

DK-SERIES DEMO SOFTWARE

1. Hardware Connections

Refer to the DK-Series user's manual for the proper power and communication line connections, as well as any other pertinent installation information. The serial port and baud rate setting for the DK-Series is saved in the "DkSeries.INI" file in the Windows directory.

2. Software Notes

The software is written in Visual Basic 16-bit version 4.0 for Windows, and it runs on Windows 3.11, 95, and NT 4.0.

2.1. Software Installation

To install the DK-Series demo software, you may run the program SETUP.EXE found on disk number one. It must be run from within Microsoft Windows. Once the demo software has been installed, you are ready to get started.

2.2. Getting Started

2.2.1. Setting Software for Serial Port

The first time you run the DK-Series demo software, you may have to configure the software for the correct serial port. When you run the program, it will search for the "DkSeries.INI" file in the Windows directory. If this file exists, the DK-Series demo software will initialize the serial port with the information saved in the "DkSeries.INI" file. If the computer is unable to locate the "DkSeries.INI" file, the "Initializing Communication Port" form will be shown on the screen. If you want to re-initialize the serial port, do it now. You can skip the initialization procedure by clicking "Cancel" in the "Initializing Communication Port" form. However if you choose not to reinitialize, all the DK-Series commands will not be able to perform. If the computer is able to communicate with the monochromator, then you will be prompted by the saving configuration dialog box. Clicking on "Yes" will save the configuration to "DkSeries.INI" in the Windows directory. Figure 1 illustrates the main form that will be shown constantly on the computer screen.



2659-A Pan American Frwy., NE Albuquerque, NM 87107 Tel (505) 343-9700 Fax (505) 343-9705
www.spectralproducts.com

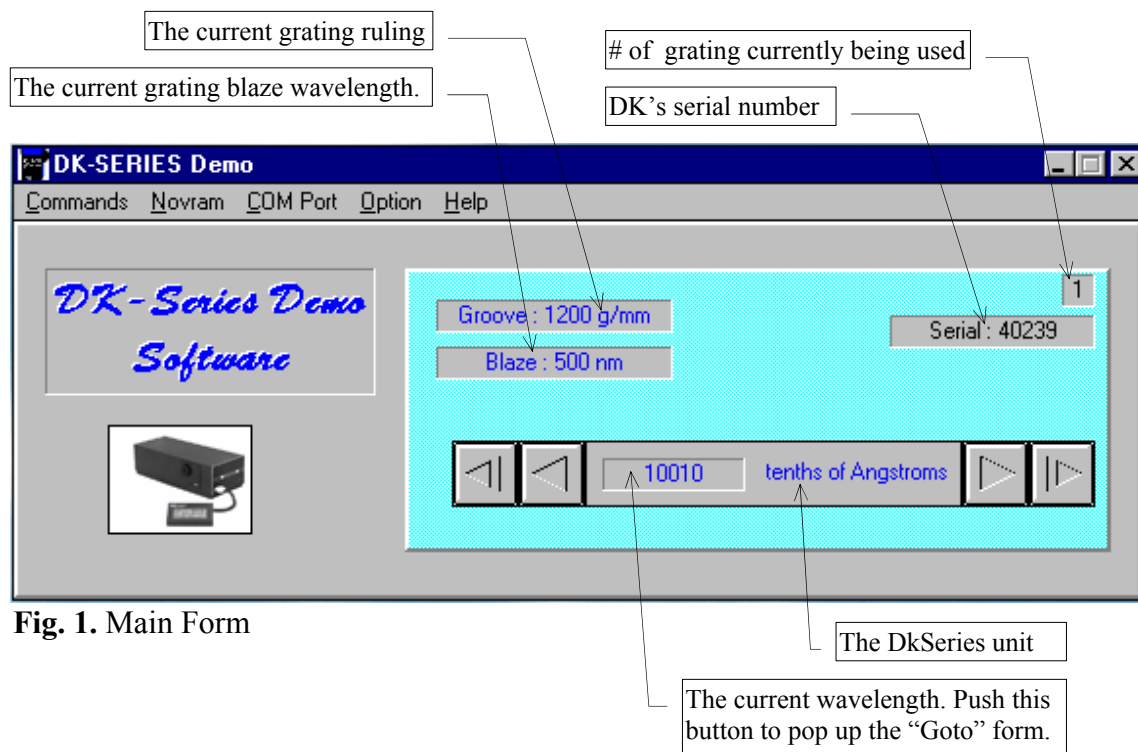


Fig. 1. Main Form

2.2.2. Menus and Commands

This section has detailed descriptions about the menu and the commands. For each menu, a brief description of each command is given. For more information on these commands, please refer to the DK-Series instruction manual or the online help menu (not available in version "A").

