

DOS printing and Windows printers.

Enabling DOS applications to print to Windows printers isn't that straightforward:

- In the DOS days, printers were connected to a parallel (LPT1-3) or serial (COM1-4) port. Printers now connect to an USB port or (wireless) network.
- DOS applications can only print to a parallel or serial port; they don't know about future USB ports. Modern PC's don't have parallel or serial ports anymore.
- DOS printers expect to receive text. An application adds printer control codes to end a line (line feed), eject a page (form feed), eventually print in bold (DOS printer model specific codes)... When a line ended, it was instantly printed (dot-matrix printers). Modern Windows GDI printers mostly don't support text input and are not line orientated: They expect graphical images of complete pages.
- DOS text is ASCII based; 128 (minus 32 control codes) characters, basically those found on an US International keyboard. The ASCII character set was extended to support an additional 128 characters. Due to ASCII's limitations (256-32 characters), a language specific DOS code page is needed to define what those extra characters translate to in Windows text (Unicode with thousands of characters).

So some work is needed to facilitate a DOS application to print to a Windows printer, mainly:

- The stream of text and printer control codes sent to a printer port has to be collected, and at some moment interpreted and converted to graphical images of pages.
- Those images then have to be redirected to a Windows printer (mostly not parallel/serial).

When a DOS application prints to a LPTx/COMx printer port, vDos will:

- Save that text to a #LPTx/COMx.asc file, so you can optionally use an alternative (external) Windows program to convert the ASCII text and print the generated pages.
- Convert the ASCII text to Windows Unicode text (based on the DOS code page), and save that to a #LPTx/COMx.txt file. You can open that file in a Windows editor, or read it into a Windows application.
- By default convert the collected text to graphical images to be printed by a Windows printer.

Printing in vDos.

If you don't tell vDos (in config.txt) what to do with text sent to a printer, it lets you select the Windows printer to print to. If the printer output is plain text, with line feeds and form feeds, eventually printer codes inserted by your DOS application as if it was printing to an Epson, IBM Proprinter or PCL compatible printer, this should mostly work just fine.

You may however want to adjust the default settings of how this text is handled by adding LPTx = or COMx = options lines to config.txt:

LPTx/COMx = options (x = 1-9, though most DOS programs will at most support LPT1-3 and COM1-4):

The options to the right of the equal sign are:

SEL: "Windows printer name"

Explicitly set the printer to be used.

* Default: display a printer selection dialog.

RAW

To use this option, the printer must support DOS text input (PCL/PostScript printers do). The (ASCII) text is sent directly to the printer. For instance to print to an actual PCL printer if such a (mostly HP) printer is set in your DOS application.

SPOOL

If used, it has to be the very first option. It postpones handling the print data until Win+Ctrl+S is pressed, the title bar of the vDos window will show if spooling is in progress. To solve persistent timeouts issues (see TIMEOUT = OFF below), or accumulate DOS print jobs.

FONT: "Windows installed font"

Print the text in this font, this should be a monospaced one: Each character has the same width.

* Default: The built-in vDos font also used for displaying text.

HORZ: left[,right,chars]

left: The left paper margin in mm's.

right: The right margin in mm's.

chars: The number of characters that has to fit between these margins.

* Default: 15,10,80.

VERT: top[,bottom,lines]

top: The top paper margin in mm's.

bottom: The bottom margin in mm's.

lines: The number of lines that has to fit between these margins.

* Default: 10,15,lines calculated based on the paper size.

Example:

LPT1 = spool font:"Courier New" horz:20,10,132

Postpones printing, displays a dialog to select the Windows printer (none set), prints in the Courier New font, sized so 132 characters will fit between the set margins.

Other print options.

TIMEOUT = OFF (this is a separate line)

Printer output is collected as a print job, considered to be finished if the DOS application doesn't send further text for some time. If you get broken pages, or want the printer to respond faster: See if disabling this mechanism will help. Applications can address a printer in various ways, this will only work for the preferred "nice" way: Opening, sending text, and finally closing a DOS LPTx/COMx device. Mind, applications aren't always that nice; nothing could get printed with this option set!

DUMMY

Don't print; you just want to ignore the printers output. Or use an alternative DOS-to-Windows printer program, monitoring the vDos directory for new .asc files to print.

Example: LPT3 = DUMMY

CLIP

Don't print, copy the translated Unicode text to the Windows clipboard to paste into another program.

Example: COM4 = CLIP

"Windows command/program" [WAIT][HIDE][program options] #LPTx/COMx.asc/txt

Open the .asc(ASCII)/.txt(Unicode) file by the Windows command/program.

Example: LPT2 = "%windir%\system32\notepad.exe" HIDE /p #lpt2.txt

(Let notepad.exe print (/p) the #lpt2.txt file, while hiding (HIDE) the Notepad window).

"Windows device":

Essentially not meant for printing; communicate with the specified device interactively (expect no text to be collected as a print job). The colon at the end is required.

Basic support for serial devices, the port has to be setup correctly before starting vDos. In the device manager, or by MODE COM... at the (Windows!) command prompt.

Example: COM1 = "COM1":

DOS application prints to PCL printer.

If your DOS application is set to print to a PCL printer: Most laser printers still support that text input. If you don't have an actual PCL printer and the vDos print processor is too basic: vDos will detect a PCL printer is addressed (the text will contain some PCL specific code sequences). If provided in the vDos directory, the PCL6 program is then started to convert the saved .asc file to a PDF document. That is then opened in the default Windows PDF viewer. PCL6 (GhostPCL) can be downloaded and is documented at:

www.columbia.edu/~em36/ghostpcl.html.

Use a third-party program to print.

The built-in support of Epson, IBM Proprinter and PCL printers especially lacks graphics. vDos is also distinct at handling margins, ignoring those eventually set by embedded printer codes. You could be unhappy with the end result on paper, possibly with an application doing extensive print formatting. Since vDos saves the (ASCII) text to an .asc file, you can use any external DOS-to-Windows print program to do the printing instead. Three of those programs, among others available online:

- **[DOSPRN](#)**

Shareware (\$14.95, price drops at more licenses).

DOSPRN's author added some extensions to make it work better with vDos. DOSPRN also supports IBM Proprinter and basic PCL printing, you can even define alternative sets of printer codes.

Example: LPT1 = "%ProgramFiles%\DOSPRN\DOSprn.exe" [DOSPRN options](#) #lpt1.asc

- **[DOSPrinter](#)** (Epson-only)

Shareware, in two distinct registrations forms, with a slightly reduced price for vDos users:

[Standard](#) (\$ 30,-, price drops at more copies).

Single user/workstation license.

[Unlimited](#) (\$ 380.-).

Grants you the right to use DOSPrinter on an unlimited number of PC's inside your company, you can also distribute DOSPrinter royalty free as part of your software package.

Example: LPT2 = "DOSPrinter.exe" WAIT [DOSPrinter options](#) #lpt2.asc

(Provided the DOSPrinter program is located in the vDos directory).

- **[WinPrint](#)** (Epson-only)

Freeware (\$ 0).

WinPrint installs to the Windows system tray, monitoring a directory for new files to be printed.

Example: COM1 = dummy

(vDos should only create the #com1.asc/.txt files, since WinPrint will be set to monitor the vDos directory for new .asc files).