Section 14 – Appendix

Files

The following files are installed in the Design-Expert® program folder:

- **dx6.exe**, main program
- **dx6.hlp**, help file
- **dx6.cnt**, help file contents
- **custdata.ini**, customer data: name, rank, and serial number
- **machnm1.exe**, utility to validate machine identity
- **read_me.htm**, latest info and program tips as an html document
- **unwise.exe**, WISE Uninstaller—used to remove the program
- **install.log**, installation log file used by unwise.exe.
- **user.ini**, Design-Expert 6 license file

The following files are installed in either the Windows/WinNT system32 folder or Design-Expert program directory depending on the user's choice:

- **mfc42.dll**, Microsoft Foundation Class 4.2 library
- **msvcp60.dll**, Microsoft Visual C++ 6.0 library
- **msvcrt.dll**, Microsoft Visual C run-time library
- **csh.dll**, Context-sensitive help library
- **roboex32.dll**, RoboHelp helper
- **keylib32.dll**, license key library

These files will be placed in the designated data directory:

- **Battery.sim**, simulation of general factorial design data
- **Biker.dx6**, data file for foldover tutorial
- **Clearcoat.dx6**, mixture design with categorical factors
- **Filtrate.sim**, simulation of two-level factorial design data
- **Fish Patties.sim**, simulation of fish patty formulation (mixture)
- **Mix.dx6**, mixture design data, unanalyzed
- **Mix-a.dx6**, mixture design, analyzed
- **Original.dx6**, retain sample data (basis for d-optimal selection)
- **Paper.dx6**, data from split plot design
- **Plasma.dx6**, two-level factorial split plot
- **Purity.dx6**, data from nested design
- **Rsm.dx6**, response surface design data, unanalyzed
- **Rsm-a.dx6**, response surface design, analyzed
- **Taguchi-L16.dx6**, Taguchi design data
- **Turbine.sim**, simulation for fractional two-level design.

Program Preferences

Starting with version 6.0.6 of Design-Expert, program preferences are now saved in the registry under **HKEY_CURRENT_USER\Software\Stat-Ease\Design-Expert 6**.

In 6.0.5 and earlier versions of Design-Expert, preferences were stored in the **DX6.INI** file in the Windows or WinNT system folder. The change to using the registry was made to conform to current Microsoft Windows standards. Users without full access to system files could not save their preferences as they were not permitted to update the **DX6.INI** file. If you wish to keep using the **INI** file instead of the registry, you can do so by manually adding the following lines at the beginning of the **DX6.INI** file (you may have to create the file):

```
[special]
UseIniPrefs=1
```

This will direct Design-Expert to the **INI** file for preferences. Note that the **INI** file must have the same name as the program. Thus if you are running the network version named **DX6Net.EXE**, the corresponding **INI** has the name, **DX6Net.INI**.

Changing Icons

You can change your computer's desktop to display 256 colors if you have the Microsoft Plus! option on Windows 95 or NT. Right click on the blank area of the desktop and select **Properties** from the menu. Under the **Plus!** tab, check the box labeled "Show icons using all possible colors." You may have to restart your computer for this change to take effect. Windows 98 has these options built-in. Right click on a blank area of your desktop and select **Properties** from the menu. Under the **Effects** tab, check the box labeled "Show icons using all possible colors." You may have to restart your computer for this change to take effect.

If you prefer an alternate icon, you will need to open the Start menu by right clicking on it and choosing **Open**. Open the Programs window then the Stat-Ease window. Right-click on the program icon and choose properties. Under the **Shortcut** tab choose **Change icon…** and the choices will appear. Highlight your choice and click on **OK**.

Right-Click Menu Locations

In design layout:

- First column header (standard order)
- Run header
- Block header
- Factor headers
- Response headers
- Row headers.

In model editing:

- Model list window (include or exclude terms from model).

In any selected grid view:

- Editing commands (Cut/Copy/Paste).

In statistical reports:

- Editing commands
- Help for cell contents.

In graphs:

- Contour graph and 3D graph background
- Contour
- Text labels
- Flags.

In the factor space toolbox:

- Factors (to change axes or constants).

Network Installation with Built-In Metering

Design-Expert software runs on NT, Novell, and other common networks. Stat-Ease offers you a choice of using your own license control system or built-in metering that limits the number of concurrent users to the number of seats purchased.

Central (Server-Based) Versus Distributed (Client-Based) Network

Our standard network installation copies the program files to a folder on a central shared (server-based) network drive. Included in that folder is a workstation setup program, **WrkSetup.exe**, which creates local shortcuts, a data directory, and (optionally) installs the **DLL**s to the local machine. In this case, the network acts as a file server for Design-Expert. When users run the program from a workstation, the **.EXE** is loaded into the local machine's memory across the network. If you do not have metering software, you must use the built-in metering, which will limit the number of concurrent users to the number of seats you purchase. The built-in metering includes an additional control folder for recording the metering. Users must be given full access to this folder. When they launch Design-Expert, the program checks for an available seat. If one exists, the program loads--otherwise, the message "User Limit Exceeded! Maximum license(s) (#) in use." is issued, and access is denied. "#" is the total number of available licenses.

