AutoBOOST User's Manual "PROTECTED" and "REAL MODE" Display List Drivers

Copyright 1989,1990,1991, Foresight Graphics, Inc., All Rights Reserved

Foresight Graphics assumes no responsibility for errors that may appear in this guide. Nor does Foresight Graphics make any commitment to update the information contained in this guide. Brand and product names other than AutoBOOST are trademarks of their respective owners.

FOR TECHNICAL SUPPORT CONTACT Foresight Graphics (602) 957-9800

TABLE OF CONTENTS
INTRODUCTION
PART I
"PROTECTED MODE"
INSTALLATION
"REAL MODE"
INSTALLATION

CONFIGURING YOUR DOS CONFIG.SYS FILE . 16 REMOVING EXISTING ADI DRIVERS 17

UNLOADING AutoBOOST
PART III
AutoBOOST COMMANDS
INTRODUCTION
APPENDIX A
SET BOARD TYPE AND RESOLUTION 31 SET SCREEN, INTERRUPT, DISK 32 BIRDSEYE BOX POSITION 32 BIRDSEYE SIZE 32 BUTTON TO ACTIVATE BIRDSEYE 32 DIGITIZER TABLET MAPPING 32 INTERRUPT VECTOR (IN HEX) 33 DISPLAY LIST DRIVE 33 POPUP SAVE AREA DRIVE 34 SCROLL AREA HEIGHT

INTRODUCTION

Congratulations! You have purchased one of the most powerful productivity

tools for AutoCAD users. We assure you that in no time you will be zooming to a new level of productivity. As a general rule, the larger the drawing the faster AutoBOOST will perform over standard AutoCAD ZOOMS.

In this latest release the configuration file allows the user to chose "Protected mode" or "Real mode" and whether or not to utilize a 16-color driver facility or a 256-color driver facility. With 16-colors the user will find AutoBOOST 30% faster than Release 4.5. With 256-colors you have 256 color access and compatibility with AutoSHADE 2.0 (including Renderman).

This manual is organized in four sections

PART I "Protected mode"
PART II "Real mode"
PART III AutoBOOST Commands
APPENDIX A Main Configuration Menu

THOU SHALT NOT DUPE Either Way It's Wrong

People who would never walk into a store and shoplift a software product think nothing of making several copies of the same software. The results are the same. The act is just as wrong.

The relationship between customer and developer in a software transaction is one of mutual trust. The customer trusts that the developer has produced a product that will deliver the desired result, performs according to specifications, and is properly documented and supported. The developer trusts that the customer will make use of only those copies for which they have purchased a license, even though making additional, unauthorized copies is relatively easy.

Software developers find that thousands of illegal copies have been made by customers who either innocently believe they are doing nothing wrong, or simply choose to ignore the law. This cannot continue if the customer is to expect better documentation, customer support, upgraded software and new products.

MYTHS AND FACTS OF SOFTWARE

Let's start by dispelling some myths with a few facts.

First, software developers do not condone unauthorized copying in order to gain market penetration.

Second, the price of software does not make unauthorized copying justifiable. The cost of a software product to a consumer represents only a small fraction of the publisher's development and marketing costs.

Third, although the cost of "softlifting" is borne initially by the software developer, it is paid for ultimately by legitimate users.

Fourth, rationalization for "software piracy" does not make it right or legal. Some people say, "the product is too expensive." The price set by the developer and retailer does not give someone a license for theft. Also, software pricing is value based. Most software customers find that they pay

only pennies per hour for the use of a valuable information processing tool.

A final myth is that the developer expects people to copy it. If you believe this, call and ask the publisher.

Research and development for a single software product costs thousands of man-hours and millions of dollars. The price you pay for software includes only a fraction of the development, marketing and support costs, plus a reasonable return on the investment.

Copyright (C) by ADAPSO, 1984. Permission to reproduce is granted by ADAPSO.

Source Diskette Contents

CONFIG.EXE Configuration program for both "Protected mode" and "Real mode" AutoBOOST

BOOST16.EXP 16-color AutoBOOST program in "Protected mode" for all VGA Graphic Cards.

BOOST256.EXP 256 color AutoBOOST program in "Protected mode" for all VGA Graphics Cards.

