

## What is DOSPrinter:

DOSPrinter is an Epson matrix printer emulator. It allows your DOS) applications to print to any printer, including the GUI (windows only) printers, fax-modems and even to email, RTF (MS Word) or PDF (Adobe Reader).

## Usage:

Command line: *DOSPrinter.exe [switches] filename*

*switches:*

/TRAY	Start in UI mode by showing a system tray icon. The switches and the filename are not required in the command line when <i>/TRAY</i> switch is present. In that case you can specify everything in the Configurator dialog (right mouse click on the icon) later, at any time. Everything stated for <i>/R</i> switch, also applies here.
/R	Start in resident mode. Similar to TSR under DOS, but since this is a win32 exe, you should consider resident mode as the background process mode. What "resident" means: DOSPrinter prints the specified file(s) and after that it waits in background for the specified file(s) to change. After the file(s) has changed, DOSPrinter prints out the changed file(s). Multiple instances of DOSPrinter are allowed with <i>/R</i> switch. Your application could print on several different printers this way: start more instances of <i>DOSPrinter /R</i> , each one with a different input file (or different folder) and a different destination printer specified. It's up to your application to provide different filenames for input files.
/R1	Same as <i>/R</i> , but it allows only one instance of DOSPrinter per computer (also, all desktops and users under WinNT/2000/XP). If any previous instance of DOSPrinter exists, an error message pops up and the second DOSPrinter instance does not start.
/U	Unload instance(s) of DOSPrinter from the memory. If used together with <i>/IDn</i> switch, unloads only the instance(s) with the specified ID number
/IDn	Optionally specify the ID for the instance. <i>n</i> is the ID number of the instance. This switch can be combined with <i>/R /TRAY</i> and <i>/U</i> switches.
/DEL	Delete the file after printing it. It deletes the file permanently (does not move the file in the recycle bin).
/nn	force <i>nn</i> lines per page ( <i>nn</i> is a number). For example the <i>/72</i> switch emulates the Fanfold page size (perforated German Std Fanfold), which is 12" long on any other page size (letter, A4 etc). This switch gets disabled if any kind of "set vertical motion" esc-command is present in the file.
/FOCUSn	Restore the focus to the calling window after DOSPrinter did the job. This is useful when the printer driver pops up with a print-status-monitor window. This could be very annoying when printing from a full-screen DOS window. In that case, the printer's popup window takes the focus from the DOS window, which gets minimized, and the user has to take the focus back manually, by pressing Alt+Tab. This switch prevents other windows from taking the focus in a period of time. <i>n</i> is the number of seconds to guard over the focus after the job is placed in the spooler. Increase this number for more efficient guarding of the focus, or decrease it for faster DOSPrinter response. If <i>n</i> is omitted, default value is 7 seconds.
/GOFF	Switch off interpreting of the ASCII graphical characters (forces letters instead of lines and boxes).
/GON	Force graphical characters (lines and box drawing). Optional: install MS LineDraw font for optimal interpretation of the graphical characters.
/SEL	Display the "select printer dialog" before printing the file.
/SEL'printer'	Specify a printer. 'printer' is a printer name from Windows OR a network share name OR the printer port. For example, all of this forms are valid: <i>/SEL'HPLaserJet2200' /SEL'\\ACCOUNTING\HP' /SEL'LPT2:'</i> . Must be enclosed in singlequotes('), not doublequotes. Note that there is no space between

