Oracle® AutoVue

Viewing Configuration Guide

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Preface

The Viewing Configuration Guide explains how to configure AutoVue to control file display, printing and markup behavior, and other configuration parameters. The options described in this document should be set in users' INI files.

For the most up-to-date version of this document, go to the AutoVue Documentation Web site on the Oracle Technology Network at https://www.oracle.com/technetwork/documentation/autovue-091442.html.

Audience

The Viewing Configuration Guide is primarily for AutoVue administrators and advanced users.

Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at https://www.oracle.com/us/corporate/accessibility/index.html

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Related Documents

For more information, see the following documents in the Oracle AutoVue documentation library:

1. *Oracle AutoVue Desktop Deployment Installation and Configuration Guide*
2. *Oracle AutoVue Release Notes*
3. *Oracle AutoVue User's Manual*

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
`monospace`	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

1 Introduction

As an Enterprise Visualization solution, Oracle AutoVue delivers robust document viewing, digital annotation and collaboration capabilities. AutoVue as a viewer displays designs/documents very close to their authoring applications. There may be slight differences in the AutoVue display as compared to the native applications. In some cases, there are configurations that can be performed to have AutoVue closely match the native applications. These configuration options can control how the file displays or prints in AutoVue the performance for loading the document or select the attributes to be displayed with the file. Note that AutoVue is a viewer and as such does not provide the editing capabilities of the authoring applications. Throughout this document, we ask you to set font paths to point to specific fonts or update font mapping files. In all these cases, before you copy or point to fonts, you must ensure that you are compliant with the licensing of the fonts.

Note that in this document, Office formats refer to Word, Excel, and Powerpoint formats.

This *Viewing Configuration Guide* describes the various configuration parameters available in AutoVue , and lets you identify which options would best suit your visualization needs and requirements. This document also provides additional information on configuration parameters for other Oracle AutoVue capabilities such as printing, markup and conversion. In order to take effect, these options must be set in the INI profile of the end users.

1.1 Viewing Configuration INI Files

When users connect to AutoVue, a user-specific INI file, <username>.ini, where <username> is the name of the user connecting to AutoVue, is created and is placed at the location specified by autovue.users.directory parameter in autovue.properties. The default location is <AutoVue Installation Directory>\bin\Profiles.

> **Note:** If AutoVue is integrated with a document repository/Document Management System (DMS), <username> is assigned the user's login name for the DMS. If AutoVue is not integrated, <username> is assigned the user's login name for the operating system.

The default AutoVue installation bundles two INI files, **default.ini** and **allusers.ini** at <AutoVue Installation Directory>\bin. The settings in allusers.ini file overwrite those of the default.ini file. The very first time a user connects to AutoVue the contents of default.ini are written to the user-specific INI. The contents of allusers.ini are written to the user-specific INI every time a user connects to AutoVue.

If you need to roll out certain settings to all users that connect to AutoVue you can do so by setting options in either default.ini or allusers.ini once you determine what option works best for you.

Important:

1. When AutoVue is deployed in a server farm, you must ensure that all servers in the farm have the same settings in default.ini and allusers.ini.
2. An option that has been written into the user-specific INI does not get removed from the INI if you remove it from allusers.ini. The recommended approach to revert an INI option is to change the value of the option in allusers.ini instead of removing it.
3. Many of the INI options in the following chapters may also be set by the end-user from the AutoVue graphical user interface (GUI). Setting the option in this manner only affects the current user and not all users. Options that apply to all users should go in allusers.ini and default.ini. The user-specific INI options has to be set in user-specific INI.
4. All the INI options are local to a window of an AutoVue client. To enforce the settings, you need to reload the AutoVue client and its child windows.
5. In order to open multiple child windows of AutoVue Desktop Deployment using command prompt, AutoVue Desktop Deployment has to be running. All properties set in the user.ini are inherited in the child window (example the background color of the window), except for VECTORFIT.
6. A new option called "jvueserver.profile.options.filter" is used to filter out options in the user profile. This option allows administrators to define which INI options cannot be modified using JavaScript. For details, see the AutoVue Installation and Configuration Guide document.

2

General Viewing Configuration

AutoVue provides configuration options at the application level and at the file format level. File format INI options are generally specific to a file format or to a file format group. Application level INI options generally control the application features - such as printing or markups or user-interface capabilities.

This chapter describes the application level INI options and provides suggestions on when to use these options. Some application options apply to a format group. These options are described in the formats INI options chapters.

Many of the options described here can also be set from the AutoVue user-interface (UI). When applicable, this document also indicates when an option can be set from the UI. When an INI option is set from the AutoVue UI, the option is written into the INI file of the user that is setting it.

