A2. Installation and Use of VPLX with Windows 95/NT

A2.1 Introduction

The file vplx.exe is an executable program for 486 or larger IBM PC's with a minimum of 16 and preferably 32 megabytes of memory. VPLX was compiled by the Microsoft Fortran PowerStation 4.0 compiler. The resulting executable uses 32-bit addressing. Its integration with the operating system is consequently smoother than the earlier DOS and Windows 3.1 versions, which required installation of additional software to bridge a 32-bit application with a 16-bit operating system. The executable requires a math coprocessor (a separate component for 486SX machines, but built into 486DX, DX2, Pentium and other higher end chips).

The Windows 95/NT version is based on essentially the same Fortran source as the versions for UNIX and VMS. Unlike the previous Windows 3.1 and DOS versions, its arrays are set to the full sizes used on workstations and other computers.

A2.2 Editing ASCII Files

The installation of VPLX requires examining and possibly changing some ASCII files. Editing ASCII files is a mandatory requirement for any subsequent use of VPLX. Fortunately, there are many ways to do so in the PC environment.

Microsoft provides an ASCII editor, Notepad, as an accessory. The SAS program editor is also an ASCII editor. In both cases, the editor outputs ASCII files as its default or only file format.

Most word processors primarily employ proprietary non-ASCII file formats, but many, including WordPerfect and Word, will output ASCII files on request. (In the case of both WordPerfect and Word, use Save As from the File menu. In WordPerfect, choose the file type ASCII DOS text. In Word, choose Text Only.) If one accidentally outputs a file in non-ASCII format, generally all is not lost — the file can be read back in and then rewritten as an ASCII file.

A2.3 Standard Installation

The standard installation of VPLX uses a folder (directory) c:\vplx. Both the executable, vplx.exe, and the error file, vplerror.txt, should be copied into this folder.

If there is a config.sys file in c:\, first make a copy of it, such as config.bak. Examine config.sys in an ASCII editor. Make sure that config.sys includes a FILES=60 statement, or a higher number. If this statement is not present, add it as a separate line starting in position 1. If there is no config.sys file in c:\, create one with FILES=60 as a single line.

If there is an autoexec.bat file in c:\, first copy it. Similarly, examine autoexec.bat in an ASCII editor. If there is a PATH statement, such as,

```
PATH=C:\WINDOWS;C:\WINDOWS\COMMAND;
```

add C:\VPLX to the end,

```
PATH=C:\WINDOWS;C:\WINDOWS\COMMAND;C:\VPLX;
```

Adding C:\VPLX to the path insures that the program can be called from any folder/directory. If no path statement appears, then create one,

```
PATH=C:\VPLX;
```

For these changes to take effect, reboot the machine (from the Start Menu, select Shut Down and then Restart), after closing other open applications.

A2.4 Running VPLX Within a DOS Window

Once VPLX has been installed, it may be started from any directory. The usual approach to running VPLX is to prepare an ASCII file of commands for input to VPLX. Once the ASCII command file is ready, VPLX may be run from within a DOS window (available from Start) by directing the print file from VPLX to a disk file. For example,

```
vplx   < i1-1.crd > i1-1.lis
```

will read commands from `i1-1.crd` and write the results to the print file `i1-1.lis` in the current directory. For 32 MB machines or more (and to a limited degree on 16 MB machines), one may let VPLX run in background and return to another application. While VPLX is running, the button for MS-DOS window on the task bar will show “VPLX,” which returns to “MS-DOS Prompt” upon completion. (Depending on available memory, it is better not to have too many “heavy-duty” applications running concurrently.)

If there are troubles with available memory, try closing other active applications before starting VPLX. In Windows 95, the status of available memory may be checked by clicking "My Computer," "Help," and "About Windows 95."

After the run is complete, the print file may be opened in an editor or word processor. Indeed, in order to actually print the print file, it is necessary to do so. In a word processor, it is best to set the font to courier or another fixed-width font, rather than a variable-width font such as Times Roman. To avoid wrapping lines, one may reset the left and right page margins, or reduce the font size, such as from 12 to 10 pt. (Courier 12 pt usually results in wrapped lines.)

VPLX employs a Fortran feature to indicate page breaks in the print file, but the exact implementation depends upon the environment. The Windows 95/NT version outputs special ASCII characters to denote page breaks. Depending on the choice of editor/word processor, these may be implemented as page breaks or shown as special characters. Both WordPerfect 7 and Word 97 appear to implement the page breaks correctly. In other cases, one may need to tidy up the print file before printing it.

It is also possible to examine a short print file from DOS with

```
more  i1-1.lis
```

VPLX will work from commands typed directly from the keyboard, which is advantageous for simple operations such as CONTENTS or a short DISPLAY. One may also type in INCLUDE statements directly. After typing the last command, an end-of-file, CONTROL-Z, (^Z), followed by ENTER, is required to signal the end of file to VPLX. There are three variants:

```
vplx   > exam1.lis
```

will write the output to `exam1.lis`;

```
vplx
```

will send results directly to the screen, with no control over scrolling; and

```
vplx  | more
```

will enable scrolling through the output. With the last variant, the output begins to appear after the end-of-file, ^Z, is entered. ^Z is necessary if one has included a file and left VPLX looking for any possible further instructions on the last step.

CONTROL-C, (^C), may be used to halt VPLX, canceling further operations, when VPLX is reading input from the keyboard. This approach effectively creates a fatal error, and VPLX will not delete any scratch files, unlike the orderly end of run achieved by CONTROL-Z.

A2.5 Installing the Examples

Eventually, three .zip files containing command files, data files, and output files will be created for each of the volumes of documentation. Currently, vplxiexm.zip corresponds to the first volume; it will be followed by vplxrexm.zip and vplxaexm.zip. The data file and related documentation for the SIPP extract is separately available as sipp87x.zip. The .zip files were created with Info-ZIP's WiZ 4.0.1, obtained from http://www.cdrom.com/pub/infozip/. This free software is compatible with the file formats of PKZIP of PKWARE, Inc. (For future reference, another site, hosted by UUNet, is shadowing the primary infozip files at ftp://ftp.uu.net/pub/archiving/zip/WIN32, but some of its versions were older than those available from Info-ZIP's home site as of February, 1998.) This software or many others may be used to unzip the examples.

A2.6 Installing VPLX to Another Directory

VPLX may be installed to a directory other than C:\VPLX, such as a network drive. For convenience, both vplx.exe and vplerror.txt should be copied to the same directory. The same alterations to config.sys and autoexec.bat as described in Section A2.3 should be made, including the actual directory of vplx.exe in the path instead of c:\vplx. Since the presumed location of vplerror.txt at c:\vplx\vplerror.txt is hard coded into vplx.exe, it is necessary to indicate to vplx the actual location by including as the first line of each VPLX command file, for example,

```
errorfile   n:\public\vplx\vplerror.txt;
```

VPLX does not open vplerror.txt unless an error is detected. If VPLX does not find vplerror.txt at its default c:\vplx or in the directory specified by an errorfile statement, it will display the error code, such as VC0001, but not the associated text.

A2.7 About vplerror.txt

The error file, vplerror.txt, is simply an ASCII file. This file can be readily examined in any ASCII editor. If VPLX prints an error code without an associated text, then one may search for the error code in vplerror.txt.