	<i>SEL</i> and 'printer'.
<i>/SEL2</i>	Display the "select destination dialog" before printing the file. The destination can be the printer, previewer or email. The previewer can be Acrobat reader or MS Word. Optionally, combine this switch with <i>/PDF</i> or <i>/RTF</i> to specify which one to use as the previewer. Also, you can combine it with <i>/EMAIL</i> , <i>/EMLUI</i> , <i>/SMTP</i> or <i>/SMUI</i> to specify the email destination and with <i>/SEL</i> 'printer' to specify the printer destination.
<i>/EMAIL</i> 'to'	<p>Print to email instead of printer. 'to' is the email address of the recipient. Specify more recipients by separating them with the sign ',' or ';'. Include the email subject by separating it with the '\' sign (backslash).</p> <p>This is the complete format for the switch: <i>/EMAIL</i>'recipient_1[,recipient_n][\subject]'. See the examples for an example.</p> <p>Must be enclosed in singlequotes('), not doublequotes. The printout is sent as an attachment in the EMF (enhanced metafile) format by default. If you prefer the RTF or PDF format, combine this switch with the <i>/RTF</i> or <i>/PDF</i> switch.</p> <p>Note that there is no space between <i>/EMAIL</i> and 'to'. If you find the "Would you like to send email" dialog too annoying, disable it in Outlook Express under the Options / Security / Warn when others sending email.</p> <p>When sending, DOSPrinter is stopped until the message is sent or canceled.</p> <p>If you need more options when sending email, edit DOSPrinter.ini in the working directory.</p> <p>A special form of this switch is <i>/EMLUI</i>'to', which brings up the email client's user interface.</p>
<i>/SMTP</i> 'to'	<p>Print to email instead of printer. Everything is the same as with <i>/EMAIL</i> switch, except it sends the mail directly to mail server over the SMTP protocol. To make it work, you need a plug-in program: DOSPrinter.SMTP.exe. Read readme.html for further details.</p> <p>'to' is the optional recipients email address and the subject. The 'to' string format is the same as explained for <i>/EMAIL</i>'to' switch.</p> <p>A special form of this switch is <i>/SMUI</i>'to', which brings up a "Send eMail" window. Again, 'to' is not required.</p>
<i>/FILE</i>	<p>Print to file instead of printer. The output file is a graphical format type (EMF format). EMF format is viewable with majority of available graphical viewers. The output filename is: input_filename + page_number + .emf extension.</p> <p>Another option would be to print to a RTF or PDF file type by including the <i>/RTF</i> or <i>/PDF</i> switch together with the <i>/FILE</i> switch. In that case, the output filename is: input_filename + .rtf or .pdf extension.</p> <p>Short version of this switch is <i>/FI</i>.</p>
<i>/RTF</i>	<p>Print to "Rich Text Format", viewable with most word processors. If you don't have MS Word, consider the free MS Word Viewer. Other RTF editors/viewers are just not so rich.</p> <p>A special form of this switch is <i>/RTFG</i>. "G" is for graphics. Use <i>/RTFG</i> when printing bit-image graphics (when using ESC* or ESCJ commands on the document). Another form is <i>/RTP</i> or <i>/RTPG</i>, which immediately prints (using Word), instead showing the document.</p>
<i>/PDF</i>	<p><a href="http://www.adobe.com/products/acrobat/alternate.html">http://www.adobe.com/products/acrobat/alternate.html</a> Print to PDF. You must have Adobe Acrobat Reader or another PDF viewer installed in order to view PDF files</p> <p>A special form is <i>/PDP</i>, which prints immediately instead previewing the document.</p> <p>If you want to create a PDF file without opening it, use it together with <i>/FILE</i> switch. DOSPrinter uses its own PDF composer. You don't need any third party PDF printer driver.</p> <p>You cannot use GIF images in PDF for embedded graphics (ESC"file" command) or watermarking (<i>/IMAGE</i> switch). JPG and BMP are only supported.</p>
<i>/LEFT</i> n.nn	Set the left margin in inches. n.nn is a decimal number value for inch distance from the left paper edge. If you specify the margin lesser than the printer's physical (mechanical) margin is, the value of n.nn is ignored. Note that there is no space between LEFT and n.nn.
<i>/TOP</i> n.nn	Set the top margin in inches. n.nn is a decimal number value for the inch distance from the top paper edge. If you specify the margin lesser than the printer's physical (mechanical)