BOOS8514.EXP "Protected mode" AutoBOOST program for IBM 8514/A 256 color graphics cards.

BOOST16.EXE 16 color AutoBOOST program in "Real mode" for all VGA Graphics Cards.

B00ST256.EXE 256 color AutoBOOST program in "Real mode" for all VGA Graphics Cards.

BOOS8514.EXE "Real mode" AutoBOOST program for IBM 8514/A 256 color graphics cards.

PART I

"PROTECTED MODE"

INSTALLATION

STEP 1

Create a directory on Drive C (or X) called "\BOOST". For Example:

MD BOOST

STEP 2

Copy "*.*" from the source disk to C:\BOOST. For Example:

COPY A:*.* C:\BOOST

CONFIGURATION

Configuring AutoBOOST

The configuration of AutoBOOST is a very easy process with the "CONFIG.EXE" program. You must run this program before you load AutoBOOST. Simply go to the \BOOST directory and type

CONFIG

The program will then present you with a listing and brief description of each driver available to you. Simply use your arrow keys to highlight the desired driver and press return. After you have selected a driver the registration screen will appear for that driver. At any point you may enter F1 for help.

Software Registration Menu

If this is the first time that you have used CONFIG for this driver the menu will prompt you for your company name. Once you accept the name, it can not be changed and will appear in other portions of software registration statements.

Main Configuration Menu

This menu allows you to access several different options of interest to you. You can access an option by using the cursor keys to highlight the menu title and then hit ENTER to activate the selected menu. When you are finished with all your configuration changes, highlight the "Save New Configuration & Exit" option and hit enter. If you require more information refer to Appendix A.

AutoBOOST Configuration Complete

When you are finished with your AutoBOOST configuration changes, just return to the "Main Menu". There will be an option at the bottom of the screen called "Save New Configuration & Exit ". By selecting this option you will confirm the configuration changes that you have made. A screen will then prompt you with what file to save your configuration to the default will be the one you selected. Accept the default.

Setting DSPADI

If you have selected to use the "protected" mode you will need to set the DSPADI do so by using the set command at the C> prompt.

SET DSPADI=C:\BOOST\BOOST.EXP

Configuring AutoCAD

You must configure your AutoCAD to use an 386p ADI v 4.0/4.1 for "protected" mode AutoBOOST. This is done by selecting option 5), "Configure AutoCAD" from the "Main Menu". Once you get to the "Configuration Menu", select option 3), "Configure video display", then proceed to Select 386P ADI v4.0/4.1.

Trouble Shooting

"Please Correct Display Adapter / Configuration Inconsistency"

This message means that AutoBOOST did not load or initialize properly.

Please verify Autoexec.bat to make sure that "DSPADI" is set to the correct directory path where AutoBOOST resides.

Excessive Hard Disk Activity

When the display-list gets large, the DOS-Extender will start paging least used memory to disk, causing a performance decrease. You should add more memory if this occurs often.

PART II

"REAL MODE"

INSTALLATION

STEP 1

Create a directory on Drive C (or X) called "\BOOST". For Example:

MD \BOOST

STEP 2

Copy "*.*" from the source disk to C:\BOOST. For Example:

COPY A:*.* C:\BOOST

CONFIGURATION

Configuring AutoBOOST

The configuration of AutoBOOST is a very easy process with the "CONFIG.EXE" program. You must run this program before you load AutoBOOST. Simply go to the \BOOST directory and type

CONFIG

The program will then present you with a listing and brief explanation of each driver available to you. Simply use your arrow keys to highlight the desired driver and press return. After you have selected a driver the registration screen will appear for that driver. At any point you may enter F1 for help.

Software Registration Menu

If this is the first time that you have used CONFIG for this driver the menu will prompt you for your company name. Once you accept the name, it can not be changed and will appear in other portions of software registration statements.

Main Configuration Menu

This menu allows you to access several different options of interest to you. You can access an option by using the cursor keys to highlight the menu title and then hit ENTER to activate the selected menu. When you are finished with all your configuration changes, highlight the "Save New Configuration & Exit" option and hit enter. If you require more information refer to Appendix

AutoBOOST Configuration Complete

When you are finished with your AutoBOOST configuration changes, just return to the "Main Menu". There will be an option at the bottom of the screen called "Save New Configuration & Exit ". By selecting this option you will confirm the configuration changes that you have made. A screen will then prompt you with what file to save your configuration to the default will be the one you selected. Accept the default.

