)
 - Outside Margin* - the number of blank characters to allow on the side opposite the binding (on the right side of each page when printing single sided; on the right side of odd numbered pages and the left side of even numbered pages when printing double sided).
- Options for processing report output:
 - Single Side (Y/N)* - Determines whether to allow for duplex printing of pages. When Single Side=“N”, the program will alternate the Inside and Outside margins between left and right margins and will allow you to request printing Only Odd or Only Even numbered pages of each report
 - Form Feed (Y/N)* - Determines whether the Form Feed printer control code is to be used to advance to the top of each page. When Form Feed=“N”, the program will count the number of lines printed per page and use the “Line Feed” printer control code to advance the appropriate number of lines to the top of a page.
 - Page Wait (Y/N)* - Determines whether the report printing program will pause at the top of each new page to allow you to make manual adjustments between the printing of each page. **NOTE:** *You can manually force the program to pause at the top of each page without setting this option. Simply pause the printing by pressing a key on the keyboard, then continue the printing by pressing the PGDN key. The program will pause at the top of the next page. Using PGDN each time to continue the printing will cause the program to pause at the top of each new page.*
- A Printer Control Table, containing printer control codes for accomplishing several tasks, including:
 - Initialize the Printer* - this sequence of control codes might include commands to “reset” the printer to a default setting, select a particular set of print symbols and establish the page size
 - Select the Font* - this sequence might be used to select the character pitch (width), character spacing, and character height
 - Line Feed* - this sequence will typically cause a “carriage return” to the first print position and a “line feed” to the next print line
 - Form Feed* - this sequence of printer control codes is used to force the printer to advance to the top of a new page when the “Form Feed (Y/N)” printer option is set to “Y”
- A set of ASCII codes for symbols that can be used to print the boxes and lines in graphical charts. There are actually three sets of symbols...one for printing standard boxes, one for printing connecting lines, and one for printing “hilited” boxes in a Family Path Chart.

VIII.B Modifying the Printer Setup Table

When you select Main Menu option F3-C, you are presented with a screen display (see next page) showing information about the current printer setup. The program options that are available in the main view for the Printer Setup Program are:

F1 File - Which allows you to Write to or Read from the Printer Definition File

F2 Change - Which allows you to make changes to the currently displayed Printer Setup

F3 Setups - Which will show a list of the current Printer Setup Table entries, allowing you to Select another setup as the “current” setup, Add a new entry to the table or rearrange the sequence of entries in the Printer Setup Table

(F3-C) PRINTER SETUPS

- F4 Select DEFAULT* - Which allows you to select a new Default printer setup from the current Printer Setup Table. The Default Printer Setup is the one that will be chosen as the Current setup at the beginning of an FHS work session
- F6 Print* - Which allows you to print a report showing information about the Current Printer Setup or about ALL Setups in the Printer Setup Table
- F9 Return* - Which will return to the Main Menu program of FHS. If you have made any changes, you will be prompted to confirm that it is okay to return to the Main Menu without having saved the changes. Changes to the current printer setup will remain in effect until another setup is selected.

FHS Printer Table Customization Program	
Printer Definition File: _____ .PDF	Setups: __ File Size: ____
Default Setup: _____	Base: _____ Dest: _____
Current Setup: _____	Base: _____ Dest: _____
Form Size: Width= __ characters Length= __ lines	
Margins: Top= _ lines	Bottom= _ lines
Inside= __ spaces	Outside= __ spaces
Options: SingleSide: _ (Y/N)	FormFeed: _ (Y/N) PageWait: _ (Y/N)
F1 File F2 Change F3 Setups F4 Select DEFAULT F6 Print F9 Return	
TYPE	CODES ()
Initial	Line Drawing Symbols
Font 1	* 218 * 193 * 191 * 179
Font 2	
Font 3	* 180 * 195 * 196
Line Feed	
Form Feed	* 192 * 194 * 212 * 197
Reset at End	
F1 End F2 Change Mode	F1 End F2 Standard PgUP/PgDN More

View 2: Printer Setup Program

The next two sections will look at the procedures for Changing the Current Printer Setup and Adding a New Printer Setup to the Printer Setup Table.