	margin is, the value of n.nn is ignored. Note that there is no space between TOP and n.nn.
/PAGExx	<p>Set page size. The format can be one of these: /PageA3, /PageA4, /PageA5, /PageB4, /PageB5, /PageLETTER (short /PageLET), /PageLEDGER (short /PageLED), /PageLEGAL (short /PageLEG), /PageEXECUTIVE (short /PageE), /PageFOLIO (short /PageF).</p> <p>A special form is /PAGEnnnXnnn where you can set the page width and height in tenths of a millimeter. For example for the page 20cm by 30cm the switch is /Page2000x3000. If you are measuring in inches, multiply the inches by 254 to get tenths of mm.</p>
/CPIInn	<p>Sets characters per inch (vertical character pitch) initially. nn is the number of characters per inch. This are the standard CPI values:</p> <ul style="list-style-type: none"> <li>- /CPI12 (sets 12 CPI)</li> <li>- /CPI15 (sets 15 CPI)</li> <li>- /CPI17 (sets 17.14 CPI, which is the same as CONDENSED MODE)</li> <li>- /CPI20 (sets 20 CPI)</li> </ul> <p>Default is 10 CPI. You can also set any other nonstandard number of characters per inch. A special form of this switch is /CPIAUTO (short /CPIA) that sets the CPI automatically. If your report is large, the letters will be too small. In that case combine /CPIAUTO with /LAND (landscape).</p> <p>The CPI value set by this switch is superseded with a cpi-related command (like ESCP or ESCM) present in the file.</p>
/F'font'	Set font name. 'font' is the font name. The default font is "Courier New".
/LINES	Draw graphical lines when the lines in the report are represented with minuses ('----') or equal signs ('====='). The short version of this switch is /LIN.
/LAND	Set landscape orientation.
/9PIN	Print in 9-pin compatibility. Default is 24 (or 48) pin compatibility. Some ESC/P commands work differently for 9-pin and 24-pin printers (like ESC 3, ESC A, ESC *, etc). The short form for this switch is /9P.
/MODERN	Select "Modern" style font. Default is "Old" style. The old style letters are bigger and more readable. This switch affects 17 and 20 cpi font size only. The short form for this switch is /M.
/RAW	<p>Print directly to a printer in text mode, without any interpreting or emulating. Useful with matrix printers.</p> <p>There are two different worlds in printing: text mode and graphical mode. The graphical mode becomes the issue with matrix printers - they are just too slow in graph mode and DOSPrinter by default works in graph mode.</p> <p>On the other side, there are inkjet and laser printers; even if some of them do have the text-mode printing capabilities, they are not so slow in graphical mode, so this switch is obsolete for this kind of printers.</p> <p>But, a DOS program can print directly to a matrix printer, without the need of an intermediary like DOSPrinter. So, where is the purpose for this switch? First: If you have a text-mode printer with USB port, you cannot print directly to it from a DOS program, and this switch is one of the possible solutions for that. Second: you can use DOSPrinter as the print server for your (DOS or Win) application, and not caring about what type of printer is on the other side of DOSPrinter interface. If the printer is a matrix one, you could use the /RAW switch, and your application doesn't have to be aware of that.</p> <p>Following switches could be combined with the /RAW switch: /TRAY, /R, /R1, /DEL, /SEL, /SEL'prn', /FOCUS, /S, others are ignored.</p>
/S	Silent mode. Prevents showing the error message dialog window.
/EUROnnn	Euro symbol is character with the ASCII code nnn. nnn is a number between 33 and 255. Note that there is no space between EURO and nnn. If nnn is omitted, by default Euro is ASCII code 128.
/DELAYnn	Delay printing for nn seconds. nn is a minimal delay. It is proportionally prolonged when the file changes during the delay. Delaying is suitable when the input file closes before it is completed (buffered file writing). Default value is 0 (no delay).
/CHOPnn	Some printers are slow in start (1 minute or more to start printing) when the report is