Display list drive

AutoBOOST needs a "vector display-list" file. This file is used to store the vector image information that AutoCAD sends describing the AutoCAD drawing. If you are using multiple viewports, there will be multiple display-lists in use. AutoBOOST gives you the option to have these display-lists created on your "virtual" disk for improved vector zoom speed. The "display list drive" allows the user to toggle by arrow keys which drive will be utilized by the display list overflow. It is recommended to use a RAM based drive (such as one used by a VDISK).

Popup save area drive

This virtual disk option is also available for the "pop-up" menu data storage file.

Configure your DOS CONFIG.SYS File

Since AutoBOOST may use several files to store its display lists, you will need to make sure FILES and BUFFERS variables are both set to values over 30. For example, Set:

FILES=30 BUFFERS=30

Removing Existing ADI Drivers

AutoBOOST is your new ADI driver. If you were previously running AutoCAD with a different ADI driver, you must remove the old driver. These drivers are often loaded from the "AUTOEXEC.BAT" file or from a batch file used to launch AutoCAD.

Loading AutoBOOST

You must load AutoBOOST before you run AutoCAD. To load AutoBOOST, go to the \BOOST directory and type "BOOST16" or whatever driver you have chosen. You should now see a white square that will state the license number, the distributor, and your company name. Press any key and you will be ready to go. If you see a blank or distorted screen, then you may have selected the wrong graphics card during your configuration of AutoBOOST. If, after reviewing your AutoBOOST configuration, you are still having difficulties, call Foresight Graphics for technical assistance.

If you see a message from AutoBOOST saying that it is already in memory, you will have to unload AutoBOOST if you have made any configuration

changes (see "Unloading AutoBOOST"). If you see a statement that says interrupt vector for which AutoBOOST has been configured is in use, this means that you may still be loading an old ADI driver, in which case you should unload the old driver (see "Removing Existing ADI drivers"). If you are not loading any other display drivers by accident, then you may have another software product using that interrupt vector. To solve this problem you should reconfigure AutoBOOST and AutoCAD to use adifferent interrupt vector (see "AutoBOOST Interrupt Vector Menu" and "Configuring AutoCAD").

No License Screen Pause

There is a command line option that you can use when you load AutoBOOST that will stop AutoBOOST from waiting for you to press a key while it displays the license screen. This is helpful for those who use batch files to load AutoBOOST. You should use this option only after you are sure that AutoBOOST can load successfully with your current graphics card setting. To use this option you would type: /N

UNLOADING AutoBOOST

To unload AutoBOOST from memory, go to the directory that contains the AutoBOOST program and type: /U

Configuring AutoCAD

You must configure your AutoCAD to use an ADI v4.0 for "real" mode AutoBOOST. This is done by selecting option 5), "Configure AutoCAD" from the "Main Menu". Once you get to the "Configuration Menu", select option 3), "Configure video display", then proceed to Select "ADI v4.0"using the same interrupt as AutoBOOST (the default is 7A).

AutoBOOST Logo / Display-list Size

If AutoBOOST is loaded properly, you will see an AutoBOOST Logo with the display- list size underneath it. You should use this number to approximate the size of VDISK needed to store display-list.

"Please Correct Display Adapter / Configuration Inconsistency"

This message means that AutoBOOST did not initialize properly. This problem occurs when FILES or BUFFERS values are too low. Or the disk drive you selected to store display-list does not exist. Please verify CONFIG.SYS or AutoBOOST configuration.

Using a VDISK or RAMDRIVE

For increased performance, we suggest that you set up a VDISK to hold the display- list. This will result in faster drawing speed.

The size of VDISK to use will depend on the maximum size of the display-list which depends on the type of entities in your drawings. On average the display-list should be 60% of the drawing size. However, drawings with lots of circles, arcs, and text will produce display-list larger than average. To determine the size of VDISK, we suggest you experiment with a variety of drawings to see their requirements. Should you underestimate the display-list size, you will get a "Disk Full" message, the display list will then be

disabled, and you will be returned to regular AutoCAD speed. If needed, you can increase your VDISK size or reconfigure AutoBOOST to use the harddisk for its display-list storage.

