

Appendix: About the Software

The accompanying diskette contains an install application that loads on your computer seven power generation analysis programs useful in teaching a course centered on this book. The programs are intended for educational use and are not meant for commercial use. They are provided free of charge and may be copied and distributed to students. Copies of the program source code and documentation on the disks may also be copied and distributed.

A.1 INSTALLING THE DISKETTE FILES

The files require about 1 MB of hard drive space. To install the files, perform the following steps:

1. Assuming you will be using the drive A as the floppy drive for your diskette, at the A:> prompt type INSTALL. You may also type A:INSTALL at the C:> prompt.
2. Follow the instructions displayed by the installation program. The default choice for the installation directory is POWERGEN and the default drive is C.

A.2 DESCRIPTION OF PROGRAM FILES

The programs, which are written in Turbo Pascal 6.0, have also been tested under Borland Pascal 7.0 and can be run under DOS on a standard PC. The programs can be run separately from the DOS command line or through the point-and-click POWERGEN interface as shown in Figure A.1. Each program has a documentation file, a source file of the program, an executable file, several data files that contain cases to be run by the program, and in some cases a file describing some exercises you may wish to give students.

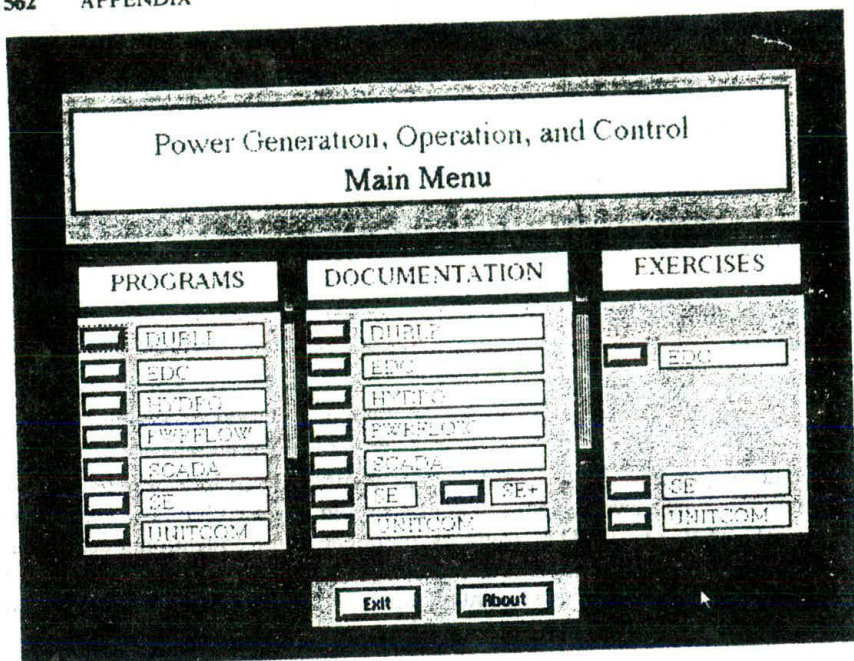


FIG. A.1

For example for program XYZ we might have:

XYZ.DOC	Documentation file
XYZ.PAS	PASCAL Source File
XYZ.EXE	PASCAL Executable File
XYZ1.DAT	First data file
XYZ2.DAT	Second data file
XYZ.EXR	Student exercises etc.

The documentation file should be read before you attempt to run the program. You can view and print these ASCII files with any standard text editor and you can also read the files by pressing the appropriate DOCUMENTATION button within the POWERGEN interface. The documentation explains how the program works and how to set up data files for the homework problems. Three of the programs also include exercise files that include suggestions for setting up experiments. The exercise files can be viewed with a text editor or by pressing a button in the EXERCISES section of the POWERGEN interface.

The source files for the PASCAL programs are also ASCII files. They can be printed in the same way as the documentation file if you care to see the programs.

A.3 USING THE PROGRAMS

The disk you received has the following programs:

- Economic Dispatch (EDC)
- Unit Commitment (UNITCOM)
- Linear Programming (DUBLP)
- Hydro Scheduling via Dynamic Programming (HYDRO)
- Power Flow (PWRFLOW)
- State Estimation (SE)
- Supervisory Control and Data Acquisition (SCADA)
- Power Generation interface program (POWERGEN)

To run the programs in the POWERGEN directory individually from the DOS command line, enter XYZ, where XYZ is the name of the PASCAL executable file for the program. Again, please read the documentation before running the programs to determine which data files are appropriate to use as input files.

You may also use the POWERGEN program to run the programs from a pushbutton interface. To run this program, type POWERGEN, press the ENTER key to continue past the title screen, then select the button of the desired application from under the PROGRAM section on the left.

If you have a printer available, it is advisable to run the programs with the printer option on so that all details of the program execution are printed.

The Pascal programs are written in Turbo Pascal 6.0 and if you wish to make any changes to them you must obtain that compiler or a later version from Borland. Please note that with the Pascal compilers from Borland, real variables must be formatted properly to be read directly into the program from a data file. By looking at any of the data files you can see that all real variables are formatted with a zero in front of the decimal in the case of a number less than one and a zero after the decimal for a number with no fractional part. Thus .001 is not acceptable, you must put in 0.001 and 100. is not acceptable you must put in 100.0 (also, 100 is not acceptable if the variable is a real number, it must be 100.0). Integers have no restrictions. Finally, separate all variables by spaces, not commas.

A.4 GETTING HELP

If you need help, call (612) 626-7192 (8 am-5 pm Central Time USA); leave a message if no answer. FAX (612) 625-4583, or email to wollenbe@ee.umn.edu. To replace defective disks or for inquiries about installing the software, call (212) 850-8717 for John Wiley technical support.

Any comments on the usefulness of these programs and/or program bugs found would be greatly appreciated and should be sent to:

Bruce Wollenberg
Electrical Engineering Department
University of Minnesota
200 Union Street S.E., Room 4-174
Minneapolis, MN 55455

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**CUSTOMER NOTE: IF THIS BOOK IS ACCOMPANIED BY SOFTWARE,
PLEASE READ THE FOLLOWING BEFORE OPENING THE PACKAGE.**

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