	<p>large. This switch cuts the large reports in multiple spool jobs. <i>nn</i> is a number greater than or equal to 1, and represents the max number of pages to put in a single spool job. Smaller <i>nn</i> value means smaller jobs and faster starting of printing.</p> <p>Use this switch sparingly in a multiuser environment, because your printed pages might be interspersed with the other documents that are using the same printer spooler.</p>												
/FITnn	<p>Set the percent of the text width. <i>nn</i> is percent value. Percent smaller than 100% will shrink the text, while a percent value greater than 100% enlarges the text width. This is useful with nonstandard paper sizes. If you are using a common paper size like Letter, A4, A5, etc, then you don't need to specify this switch. In that case DOSPrinter fits the text width automatically to the paper width. If you have to fit the text by the height, use the <i>/nn</i> switch (see details above).</p>												
/IMAGE'file'	<p>Set background image on every page (watermark). The complete format is: <i>/IMAGE'file,x,y,dpi'</i> where <i>'file'</i> is the image filename, <i>x</i> and <i>y</i> are coordinates in thousands of inch, <i>dpi</i> is the resolution of the image. For example, if you'd like the image 2 inches from the left and the top edge, the switch would be <i>/IMAGE'file.jpg,2000,2000'</i>. <i>'image,x,y,dpi'</i> must be enclosed in single quotes ('). If <i>x</i> and <i>y</i> are not specified, the default is 0. If <i>dpi</i> not specified the default is 200.</p> <p>The background image should be a light color image to not interfere with the foreground text.</p>												
/JOB'name'	<p>Set printer spooler job name to <i>'name'</i>. <i>'name'</i> is any string enclosed in single quotes ('). If not specified, the job name by default is 'DOSPrinter'. Job name is visible in the printer spooler queue, on some printer status manager windows etc.</p>												
/CP1252	Force code page 1252, which is the default ANSI charset (US English).												
/CP932	Force code page 932, which represents the SHIFTJIS charset.												
/CP949	Force code page 949, which represents the HANGUL charset.												
/CP936	Force code page 936, which represents the GB2312 charset.												
/CP950	Force code page 950, which represents the CHINESEBIG5 charset.												
/CP1253	Force code page 1253, which represents the GREEK charset.												
/CP1254	Force code page 1254, which represents the TURKISH charset.												
/CP1255	Force code page 1255, which represents the HEBREW charset.												
/CP1256	Force code page 1256, which represents the ARABIC charset.												
/CP1257	Force code page 1257, which represents the BALTIC charset.												
/CP1251	Force code page 1251, which represents the RUSSIAN charset.												
/CP874	Force code page 874, which represents the THAI charset.												
/CP860	Force code page 860, which represents the PORTUGUESE charset.												
/CP1250	Force code page 1250, which represents the EASTEUROPEAN charset.												
/CP437	Force the nonstandard easturopean DOS code page 437.												
/LNG	<p>Set user interface language. Currently supported languages:</p> <table> <tr> <td>/LngBR (Brasilian Portuguese)</td><td>/LngHR (Croatian)</td></tr> <tr> <td>/LngPT (Portugal Portuguese)</td><td>/LngSI (Slovenian)</td></tr> <tr> <td>/LngES (Spanish)</td><td>/LngIT (Italian)</td></tr> <tr> <td>/LngEN (English)</td><td>/LngDE (German)</td></tr> <tr> <td>/LngFR (French)</td><td>/LngHU (Hungarian)</td></tr> <tr> <td>/LngNL (Dutch)</td><td>/LngCA (Catalan)</td></tr> </table> <p>Translations are stored in editable file Language.ini. English is default. If using English you can delete the file Language.ini.</p>	/LngBR (Brasilian Portuguese)	/LngHR (Croatian)	/LngPT (Portugal Portuguese)	/LngSI (Slovenian)	/LngES (Spanish)	/LngIT (Italian)	/LngEN (English)	/LngDE (German)	/LngFR (French)	/LngHU (Hungarian)	/LngNL (Dutch)	/LngCA (Catalan)
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/LngNL (Dutch)	/LngCA (Catalan)												

Notes: Switches can be in any combination and sequence. Switches are case insensitive. Instead of '/' you can also use the '-' sign.

*filename* - the text file name to print. If the filename contains spaces, use doublequotes.

Wildcard \* is allowed in the filename.

You can use full path (absolute path) or filename only (relative path). In the case of filename

only, DOSPrinter searches the current directory for the *filename*.

### Examples:

1. */SEL /FOCUS10* - Before printing, show select printer dialog. /FOCUS keeps the focus of the active window protected from intruder windows (like printer status monitors) for 10 seconds after each document starts printing.
2. */SEL'HP LaserJet 2200'* - print to HP LaserJet printer.
3. */EMLUI'kurt@abc.com,john@def.comMonthly report'* - send an email message with the subject 'Monthly report'.
4. */SMUI'anna@abc.comMonthly report'* - send an email message over SMTP directly to mail server.
5. */PDF /F'Lucida Console'* – Create a PDF file and open it. Use the font named Lucida Console.
6. */PDF /IMAGE'watermark.jpg,1000,2000,100'* – Create a PDF file. Set the image watermark.jpg as the background on every page. Watermark.jpg will be placed 1 inch from the left paper edge and 2 inches from the top edge. The resolution is set to 100 DPI.