Memory Messages

As AutoCAD comes up, if you see the messages:

"Autolisp disabled"
or
"AutoCAD needs (X) K of memory to
use the last (Y) K of
extended memory ..."

This means there are too many resident (TSR) programs loaded.

- 1) Check your "CONFIG.SYS" and "AUTOEXEC.BAT" files and remove those TSRs that are not needed for AutoCAD.
- 2) If you have a 386 system, you may be able to load some TSRs into "High Memory" with a memory manager like QEMM or 386MAX.
- 3) You could also try to reduce ACADFREERAM to 20, and set LISPHEAP and LISPSTACK to lower values.

No ADI Driver Error

When you attempt to bring up an AutoCAD drawing, you may get the message that there is no ADI driver loaded at a specified interrupt vector. This means that AutoBOOST may not have been loaded. If AutoBOOST has been loaded successfully, then the ADI interrupt vector for AutoCAD and AutoBOOST do not agree. You should configure either AutoCAD or AutoBOOST to use the appropriate vector (see "Configuring AutoCAD" and/or "AutoBOOST Interrupt Vector Menu").

AutoBOOST Loaded But Commands Don't Work.

When a drawing appears to load OK, but AutoCAD does not seem to understand any AutoBOOST commands, and there is no AutoBOOST Logo on the upper right hand corner, then AutoCAD was not configured for the desired ADI Display driver. In this case you should reconfigure AutoCAD (see "Configuring AutoCAD"). If AutoCAD is configured for an ADI driver, then check to make sure that an old ADI driver is not being used (see "Removing Existing ADI drivers").

If AutoBOOST logo appears on the upper right corner but its command are not recognized. You may be redefining AutoCAD commands with "BOOST.LSP" from a previous release. This is no longer necessary. Remove the redefinition and try again.

AutoBOOST Logo / Display-list Size

If AutoBOOST is loaded properly, you will see an AutoBOOST Logo with the display- list size underneath it. You should use this number to approximate the size of RAMDRIVE needed to store display-list.

PART III

AutoBOOST COMMANDS

INTRODUCTION

AutoBOOST is designed to use standard AutoCAD ZOOM and PAN commands, in addition to its own command set. The standard REDRAW command has been modified to perform a display-list Clean automatically when there are erase vectors in the display-list, see command 1. CD and 12. RD for further details.

All AutoBOOST commands can be entered from the keyboard or assigned to your tablet or buttons for quicker access.

All command names can be changed through the CONFIG.EXE program.

All AutoBOOST commands can be made transparent to any AutoCAD commands by preceding it with a (').

The RETURN key will repeat the last AutoBOOST command entered, except when you are in middle of an AutoCAD command.

1. CD or 'CD (Clean Display-list)

How Editing Modifies the Display-list

Changes in the drawing which cause graphics to be undrawn and drawn are captured in the display-list and appended in the order they are made. For example, suppose that an object in the drawing is moved from one location to another. On completion of selection, the active graphics are dragged to the new location and their new position is fixed. AutoCAD will draw the graphics in the background color at their initial position, then draw the graphics in their proper color in their final position. Both draw sequences cause graphics to be added to the AutoBOOST display-list, and both can be observed when an AutoBOOST viewing command is used to draw the modified display-list; the object which was moved will be drawn in it's proper color at it's original position, then be undrawn, (i.e.,drawn in the background color) at it's original position, then drawn in it's proper color at the new position.

Thus, the appearance of the AutoBOOST display-list captures a "window of history" of the drawing through several incremental edits. The window is "replayed" every time an AutoBOOST command is used to view the display-list.

Cleaning the Display-List

Because the undrawing of graphics still causes data to be appended to the display-list, indefinite editing activity will fill up the available space maintained by AutoBOOST.

To purge the display-list of unneeded editing history, you can use the CD command or invoke an AutoCAD REDRAW. This creates a completely new display-list which exactly represents the current state of the active drawing, without any redundant undrawn objects.