VIII.C Changing the Current Printer Setup

When you select program option F2 to Change the Current Printer Setup, the menu line in the top half of the screen will be reformatted with the following options:

F1 PRINTER F2 Dest & FORMS Params F3 CODES F4 SYMBOLS Esc Return

The purpose of the options are:

F1 Printer - Allows you to select a Printer from a list in the viewing area located in the lower right portion of the screen. This list is constructed from the PRINTERS System Table

F2 Dest & FORMS Params - Allows you to make changes to the parameters in the upper portion of the screen. The DEST parameter is the "Destination" for the printer output. Normally it will be "LPT1:" for the standard Parallel Printer port, although it could be:

PRN:... generic code for attached printer

LPT2, LPT3... if you have additional printer ports defined, as in a networked environment

COM1, COM2,... if you are using a Serial Printer

FILE - if the output is to be sent to a file; during the printing of a report with destination FILE, you will not be prompted for the report's destination (Screen, Printer or File) but will be immediately asked to supply a file name for the report output

FAMILY HISTORY SYSTEM

SCRN: - if the output is to be sent to the screen. If the current printer setup has SCRN: for the report destination, you will not be prompted for a report's destination (Screen, Printer or File) during the printing process. The report output will be automatically sent to the screen

F3 CODES - Allows you to change the Printer Codes table shown in the lower left portion of the screen. (See the next section)

F4 SYMBOLS - Allows you to modify the Line and Box drawing symbol tables shown in the lower right portion of the screen (see section VIII.C.2 below)

ESC - Resets the option line to the primary option menu for the program.

The next two sections describe more about the procedures for modifying the Printer Codes and the Symbol sets.

VIII.C.1 Changing Printer Codes

If you select the "F3 CODES" option when Changing the Current Printer Setup, the current viewing area shifts to the lower left portion of the screen where the printer code table is shown. There are seven entries in this table, although only five are used at this time. Those are the entries labeled: INITIAL, FONT1, Line Feed, Form Feed, and Reset at END

The control codes in the first two entries of the Printer Code Table are actually sent to the "printer" one after another at the beginning of the printing of a report. Together they should cause the printer to be set up so that the other parameters in the Printer Setup (Form Size, Symbol Set) will be valid.

The "Line Feed" printer control sequence would normally consist of the two standard commands for Carriage Return (x"13") and "Line Feed" (x"10"), but for output to a printer the Basic language inserts an automatic Line Feed character following each Carriage Return. Therefore, if the DESTination for the Printer Setup is a printer, no Line Feed character is necessary.

Most printers recognize the standard "Form Feed" (x"12") printer code for causing an advance to the top of a new page. When the printer controls the advance to the top of a page, it is important that it be properly initialized so that it knows where the top of the page is and the size of the forms that are being used. (This is particularly important with printers that use continuous forms) If your printer does not recognize the "Form Feed" control code or if you are using a different Form Size than your printer has been set up to handle, you can set the Printer Parameter "FormFeed (Y/N)" to "N" and the program will use Line Feeds (and the Form Length among the Printer Parameters) to advance to the top of a new page.

The "RESET at END" printer codes are sent to the printer after a report is completed to reestablish settings which you may prefer for your printer.

The printer control codes can be entered in two modes, either as sequences of decimal numbers or as sequences of two character "hexadecimal" codes, each representing the ASCII values for the characters in the control codes. The method of representation is shown, within parentheses, in the upper right corner of the viewing area for Printer Control Codes. It will appear as "(DEC)" or "(HEX)". The F2 function key ("Change Mode") can be used to toggle between the two styles of character representation.

NOTE: *Some control codes use "characters" which do not correspond to displayable characters on the screen. That is the reason for using decimal or hexadecimal representations for the control codes.*

When you are entering codes in DECimal mode, each character in the control code is represented by a 1 to 3 digit decimal number between 0 and 255, inclusive (0 <= number <= 255). The numbers are separated by commas. If the number is typed with alpha characters or falls outside the range 0-255, then it will be shown as a 0 after you press F1 to complete the update process.

When you are entering codes in HEX mode, then each control code character is normally represented by a two-character Hexadecimal representation of the ASCII value for the character. Each character in the Hex code is a numeric digit (0-9) or an alpha character in the range (A-F). The individual representations of control code characters are separated by spaces.

NOTE: *In the HEX mode of data entry, you can also use the following representations for control code characters.*

(F3-C) PRINTER SETUPS

- If a control code character *does* correspond to a displayable character, then you can represent it in the control sequence by that single character with a space before and after it. The character will be converted to HEX format after you have completed the update process by pressing the F1 key
- A control code character can be represented by a 3 *digit* decimal number for the ASCII value of the character. For instance, the decimal number “123” would identify the same character as HEX ”6B”, and the decimal number “012” would represent the same character as x”0C”. (If the last example were entered as decimal number “12” it would be interpreted as the HEX number “12” because the representation only has two digits) The Decimal representations will be converted to HEX mode when you press F1 to complete the update of control codes.

These modes of entry should accommodate the control code descriptions in any printer manual.