The server-based scheme may be too slow for users on a low-speed connection to the network. Alternatively, you could install individual copies on each workstation, regulated by a central metering system. Under this distributed network scheme, the program is launched from the local drive only after checking with the server for an available seat. The built-in metering supports this model and you can choose it when you run the workstation setup.

Installation Procedure

See Section 1 under *Network Installation* for instructions on how to install on a network server and to set up the workstations.

Operation

When the network version of Design-Expert is launched, a semaphore file is written to the **control** folder. As other copies are launched, each creates its own semaphore as long as the number of licenses has not been exceeded. If all licenses are in use when a user tries to launch Design-Expert, a message is displayed and access denied.

For the metering to work properly, the user must have read / write access to the **control** folder. Furthermore, the correct license file, **user.ini,** must be located in the program folder, and the files, **machnm1.exe** and **keylib32.dll**, must be located either in the program or the system32 folder. If any of these are missing or incorrect, an error will be displayed and the program will not run.

Control Path

By default, the control path is a folder named "control" that resides within the Design-Expert application folder. If you prefer a different location, you may specify it in the network section of **custdata.ini** file with the following entry:

```
[Network]
ControlPath=<path>
```

where `<path>` is the path (either absolute or relative from the program folder) that includes the folder name. For example:

```
ControlPath=\\SERVER6\APPL\DX6_Control
```

Whatever control folder you choose, it must exist before you launch Design-Expert or the program will terminate stating that no more licenses are available.

Network Type

There are three recognized network types, "server," "client," and "any." With the "server" type, only a server-based install is available via the workstation setup as the client-based option is disabled. The "client" type allows only the client-based configuration while the "any" choice allows workstations to be set up in either configuration. By default, the network type will be set to "Any" if you are using the Stat-Ease built-in metering or to "Server" if you are using your own metering. This option is in the **custdata.ini** file under the network section.

```
[Network]
NetworkType=<type>
```

where `<type>` is "Server", "Distributed", or "Any". For example:

```
NetworkType=Any
```

"Any" is the default value if NetworkType is not found in the network section of **custdata.ini**

Network Path

If you choose to install the program on the workstation drive, a local **custdata.ini** file is created that contains the following two lines:

```
[Network]
NetworkPath=<path>
```

where <path> is the path (either absolute or relative from the program folder) to the application on the server. For example:

```
NetworkPath=\\SERVER6\APPL\DX6Net
```

All other information that is normally found in the **custdata.ini** file will be in the copy that resides in application folder on the server.

File Overwrite

On networks with restrictive combinations of share and security privileges users may not be able to save over an existing file unless the following directive is added to the **custdata.ini** file:

```
[Network]
DeleteBeforeSave=1
```

This is the default setting for a network installation, but not for a single user install. If you are using a standalone copy of Design-Expert and writing to a network drive, you may need to add these lines to your **custdata.ini** file. Simply change the value from "1" to "0" if you wish to disable this feature.

References

Books

1. Anderson and Whitcomb, *DOE Simplified*, Productivity Press, Portland, OR, 2000.
2. Box, Hunter, and Hunter, *Statistics for Experimenters*, John Wiley and Sons, New York, 1978.
3. Cornell, *Experiments with Mixtures*, 3rd Edition, John Wiley and Sons, New York, 2002.
4. Draper and Smith, *Applied Regression Analysis*, 3rd Edition, John Wiley and Sons, New York, 1998.
5. Kraber, et al, *Handbook for Experimenters*, Stat-Ease, Inc., Minneapolis, 2002 (free to registered users).
6. Montgomery, *Design and Analysis of Experiments*, 5th Edition, John Wiley and Sons, New York, 2001.
7. Myers and Montgomery, *Response Surface Methodology*, 2nd Edition, John Wiley and Sons, New York, 2002.
8. Press, et. al., *Numerical Recipes in Pascal*, Cambridge University Press, 1989.
9. Taguchi, *System of Experiment Design*, Volume 1, page 189, Quality Resources, New York, 1991.
10. Weisberg, *Applied Linear Regression*, 2nd Edition, John Wiley and Sons, New York, 1985.

Articles

1. Addelman, "Irregular Fractions of the 2^n Factorial Experiments," *Technometrics*, Volume 3, pages 479-496.
2. Draper and Lin, "Small Response-Surface Designs," *Technometrics*, May 1990, Volume 32, Number 2.
3. John, "Three-Quarter Replicates of 24 and 25 Designs," *Biometrics*, Volume 17, pages 319-321.
4. Lenth, "Quick and Easy Analysis of Unreplicated Factorials," *Technometrics*, November 1989, Volume 31, Number 4, page 169.
5. Oehlert, Gary and Whitcomb, "Sizing Fixed Effects for Computing Power in Experimental Designs," Fall Technical Conference, 2000.
6. Sitter, Chen and Feder, "Fractional Resolution and Minimum Aberration in Blocked 2^{n-k} Designs," *Technometrics*, November 1997, Volume 39, Number 4.
7. Sun, Wu and Chen, "Optimal Blocking Schemes for 2^n and 2^{n-p} Designs," *Technometrics*, August 1997, Volume 39, Number 3.