- 2. ZD or 'ZD (Zoom Dynamic)
- 3. PD or 'PD (Pan Dynamic)

Using the Birdseye Window

The AutoBOOST ZD or PD commands will toggle birdseye window up or down. The size and position of the birdseye can be changed through the AutoBOOST CONFIG utility. Note 'PD is used by the Birdseye button.

The birdseye represents the maximum view of the display-list. The first time it is brought up onto the screen after an AutoCAD REGEN or REDRAW, you will see the birdseye being redrawn. On the second and subsequent calls, the birdseye will pop up on the screen instantly without a redraw.

The birdseye also shows the main view as a filled grey rectangle, in relation to the virtual display-list view. Note that if the main view has been set by a ZOOM ALL, the birdseye window will be completely grey.

Once in the birdseye window, two options are possible:

In Pan mode (PD), Clicking the pick button will zoom you to the new position represented by the moving white box.

In Zoom mode (ZD), use the pick button to pick the lower left, and then, the upper right of the new view desired. You will not be allowed zoom beyond the display-list limit.

The Return button will allow you to toggle between Pan and Zoom mode.

4. ZW or 'ZW (Zoom Window)

This command is identical to AutoCAD's ZOOM WINDOW command, except it will display the smallest window possible without causing an regen, after the lower left corner is picked.

5. ZT or 'ZT (Zoom Tiniest)

This command will display a white box of the smallest view possible without a regen. Clicking the pick button will zoom you to the view inside the box. ZT can be toggled off by repeating the command.

6. ZP or 'ZP (Zoom Previous)

This command is the same as an AutoCAD ZOOM PREVIOUS.

7. ZI or 'ZI (Zoom In)

This command zooms in on the center of current view by a factor of two. It will stop before causing a REGEN.

8. ZO or 'ZO (Zoom Out)

This command zooms out on the center of current view by a factor of two. It will adjust the new view along the edge of the virtual window to avoid a

REGEN.

9. ZA or 'ZA (Zoom All)

This command zooms out to the display-list extents without causing a REGEN.

10. SCP or 'SCP (Single Center Pan)

11. CCP or 'CCP (Continuous Center Pan)

To use this command you must be zoomed in a reasonable amount by definition. By invoking either of the SCP or CCP command, you can pan to a new view with a single click of the pick button. It will translate the point you picked to the center of the screen.

This command will not allow you to pan beyond the edge of the display-list extents. If you hit the edge the cursor will not move.

This is to avoid regens.

SCP gives you a single center pan. CCP will keep you in the Center Pan mode until you issue another CCP to toggle it off.

12. RD or 'RD (Quick Redraw)

This command will perform a quick display-list redraw only. Which may be useful to remove Blip marks.

13. CA (Cancel)

This command must be used if you want to cancel any AutoBOOST commands.

14. FS or 'FS (Fill Enable/Disable)

By invoking this command, solid filling areas may be disabled and re-enabled without causing an AutoCAD REGEN. You will have invoke a RD command after each FS command to see the results.

15. AO Anti-Aliasing On (If your board supports)

Removes the "jaggies" from you diagonals and circles.

16. AF Anti-Aliasing Off (If your board supports)

Places you back in ACAD and AutoBOOST modes.

APPENDIX A

Set Board Type and Resolution

This option allows you to tell AutoBOOST which graphics card you are using. The current graphics option is highlighted in the next to last line of the menu. To select a different card, use the cursor keys to highlight the correct card and then hit enter.

If you don't see a listing of the card that you have, you can try a generic version or a similar card type. Sometimes different manufacturers will use the same graphics chip sets. To test a particular selection just try loading AutoBOOST under the configuration being tested (See"Loading AutoBOOST"). If you still are having trouble call Foresight Graphics, Inc. for technical assistance.

Set Screen, Interrupt, Disk..

BirdsEye Box Position.

Allows users to place the birdseye in any corner of the screen. Use arrow keys to toggle choices, press enter to choose.

BirdsEye Size

Allows user too set the birdseye size to 1/2, 1/3, or 1/4 of the width of the screen (except at 800X600 you are limited to 1/4 width). Use arrow keys toggle choices, press enter to choose.