### Esc/P Esc/P2 supported commands:

BS	Backspace
HT	Tab horizontally
LF	Line feed
VT	Tab vertically
FF	Form feed
CR	Carriage return
SO	Select double-width printing (one line)
SI	Select condensed printing
DC2	Cancel condensed printing
DC4	Cancel double-width printing (one line)
ESC SO	Select double-width printing (one line)
ESC SI	Select condensed printing
ESC !	Master select
ESC -	Turn underline on/off
ESC +	Set n/360-inch line spacing
ESC 0	Select 1/8-inch line spacing
ESC 1	Select 7/72-inch line spacing
ESC 2	Select 1/6-inch line spacing
ESC 3	Set n/180-inch line spacing
ESC 4	Select italic font
ESC 5	Cancel italic font
ESC @	Initialize printer
ESC *	Select bit image (also ESC ^, ECS K, ESC L, ESC Y, ESC Z)
ESC A	Set n/60-inch line spacing
ESC C	Set page length in lines
ESC E	Select bold font
ESC F	Cancel bold font
ESC G	Select double-strike printing
ESC H	Cancel double-strike printing
ESC P	Select 10-cpi
ESC M	Select 12-cpi
ESC g	Select 15-cpi

ESC I	Set left margin. This margin is added to the margin specified through the /LEFT switch.
ESC J	Advance print position vertically
ESC j	Reverse paper feed (n/216 inch)
ESC N	Set bottom margin (set skip-over-perforation)
ESC O	Cancel bottom margin (cancel skip-over-perforation)
ESC R	Select an international character set
ESC S	Select superscript/subscript printing
ESC T	Cancel superscript/subscript printing
ESC W	Turn double-width printing on/off
ESC w	Turn double-height printing on/off
ESC r	Select printing color
ESC x	Set LQ of draft
ESC ( -	Select line/score (underline/strikethrough)
ESC B	Set vertical tabs
ESC D	Set horizontal tabs
ESC e	Set fixed tab increment
ESC f	Horizontal/vertical skip
ESC ( V	Set absolute vertical print position
ESC \$	Set absolute horizontal print position
ESC \	Set relative horizontal print position
ESC EM	Control paper loading/ejecting (select paper source)
ESC ( B	Barcode setup and print
ESC k	Select typeface
ESC p	Turn proportional mode on/off
ESC X	Select font size by pitch and point
ESC z n	Select font size. n is a byte number representing the Word font size. This is a nonstandard ESC sequence.
ESC SP	Set intercharacter space by n/120 inch

These are the mostly used commands. If you are using some other command(s), feel free to contact us for an update of DOSPrinter.

## How to print graphics:

1. Put inside the text this sequence: ESC"filename.bmp". ESC is ASCII code 27, filename.bmp is the name of the image file to print. Don't forget to enclose the filename in double quotes. The image is printed with the resolution of 200 dpi. This means that if you need the result image with dimensions 1 x 1 inch on the paper, you should provide an image with the size of 200 x 200 pixels.  
You can change the default resolution by specifying a new resolution for the image: ESC"filename.bmp,400DPI".  
When the image is colored and the printer is black+white, the colors appearance is dictated by the printer driver graphics settings, which are changeable.  
Note that there is no space between ESC and "filename". Images can be BMP, GIF, JPG, ICO format.  
This is a nonstandard ESC command.
2. Use the ESC\* sequence (Bit-image mode) in your documents. This is a standard ESC/P ESC/P2 command.
3. If you'd like to print an image on every page, use the switch /IMAGE'filename'. This is useful for watermarking a company logo or using a standard form image in the back of the text.

## How to select font:

1. By using /F'fontname' switch with the DOSPrinter command line, where 'fontname' is name of the font as installed under the windows. Open Control panel/Fonts to see the fonts that you have installed.
2. By using the ESCkn (Select typeface) sequence in your documents. This is a standard ESC/P ESC/P2 command. The third byte of the sequence ESCkn is a number representing the font name by this table:

n	Font name	n	Font name	n	Font name
0	Courier New	6	Impact	12	Monofur
1	Lucida Console	7	Comic Sans MS	13	Haettenschweiler
2	Andale Mono	8	Bookman Old Style	14	Garamond
3	Letter Gothic	9	Script	15	Verdana
4	Monotype Corsiva	10	Times New Roman	16	Tahoma
5	Arial	11	Century Gothic	17	

Note that not every font supports every code page.

There are two types of fonts: fixed and proportional pitch. Fixed pitch means that every letter has the same width. DOSPrinter yields the best results with the fixed pitch fonts. I personally like Lucida Console, Consolas, Letter Gothic or Andale Mono.