NOTE: *The maximum length of the field for each entry in the printer control table is 99 characters. If you type beyond the limits of the field on the screen, the entered text will scroll horizontally to allow you to continue.*

VIII.C.2 Modifying Printer Chart Drawing Symbol Tables

If you select the “F4 SYMBOLS” option while Changing the Current Printer Setup, the current viewing area moves to the lower right corner of the screen where the Line Drawing Symbols are shown. There are actually three sets of symbols that are used for drawing the lines and boxes in charts printed by the Family History System. One set is used for drawing the standard ancestor charts and maps and for drawing lines between the information boxes of the “box” style charts. A second set is used for drawing the standard information boxes in the “box style” charts, and a third set is used to draw the information boxes for individuals who fall on the “path of relationships” joining two individuals in the “Family Path” style of chart. Pressing the PGUP and PGDN keys while in the Symbols viewing area switches among the three sets of symbols.

Each chart symbol is represented on the screen by a graphic symbol from the set of characters, which are displayable on the computer screen. Next to each symbol is a decimal number representing the ASCII value for a character among the printable symbols for the printer. Not all printers are capable of printing the graphic symbols that are shown on the screen, so it is sometimes necessary to use alternate symbols. The Printer Setup program recognizes three sets of symbols that are commonly supported by various printers. One set, supported by the symbols associated with “Code Page 437” are identical to the graphic symbols that appear on the screen. A second set, supported by the symbols associated with “Code Page 850”, a common international standard, contains most of the graphic chart drawing symbols except the “double line” symbols that are used to draw the “Family Path” boxes. The third set of symbols consist of the standard “typewriter” character: +, -, and ! Function key F2 can be used to select one of these “standard” symbol sets while you are working in the Symbols viewing area. You can also modify the numeric representation of each printer symbol by TABing to the appropriate field and typing the decimal number representing the character in the printer’s symbol set.

When you are finished modifying the set(s) of chart drawing symbols, press the F1 key to end the symbol update session.

VIII.D Adding, Deleting and Modifying Printer Setup Table Entries

If you have more than one type of printer available for printing FHS reports, you will want to have a Printer Setup for each of them. But even if you have only one printer, you may have need for no more than a single printer setup. For instance, you may want to have a separate setup for printing to files, one that would have “empty” control sequences for Initializing the printer and selecting the font. You may also want to have separate setups for different size forms or for selecting different sizes of characters for printing. If you use the 4PRINT utility for printing reports in Landscape, duplex mode on HP Laserjet/Deskjet compatible printers then you could also have separate setups for the different “form widths” supported by the 4PRINT program (80, 110, 165, and 230 characters).

To create a new printer setup, start from the main display of the printer setup program and select option “F3 Setups”. The viewing area in the lower half of the screen will be cleared and reformatted with a list of the current printer setups as shown on the next page. One of the Printer Setup Table entries will have the Setup Name accented by “reverse video” hilighting.

FAMILY HISTORY SYSTEM

Setup	Description	Printer	Dest
LASER	Panasonic KXP4450	HPLASER	LPT1:
PROPRINT	IBM ProPrinter	PROPRINT	LPT1:
FILE	File Output	FILE	FILE
SCREEN	Screen Output	FILE	SCRN:
4PRNT80	4PRINT - 80 Chars	FILE	FILE
4PRNT110	4PRINT - 110 Chars	FILE	FILE
4PRNT165	4PRINT - 165 Chars	FILE	FILE

UP/DN/Enter Select F1 Change F2 Add F3 Delete F4 Move Esc Return

View 3: List of Printer Setups

The options available to you while working in this view are:

UP/DN/Enter - move the hiliting to a setup name by using the UP/Down cursor control keys and press Enter to select that setup as the Current Printer Setup. The screen will be reformatted to show the details concerning the selected printer setup

F1 Change - Pressing the F1 key while a Setup Name is hilited will cause the "Setup" and "Description" fields for that entry to become modifiable. You can type over those fields to change them, then press Enter to terminate the update of the descriptive information for that entry

F2 Add - This causes a new, blank line to be inserted following the line for the entry that was hilited. You will be able to type information into the Setup and Description fields. Then press Enter and the new table entry will be initialized with the same parameters, codes and symbols as the Default printer setup. The new setup will become the Current printer setup and you will be placed in the mode of Changing the current setup

F3 Delete - This will delete the hilited table entry. You will be prompted to verify that you wish to remove that entry from the table. You cannot delete the Default or the Current table entries

F4 Move - This option allows you to change the order of the setups in the list. Move the hiliting to the name of the entry that you wish to move, press F4, and then use the UP/Down cursor control keys to move that table entry to another position in the list. Press the Enter key when you have reached the desired position

Esc Return - Returns you to the primary menu of program options.