

INSTRUCTIONS

Directory Files that must be present for A++ to work properly:

- a) config.exe
- b) matr.exe
- c) config.bmp
- d) wflib.bmp
- e) conflib.bmp
- f) syscolor.txt

The PC monitor must run with true color or thousands of color. A 256 color will work, but it will look grainy.

A++ consists of two programs: config.exe which models the mirror and matr.exe which makes and evaluates matrices.

USE THE RIGHT MOUSE BUTTON FOR ON-LINE DOCUMENTATION. Many buttons and titles of windows will respond to a right mouse button click. Moving the mouse will remove the documentation window.

KNOWN BUGS:

When selecting menu items from submenus in the main window bar, click the item. The submenu will not pop up unless the item is clicked.

Sometimes windows will go blank, or will not refresh. Clicking it with the left mouse button usually will refresh it, or it that does not do it, resize it a little.

I apologize for these bugs and others which will come up. Please notify me when you encounter them.

To run CONFIG.EXE

- 1) make a configuration
- 2) save it under a file name by using the FILE menu's SAVE AS option - it is possible and advisable to save files in other directories.

INSTRUCTIONS

The two most important windows in this program are CONFIGURATION and EDIT TOOL, both can be accessed from the menu entitled 'Windows'.

The configuration window displays the graphics and the tool window opens other small windows that are used to design the mirror. The right mouse button will provide more information, but start with the GEOMETRY tool window to determine the size and type of the configuration.

Run MATRX.EXE in order to make and evaluate matrices.

As a start, it is best to use the 'Show Windows' options found under the menu entitled 'Windows'. All windows can be opened individually, but these options select those that are required or useful for either function.

TO MAKE A MATRIX:

Select the 'Matrix Generation' option under 'Show Windows' under the main 'Windows' menu bar.

Make the geometry matrix first, it is the foundation matrix of all reconstructors

TO MAKE A GEOMETRY matrix:

Use MAKE MATRIX window. Select the geometry matrix by highlighting the diamond (in red), then click the OK button. When it completes, it will be displayed in the MATRIX CATALOG window.

TO MAKE A RECONSTRUCTOR matrix:

Select the GEOMETRY matrix from which the reconstructor will be built by clicking the popup menu button at the extreme right of the window immediately under the OK button. Select the matrix from the popup menu list, (there will be only one at this point).

Select the reconstructor of your choice and click the OK button. After completion, the reconstructor will appear in Catalog window and the INTERMEDIATE matrices will appear in the temporary catalog.

TO SAVE A MATRIX:

There is no need to save a matrix if it will be used exclusively by A++, or if another application program can read matrix data in binary mode. All matrices that are generated by A++ are saved in BINARY form and contain no headers. They are saved as data only and can be used with other applications. RIGHT CLICK the name of a matrix in any window to get extra information on it, including its external file name.

To save a matrix in ASCII or BINARY for any reason, drag it to the 'VIEW MATRIX LIST' window. When its description header appears, click the diskette icon at the extreme right. A window will pop up which can be used to save the matrix in ASCII or binary mode.

TO EVALUATE A MATRIX:

Select the 'Matrix Evaluation' options under 'Show Windows' under the main 'Windows' menu bar.

- 1) Make a Zernike wavefront, select a zernike and give it some gain.
- 2) Give the slider in the flying carpet window some gain.
- 3) Click the second button from the left above the slider in the INCOMING Wavefront window. If the flying carpet does not get updated, click the window with the left mouse button or resize it a little, I have had problems refreshing windows.

This makes a wavefront which can be reconstructed. It is also possible to directly edit a wavefront. Click the button at the extreme lower right to put the window in numerical value mode. Click an item and enter a value. The erase button clears the wavefront. Another means is to open the EDIT WAVEFRONT window. Right click buttons in the EDIT WAVEFRONT window for more information.

TO RECONSTRUCT:

Select a geometry matrix for the INCOMING SLOPES window by clicking the popup menu button at the lower right corner.

Select a reconstructor matrix for the RECONSTRUCTOR window of your choice by clicking the popup menu button at the lower right corner.

Give the slider in the flying carpet window some gain.

Click the second button from the left above the slider in the RECONSTRUCTOR Wavefront window. If the flying carpet does not get updated, click the

window or resize it a little.

NOTE: IT IS POSSIBLE TO DRAG MATRICES BETWEEN WINDOWS.

TROUBLESHOOTING:

If `matrx.exe` will not automatically load the last file made by `config.exe` go to the FILE menu and use OPEN to load the configuration file.

If some other problem occurs, try to delete the following files:

`m_startup.txt`
`m_prefconfig.txt`
`m_prefmatrx.txt`