With some laser printers, the printed text is too light with the default Courier New font. The solution is Dark Courier font.

By default DOSPrinter works with proportional mode turned off (works in fixed pitch mode). Use the ESC sequence ESCp1 to set the proportional mode on, or ESCp0 to set it off.

You can change the font size (or CPI) with the standard ESC sequences like ESC P, ESC M, ESC g, ESC X, etc.

A special ESC sequence for setting the font size is ESC z n, where n is a byte number representing the Word font size. This is a nonstandard ESC sequence.

## How to print barcodes:

The standard ESC sequence for printing barcodes is ESC ( B  $n_L$   $n_H$   $k$   $m$   $s$   $v_1$   $v_2$   $c$  *BarCodeData* where ESC is ASCII 27, ( is ASCII 40, B is ASCII 66.

$n_L$  and  $n_H$  are two bytes representing total number of data bytes to follow, determined by the following equation: (number of data bytes) = 6 bytes + BarCodeData bytes =  $((n_H * 256) + n_L)$ . (where 6 bytes are k, m, s,  $v_1$ ,  $v_2$ , and c).  $n_H$  is ignored in DOSPrinter. This means you can print barcodes with max  $255 - 6 = 249$  characters, which should be enough.

$k$  is barcode type. Possible values for k and meanings are:

- 0 = EAN-13
- 1 = EAN-8
- 2 = Interleaved 2 of 5
- 3 = UPC-A
- 4 = UPC-E
- 5 = Code 39
- 6 = Code 128
- 7 = POSTNET
- 8 = Code 93
- 9 = CODABAR

$m$  is barcode width measure. Possible values are 1, 2, 3, 4, 5. 1 is smallest, 5 is largest size.

$s$  is "Space adjustment value". It is ignored by DOSPrinter.



$v_1$  and  $v_2$  are barcode length (height) calculated by the formula: inches =  $(v_1 + v_2 * 256) / 180$ . For 9pin mode emulation the formula is  $(v_1 + v_2 * 256) / 72$ .

**c** is Control flag. These bits have a meaning:

bit 0 is 0: No check digit is added.

bit 0 is 1: A check digit is added.

bit 1 is 0: The human readable characters are added.

bit 1 is 1: The human readable characters are not added.

bit 2 is 0: Flag character is centered (for EAN-13 and UPC-A only).

bit 2 is 1: Flag character is under (for EAN-13 and UPC-A only).

bit 3 is 0: For CODE39 and CODE93 only - start and stop characters (\*) are added.

bit 3 is 1: For CODE39 and CODE93 only - start and stop characters (\*) are not added.

Other bits are ignored.

*BarCodeData* are characters to be printed. Some comments about barcode characters:

Barcode type	Notes about check character	Notes about <i>BarCodeData</i> characters
EAN-13	The last digit is an automatically calculated checksum. You have to provide 12 digits. If provided 13 digits, the last digit is replaced.	Valid characters are 13 digits in the range 0 – 9. Invalid characters are replaced with zeroes.
EAN-8	The last digit is an automatically calculated checksum. You have to provide 7 digits. If provided 8 digits, the last digit is replaced.	Valid characters are 8 digits in the range 0 – 9. Invalid characters are replaced with zeroes.
UPC-A	The last digit is an automatically calculated checksum. You have to provide 11 digits. If provided 12 digits, the last digit is replaced.	Valid characters are 12 digits in the range 0 – 9. Invalid characters are replaced with zeroes.
UPC-E	The last digit is a checksum. It is not calculated automatically for this barcode type.	Valid characters are 8 digits in the range 0 – 9. Invalid characters are replaced with zeroes. First digit (named number system digit) must be 0 or 1.
Interleaved 2 of 5	Optionally, a mod 10 checksum character is inserted at the end, if bit 0 of flag c is set to 1.	Valid barcode characters are 0 - 9. Invalid characters are replaced with zeroes. The specification requires that the barcode must have even number of digits. If you provide odd number of digits, a zero at is added at the beginning to satisfy the specification.
CODE 39	Optionally, a mod 43 checksum character is inserted at the end, before the stop character (*), if bit 0 of flag c is set to 1.	The start(*) and stop(*) characters are not required, but are by default added. You can override the automatic generation of start and stop characters by setting the bit 3 of flag c to 1. Valid characters are digits, big letters and characters '-', ':', ';', '\$', '/', '+', '%', '*'. Other characters are skipped.
POSTNET	The last digit is an automatically calculated checksum. If you provide the checksum digit, it is replaced.	Valid barcode characters are 0 - 9. Valid number of digits are 6, 10 and 12 with the check digit included, or 5, 9 and 11 without the check digit. Only special POSTNET code scanner can read this type of barcode.
CODE 93	Two checksum characters are required for this barcode type. These are calculated and inserted automatically if bit 0 of flag c is set to 1, at the end, before the stop character (*).	It is a high-density barcode, suitable for long alphanumeric data. The start(*) and stop(*) characters are not required, but are by default added. You can override the automatic generation of start and stop characters by setting the bit 3 of flag c to 1. Valid are the ASCII characters 0 to 127.
CODE 128	Checksum character is required for this barcode type. It is calculated and inserted automatically if bit 0 of flag c is set to 1.	It is a high-density barcode (especially dense for numbers), suitable for long alphanumeric data. Valid are ASCII characters 32 to 127. Invalid characters are ignored.
Codabar	There is no checksum character for this barcode.	You must manually provide the start and stop characters, which could be characters A, B, C or D. Valid data are digits 0-9 and characters '-', '\$', ':', '/', '.' and '+'. Invalid characters are ignored.



