

LSRBOX 3.0

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WordStar MailMerge Templates for
Box and Line Drawing with LaserJet Printers
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WordStar provides no direct access to the graphics capabilities of the Printer Command Language (PCL) built into Hewlett-Packard LaserJet Series II and later printers. The accompanying Mail-Merge template files overcome this deficiency by providing a method for recording PCL box-drawing or line-drawing commands in a format that WordStar can pass to the printer. If you choose to print a box, you can have it shaded with a gray scale or filled with any one of six standard HP graphics patterns. The special effects on these pages were created using these templates.

The template **LSRLINES.MRG** records the PCL commands to draw *LINES*.

The template **LSRBOXES.MRG** records the PCL commands to draw *BOXES*.

To use these files, merge-print them with WordStar 5.0 or above. The message "Print Wait" will appear at the top of your screen. Select "M" from the Classic Opening Menu (or <Alt-F, M> from the pulldown menus) to bring printing into the foreground. You will then be prompted to provide all the information needed to define a line or box. You will be given your choice of providing input in inches (including optional decimal places) or dots (a dot is the smallest unit the LaserJet can print, 1/300th of an inch).

The information you provide will be recorded in a WordStar User Print Control Symmetrical Sequence, similar to those you can create by hand using the ^P! USER PRINT CONTROL dialog box.

The Merge Print dialog box contains a field labeled "Redirect output to." For these merge templates, which use ASC256.PDF, the default file name is ASC256.WS. I suggest you fill in a name in this field describing the specific box or line you are making. If you do not rename the output file from the default, it will be overwritten the next time you use one of these templates.

FIXED AND RELATIVE BOXES AND LINES

A box or line produced by LSRBOX can be either **fixed** or **relative**.

A *fixed* box user print control has coded into it the position at which it will print. It will print in this same position regardless of where you insert the symmetrical sequence into a WordStar file. A fixed box or line is ideal for creating page borders.

A *relative* box user print control has no absolute position coded into it. It will print its upper-left corner at whatever point you insert the symmetrical sequence into a WordStar file. A relative box is ideal for enclosing or shading parts of a document that may move with future editing, and you might use a relative line to separate sections in a document.

SYMMETRICAL SEQUENCES OR PURE PCL CODE

By default, LSRBOX template produces WordStar User Print Control symmetrical sequences for direct insertion into WordStar document files. As an option, the LSRBOX templates can also produce pure PCL code. Such code might be useful by a program other than WordStar. Also, WordStar 6.0 and above allow you to insert the name of a file that contains pure PCL code into a User Print Control by issuing ^P! and, at the "Characters to send to printer" prompt, typing:

```
%F"C:\FILENAME.EXT"
```

NOTE: MailMerge terminates its output files with a hard carriage return. When reading in a PCL file with %F, this hard return will confuse WordStar. If you intend to feed the PCL code into WordStar, open the output file in *non-document* mode, issue ^QD to go to the right end of the line, ^G to gobble up the unwanted hard return, and then ^KD to save and exit. This is only necessary if you are using the option to produce pure PCL code. I recommend that if your goal is to use the code with WordStar, simply have LSRBOX create symmetrical sequences for you instead.

To make these templates produce only pure PCL code instead of symmetrical sequences, open LSRBOXES.MRG and LSRLINES.MRG in WordStar *document* mode and find the line that says:

```
.SV PCL_ONLY=NO
```

Change it to:

```
.SV PCL_ONLY=YES
```

To go back to producing symmetrical sequences, instead of pure PCL code, change YES back to NO. (If you often need both kinds of output, you may want to make copies of LSRBOXES.MRG and LSRLINES.MRG under different names and permanently set PCL_ONLY= to NO in the originals and YES in the copies.)

FILES

LSRBOX consists of three files:

LSRBOX.WS	the document you are now reading
LSRLINES.MRG	template for recording line-drawing codes
LSRBOXES.MRG	template for recording box-drawing codes

These files can be placed in any subdirectory.

INSTALLATION

You must have ASC256.PDF installed in your WordStar subdirectory or on your WordStar working disk. (If you do not have this PDF installed, run WINSTALL, select "Modify or install a printer (PRCHANGE)," enter ASC256.PDF at the PDF name prompt, cursor down to "Others A-F (incl. generic)," insert printer disk 1 if you are prompted to do so, and select ASC256.PDF.) ASC256.PDF uses the WordStar file DRIVERA.OVR, so it, too, must be available.

Because of a bug in WordStar 5.0 and 5.5, the PCL codes created by these templates will NOT be properly saved to disk if you have turned off "Automatically fill out last record" (label SETEOF) at WSCHANGE menu D,B,H,G. Since the default is ON, most users will not encounter this problem. This bug is fixed in WordStar 6.0, so users of that version may set this WSCHANGE switch to ON or OFF as they please.