Button To Activate BirdsEye

Allows user to set birdseye command to buttons 1,2,or 3 on a mouse or digitizer puck. User may also disable birdseye function with this option. Use arrow keys to toggle choices, press enter to choose.

Digitizer Tablet Mapping

Allows user to assign digitizer puck to utilize designated screen area or full tablet area.

Interrupt Vector (in hex)

AutoBOOST is an AutoCAD ADI driver. AutoBOOST utilizes interrupt vector 7a by default. This option allows you to choose another interrupt vector should AutoBOOST's default choice be unavailable by toggling arrow keys to the desired interrupt vector.

Display list drive

AutoBOOST needs a "vector display-list" file. This file is used to store the vector image information that AutoCAD sends describing the AutoCAD drawing. If you are using multiple viewports, there will be multiple display-lists in use. AutoBOOST gives you the option to have these display-lists created on your"virtual" disk for improved vector zoom speed. The "display list drive" allows the user to toggle by arrow keys which drive will be utilized by the display list

overflow. It is recommended to use a RAM based drive (such as one used by a VDISK).

Popup save area drive

This virtual disk option is also available for the "pop-up" menu data storage file.

Text Character Box Size

AutoBOOST can display up to three different sized text fonts in your AutoCAD banner and command areas. Based on your graphics card resolution and graphics area needs, you may choose which size text font AutoBOOST should use. This menu will display possible choices and list the current selected font size. Use arrow keys to toggle choices, press enter to choose.

Scroll Area Height

When running AutoCAD, in single screen mode, the command area is below the graphics region and is set to a scroll height of three lines. This menu allows you to tell AutoBOOST to either increase scroll area for a greater command history or to decrease it in order to provide more graphics area. Use arrow keys to toggle choices, press enter to choose.

Flip Screen Save

AutoBOOST attempts to save the graphics area when you flip to text mode and to restore the information when you return to graphics mode. Some graphics cards may corrupt the portion of the image that AutoBOOST tried to save. This menu gives you the opportunity to have the graphics region redrawn after flip screens, should you need to do so. Use arrow keys to toggle choices, press enter to choose.

Dual Screen Enable/Disable

If your computer system has both a monochrome (MDA) and a VGA/EGA display, AutoBOOST will automatically go into dual screen mode if AutoCAD is run from the monochrome screen. This menu provides you with the option of disabling dual screen mode if you desire to do so. Use arrow keys to toggle choices, press enter to choose.

Layer Indicator color

The "LAYER" indicator in the upper left corner of the graphics screen can be displayed in either the default text color or in the current drawing color. This option gives you the option of choosing which mode you would like to use. Use arrow keys to toggle choices, press enter to choose.

Set Text and Menu Colors

This option presents you with a list of display items whose colors you can modify by highlighting the desired option and using the arrow keys to toggle color choices. For example, you can change the graphics background color between light grey and black. You can also change the background and foreground colors of text, alert boxes, the menu bar, pull-downs, and the dialogue box.

If the colors on the graphics screen do not appear to be the colors chosen from the CONFIG.EXE file check your monitor connections.

Set Custom Command Names

This option allows you to change the names of the AutoBOOST commands should they conflict with any of your other customized operations. This is done by using the cursor keys to highlight the command whose name you would like to change, type in the desired abbreviation and then hit enter. After entering the change, the commands name will be updated. The default command names are:

Clean Display ListCD
Zoom AllZA
Zoom InZI
Zoom OutZO
Zoom PreviousZP
Zoom WindowZW
Zoom TiniestZT
Zoom DynamicZD
Pan DynamicPD
Quick Center PanSCP
Continuous Center PanCCP
Interior Fill SetFS
DL Driver RedrawRD
All Colors OnALLON
Toggle Color 1Red
Toggle Color 2Yellow
Toggle Color 3Green
Toggle Color 4Cyan
Toggle Color 5Blue
Toggle Color 6Magenta
Toggle Color 7White
Toggle Color 8Dark Grey
Toggle Color 9Dark Red
Toggle Color 10Dark Brown
Toggle Color 11Dark Green
Toggle Color 12Dark Cyan
Toggle Color 13Dark Blue
Toggle Color 14Dark Magenta
Toggle Color 15Grey-Black
CancelCA