- **Commands Menu**
 - **Control.** Use the "Control" sub-menu to display control commands. These are instructions sent to the monochromator to control the spectral region selected. The commands are: *Goto*, *Scan*, *Speed*, *Slits*, *Select*, and *Echo*.
 - **Setup.** Use the sub-menu to drop-down setup commands that are used to specify the operation of the monochromator. They are: *Calibrate*, *Slit Cal*, and *Zero*.
 - **Exit.** Use the "Exit" command on the file menu to quit the DK-Series Demo Software.
- **Novram Menu**
- **COM**
 - **Novram Read.** Use this command to read a byte from the monochromator's non-volatile memory.

- **Novram Write.** Use this command to write a byte to the monochromator's non-volatile memory.

WARNING!!! Improper use of this command may corrupt the monochromator's configuration and the calibration information. DO NOT use this command if you are unsure of the implications!

NOVRAM ADDRESSES

1. AAAA in hexadecimal if programmed.
2. Serial number.
3. (To 6) Not used.
7. High byte: Not used.
Low byte: IEEE address (if installed)
8. Slot width of grating 1 machine 1 in motor steps.
9. Slot width of grating 2 machine 1 in motor steps.
10. Slot width of grating 3 machine 1 in motor steps.
11. Grating 1 blaze.
12. Grating 2 blaze.
13. Grating 3 blaze.
14. Zero offset of Machine 1 grating 1.
15. Zero offset of Machine 1 grating 2.
16. Zero offset of Machine 1 grating 3.
17. Zero offset of Machine 2 grating 1.
18. Zero offset of Machine 2 grating 2.
19. Zero offset of Machine 2 grating 3.
20. High byte of grating 1 Calibration number.
21. Low byte of grating 1 Calibration number.
22. High byte of grating 2 Calibration number.
23. Low byte of grating 2 Calibration number.
24. High byte of grating 3 Calibration number.
25. Low byte of grating 3 Calibration number.
26. Offset of Entrance slit.
27. Offset of Exit slit.
28. Offset of Middle slit (if existed).
29. High byte: Number of gratings installed in machine 1.
Low byte: Bit 0 – 0: ½- stepping, 1: micro-stepping (1)
Bit 1 – 0: 1 machine, 1: 2 machines (2)
Bit 2 – 0: No OMA, 1: OMA (4)
Bit 3 – 0: No CSR, 1: CSR (8)
Bit 4 – 0: No GPIB, 1: GPIB (16)
Bit 5 – 0: Unilateral, 1: Bilateral (32)
Bit 6-7: Not used
30. Model number.
31. Grating ruling of Grating 1.
32. Grating ruling of Grating 2.
33. Grating ruling of Grating 3.
34. Slot width of grating 1 machine 2 in motor steps.



Spectral Products

2659-A Pan American Frwy., NE Albuquerque, NM 87107 Tel (505) 343-9700 Fax (505) 343-9705
www.spectralproducts.com

- 35. *Slot width of grating 2 machine 2 in motor steps.*
- 36. *Slot width of grating 3 machine 2 in motor steps.*
- 37. *(to 41) Reserved.*
- 42. *(to 64) duplicate of 11-33.*

- **COM Port Menu**

- **Baud Finding.** Use this command to determine the current baud rate of the DK-Series.
- **Loopback COM Test.** Use this command to test the serial cable and the communication port. To run this command, make an adapter to plug into your serial port which will loop back the PC's serial data output into its serial data input. This is done by placing a jumper between pins 2 and 3, and leaving all other pins unconnected.
- **RTS, CTS Status.** Use this command to display the status of the *request to send* and the *clear to send* lines. The RTS line is true if the PC enables the line, and the CTS line is true if this line is high.
- **Initialize COM Port.** Use the command to initialize a serial port and the baud rate of your host computer. This command allows you to select both the serial port that is connected to a DK monochromator, and the baud rate that currently is set in the DK.

- **Option Menu**

- **Save Configuration.** Use the "Save Configuration" to save the current values of the serial port and the baud rate. These values will be saved to the file "DkSeries.INI" in the Windows directory.

- **Help Menu**

- **Contents.** Not used in Version "B".
- **Using Help.** Not used in Version "B".
- **About DK-Series.** Use this command to display the program version information.

3. DK-Series Visual Basic Library

The Spectral Products LLC is providing a software library which was designed in Microsoft Visual Basic for Windows 16-bit version 4.0. If you are interested in writing software supporting DK-Series, we will be pleased to send this software library, DK-V1.BAS, to you upon request. In addition, if you have any unanswered questions about the operation of DK-Series or if you have suggestions on how to improve it, please do not fail to contact us. We appreciate all your comments and suggestions.