On the other hand, if you have WordStar 6.0 and want to create pure PCL code, for most applications (including WordStar itself), "Automatically fill out last record" (label SETEOF) at WSCHANGE menu D,B,H,G should be set to OFF, which is the opposite of the default. Otherwise you may get stray arrow graphic characters in your file (being the ^Z codes that WordStar pads the last record with).

LaserJet printers have "dead zones" in which no printing normally occurs. Unfortunately, the Hewlett-Packard Printer Control Language does not take these dead zones into account in its print-cursor positioning commands. Consequently, if you code the commands to print a box one inch down from the top of the page and one inch in from the left edge, the box will really print a little farther down and a little farther right than you intended.

To correct this problem, the LSRBOX templates introduce four fudge factors into their calculations:

FUDGEHORFIX: for horizontal positioning of fixed boxes
FUDGEVRTFIX: for vertical positioning of fixed boxes
FUDGEHORREL: for horizontal positioning of relative boxes
FUDGEVRTREL: for vertical positioning of relative boxes

The values for these four fudge factors are measured in dots (300ths of an inch) and are set in the .SV set-variable lines at the beginning of LSRBOXES.MRG and LSRLINES.MRG. The default values (-088, -005, -000, +038) are correct for my LaserJet III printer. You may change these to whatever you wish. In particular, LaserJet II owners may wish to change the first one, FUDGEHORFIX, to around -060. You *must* edit LSRBOXES.MRG and LSRLINES.MRG in document mode and with WordStar 5.0 or above.

NOTE: These values *must* have either a + or - sign in front of the numbers, and these values *must* each contain three digits. The leading zeros are necessary.

FUDGEVRTREL compensates for the fact that WordStar positions text from the bottom of a character, rather than the top.

To disable any one of these fudge factors, set it to -000.

See the last page of this manual for help in finding the right FUDGEHORFIX value for your printer.

The boxes and borders on page one should be centered perfectly. Also, every other line of text in this paragraph should be shaded, without the shading touching the intervening lines. If this is not the case, then you will want to adjust the fudge factors. Negative values move the object being printed up or to the left; positive values move it down or to the right. Note that the codes in this file are not dynamic. Even if you change the fudge factors in LSRBOXES.MRG and LSRLINES.MRG, reprinting this file will show no change.

PRINTING

To print your line or box with WordStar, you can:

- print the file (default: ASC256.WS);
- use ^KR to read the file containing the symmetrical sequence into another file, then print the other file;
- use .FI to have the file containing the symmetrical sequence inserted into another file at print time.

To have your line or box print on every page, read the file containing the symmetrical sequence into a WordStar header or footer line.

Comparing a printout of this document with the contents of the LSRBOX.WS file should give you some ideas of how to use LSRBOX.

The LSRBOX templates should work with all LaserJet II and III compatible printers. Please let me know of any exceptions.

REVISION HISTORY

- Version 1.0: Coded PCL commands into plain text to be used in conjunction with WordStar's ^PQ, ^PW, ^PE, and ^PR custom print controls. (24 April 1989)
- Version 2.0: Coded PCL commands into symmetrical sequences. (26 April 1989)
- Version 2.1: Added support for WordStar 5.5 (which had a bug in its DRIVERA.OVR). (13 July 1989)
- Version 2.2: Added horizontal and vertical positioning fudge factors. Added code to account for thickness of lines so that, even with very thick lines, boxes will come out to the precise length and height requested. Changed documentation from an ASCII to a WordStar file, adding sample LSRBOX print controls. Tested with LaserJet III and WordStar 6.0. (15 May 1990)
- Version 3.0: Added support for printing relative boxes and lines. Added support for producing pure PCL output instead of symmetrical sequences. Added guide to determining correct FUDGEHORFIX value. (18 May 1990)

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FUDGEHORFIX = -050

FUDGEHORFIX = -055

FUDGEHORFIX = -060

FUDGEHORFIX = -065

FUDGEHORFIX = -070

FUDGEHORFIX = -075

FUDGEHORFIX = -080

FUDGEHORFIX = -085

FUDGEHORFIX = -090

FUDGEHORFIX = -095

Of all the LSRBOX fudge factors, FUDGEHORFIX is the most difficult to get just right, because it can vary so much from printer to printer. The vertical lines running down the left side of this page were produced with the various fudge factors indicated.

Each of these lines is coded to be exactly one inch from the left edge of the page. Find the one that really is closest to one inch, and that will tell you what your FUDGEHORFIX value should be, to the nearest five dots.

If the default FUDGEHORFIX value of -88 is right for your printer, then the line down the center of this page will have printed exactly four inches from the paper's left edge.