See examples\BarCode for an example of how to use the ESC ( B command.

### How to change the paper orientation (Landscape/Portrait):

By default DOSPrinter prints in Portrait orientation. There are two methods to change the orientation to Landscape:

1. Use /LAND switch in the command line. This is very simple, but changes the orientation globally, for all the pages under that job.
2. If you need to change the orientation at the page level, put inside the document this command sequence: ESCoL or ESCoP, where ESC is ASCII code 27, o is ASCII code 111, L is ASCII code 76, P is ASCII code 80.

ESCoL is for setting the Landscape orientation, ESCoP is for setting the Portrait orientation at the page level.

The rule for this two commands is: If an ESCo command is found at the beginning of the page, it affects the current page (and next pages). If it is not at the beginning of the page, it affects next pages. Beginning of the page is first 20 bytes of the page.

ESCo is a nonstandard ESC command. See examples\Land.txt for an example of the usage of ESCo command.

### How to print multiple copies of pages:

By default DOSPrinter prints one copy of each page. You can set the number of copies with the ESC sequence ESCnN placed in document to print, where ESC is ASCII code 27, n is ASCII code 110, N is number of copies.

You can set different number of copies for different pages. The rule is: If the ESCnN sequence is found at the beginning of the page, it affects the current and next pages. If it is not at the beginning of the page, it affects next pages only.

Beginning of the page is first 20 bytes of the page. ESCnN is a nonstandard ESC command. See examples\Copies.txt for an example of the usage of ESCnN command.

Some printers are not capable to print multiple-page copies (virtual printers, for example).

### How to print on both sides of the page (duplex printing):

Not all printers can print in duplex. If your printer is capable to print in duplex mode, you can put inside the document this command sequence: ESCoV or ESCoH, where ESC is ASCII code 27, o is ASCII code 111, V is ASCII code 86, H is ASCII code 72.

The rule for this ESC sequence is: If an ESCoV or ESCoH command is found at the beginning of the page, it affects the current page (and next pages). If it is not at the beginning of the page, it affects next pages. Beginning of the page is first 20 bytes of the page.

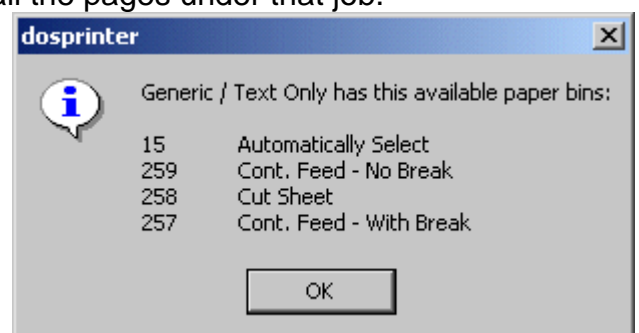
To switch back to simplex mode, use the ESC sequence ESCoS.

ESCoV, ESCoH and ESCoS are a nonstandard ESC commands.

### How to control the paper source (change paper bin):

You can set the default printer's paper source in the printer driver properties, or you can use /SEL switch in the DOSPrinter command line to select a paper source. These methods are simple, but changes the paper source globally, for all the pages under that job.

With the ESC sequence ESC EM n<sub>L</sub> n<sub>H</sub> you can change the paper source at the page level. ESC is ASCII code 27, EM is ASCII code 25, n<sub>L</sub> and n<sub>H</sub> are two bytes identifying the paper source. n<sub>L</sub> is lower byte n<sub>H</sub> is higher byte. How to find the values for n<sub>L</sub> and n<sub>H</sub>? There is a form of this command to help you with that. Put in the document to print this form



of command: ESC EM 255 0, where 255 is value for  $n_L$ , 0 is the value for  $n_H$ . This form of command shows a message box like the image on the right, displaying all possible paper sources with their ID numbers for the currently selected printer. The formulas are:

$$n_H = \text{INT}(\text{ID}/256)$$

$$n_L = \text{MOD}(\text{ID}/256)$$

For example, ID for Cut Sheet is 258 (see sample image on the right),  $n_H = 1$ ,  $n_L = 2$ . This is a standard ESC/P command, but there is a difference from DOSPrinter implementation - the standard requires only one byte for  $n$  value. The rule is: If the ESC EM command is found at the beginning of the page, it affects the current and next pages. If it is not at the beginning of the page, it affects next pages only. Beginning of the page is first 20 bytes of the page.

### **How to embed DOSPrinter switches in your output:**

To reprogram previously set switches you can use an ESC command. The format is ESC"switches", where "switches" is the text that represents the new DOSPrinter command line. The text "switches" must be enclosed in the double quotes(""). Example:

ESC"DOSPrinter.exe /EMLUI" (where ESC is ASCII code 27) will redirect the output to the email.

If an ESC"switches" sequence is found at the beginning of the file, it affects the current file (and next ones). If it is not at the beginning of the file it affects next files only.

Note that you don't have to insert this ESC sequence in your existing reports. You can issue ESC"switches" sequence in a separate file that has the same filename as the report file. In that case make sure that you haven't added some extra spaces or line feeds in the file, because DOSPrinter could render this file as an empty page.

### **Localization and code pages:**

By default DOSPrinter interpretes the current DOS OEM character set installed into the Windows. You can check which OEM code page is currently active on your machine by finding the registry key:

HKEY\_LOCAL\_MACHINE\System\CurrentControlSet\Control\Nls\Codepage\OEMCP. You can also change this value (at your own risk).

You could override this default behavior by including the switch "/CPnnnn" at the DOSPrinter command line, where nnnn is your code page.

If you want the screen UI translated use the switch /LNGxx (see details above). The translations are stored in the editable text file Language.ini.

### **Issues and additional info:**

- The downloadable demo version is exactly the same as the registered one. The only difference is that the demo version sometimes prints a demo message on the first page and it is valid for 30 days. If you find DOSPrinter useful, buy a registered copy.

- Some printer drivers are behaving strange. That is the case with some drivers produced by HP, or others, especially drivers for cheap ink-jets. The strange behaviour is that they are printing slow, or not rendering some fonts or code pages, or else. The solution is to install another printer driver. The easiest thing to do is to use a compatible driver that already exist in your windows. For example, if you have a HP DeskJet 3820, and is behaving oddly, follow this instructions:

- 1.) Click "Start"
- 2.) Click "Control Panel"
- 3.) Click "Printers and Faxes"
- 4.) Click "Add Printer"
- 5.) The wizzard will ask for the printer port. Select the same port the existing driver uses.
- 6.) From the "Manufacturers" list select "HP".

7.) From the "Printers" select "HP DeskJet" (without the model number).  
This way we installed a generic DeskJet driver, which works all right in all the circumstances.  
You can use it together with the existing, original driver from the printer box.  
Another solution to this problem would be to use /PDP or /RTP switch with DOSPrinter command line. This uses Acrobat Reader or Word to print the report to the driver in question.

**Supported platforms:**

Win9x – Win8.

**Pricing and Licensing:**

There are two distinctive types of DOSPrinter license: standard (single user) and unlimited (developer).

The price for one, standard (single user) license is **US\$ 40.00**.

Send an mail to [bojan.banko@pu.htnet.hr](mailto:bojan.banko@pu.htnet.hr) for further details about prices and purchasing options.