Refer to the following sections for format group and file format related INI options:

- Chapter 3, "Viewing Configuration for AEC Formats"
- Chapter 4, "Viewing Configuration for 3D Formats"
- Chapter 5, "Viewing Configuration for EDA Formats"
- Chapter 6, "Viewing Configuration for Raster Formats"
- Chapter 7, "Viewing Configuration for Office Formats"
- Chapter 8, "Configuration for Markups"
- Chapter 9, "Configuration for Printing"
- Chapter 10, "Configuration for Conversion"
- Chapter 11, "Configuration for Overlays"
- Chapter 12, "Configuration for Hotspots"

2.1 External Resources

Many documents that you view in AutoVue require external resources such as fonts, XREFs and mapping tables in order to display completely. AutoVue provides several options to configure the look up for these resources and the paths for resources.

When viewing a file, if a required resource is not found in AutoVue, a red 'x' is displayed at the bottom left of the workspace. If a resource is substituted with another resource, a yellow exclamation mark (!) is displayed in the bottom left corner of the workspace. Resource information can be accessed from the **Resource Information** tab of the File Properties dialog.

When AutoVue loads a base file that requires other resources in order to display fully, AutoVue looks for the resources in the zipped file that contains information regarding external references.

However, some file formats may have exceptions to these search sequences.

- If AutoVue is integrated with a DMS, AutoVue first searches for the external resources in the DMS.
- AutoVue looks for the resources in the base file location.
- If the base file contains a path to the resource, AutoVue looks up the path to locate the resource. If the path is a relative path, the relative path is taken with respect to the base file path.
- AutoVue looks for the resources in the AutoVue installation folder (in some cases, this folder is used for fontmaps, color maps, and font resources).

AutoVue can only resolve external resources based on their filenames. The external resource filename must be exactly the same as it is defined in the base file (as saved from the native application).

When AutoVue is not integrated with any DMS, it will look for the files present in the zipped file to resolve resources.

Note: If you open a monolithic/self contained file, AutoVue will display it correctly. Any other file, will show missing external reference (XREF) files.

2.1.1 External Resources Fonts

Files containing text need access to the required fonts for correct and complete display. Fonts used by the various formats can be categorized as:

- System Fonts: These fonts are usually part of the operating system installation. These can be TrueType fonts, Type 1 fonts or raster/bitmap fonts.
- Native stroke fonts: These fonts are generally created by the native application of a format. For example, AutoCAD SHX fonts or CATIA fonts.

When viewing a file, if a font is not found in AutoVue, a red X is displayed in the bottom left corner of the workspace. If a font is substituted with another font, a yellow exclamation mark (!) is displayed in the bottom left corner of the workspace. The list of found, missing, and substituted fonts can be accessed via the Resource Information tab in the File Properties dialog.

Depending on the type of font that is required, AutoVue will try to resolve required fonts in several ways based on the type of font.

- To resolve required system fonts:
  - On Windows operating systems, AutoVue locates the fonts at <Windows install directory>\windows\fonts.
  - On Linux operating systems, you need to copy Microsoft system fonts to <AutoVue installation directory>/jvuew_c/windows/fonts folder. AutoVue server should be restarted for these fonts to be picked up by AutoVue.

Note: Fonts are governed by certain licensing restrictions. Ensure that you verify the licensing for fonts before copying them over to different machines.

- To resolve required native stroke fonts, AutoVue tries to search for them in the following order:
  - At the base file location.
  - At the font path specified to AutoVue using XFONTPATHS INI option.
  - In the fonts sub-folder of the AutoVue installation.

For some formats, AutoVue provides a set of Universal Font Files (UFF), located at <AutoVue Installation Directory>\bin\fonts which are used to substitute missing native stroke fonts. Using UFF fonts could generate slight differences in display from the native application. For best results, ensure that the fonts from the native application are accessible.

For some formats, AutoVue provides font mapping files in order to specify font substitution. These font map files can also be used to perform font substitution for language specific fonts. Font mapping information for formats that use font map files are listed in the format-specific sections.

Important: When deployed in a server farm or in a high availability scenario, ensure that all the servers in the setup are configured with the same fonts and font maps.

2.1.2 External Resources INI Options

Several configuration options are available for external resources. Some file formats may need additional configuration in order to correctly locate resources. These are described in the file format's configuration chapters.

You can set XFONTPATHS INI option to specify the path to the fonts, and the option can be accessed through the user interface.

You can set XREFPATHS to specify the path to XREFs.

Note: The XREFPATHS option is applicable for the Desktop Deployment of AutoVue only.

The External Resources XREFPATHS and XFONTPATHS options should be located in the [OPTIONS] header of the INI file, the option is discussed in Table 2–1:

Table 2–1 External Resource INI Option

Parameter	Description	Default
XFONTPATHS = [*semicolon separated list of paths*]	Specify a semicolon-delimited list of directories to search for external fonts.	
XREFPATHS = [*semicolon separated list of paths*]	Specify a semicolon-delimited list of directories to search for external references.	

2.2 System Tray Configuration

Note: System Tray can be configured for AutoVue Desktop Deployment only.

You can enable or disable the system tray for AutoVue Desktop Deployment by setting the SYSTEMTRAY INI option in the [Disable] section of the user-profile. By default, the system tray is on and AutoVue continues to run until you close it from the system tray.

2.2.1 System Tray INI Option

The option provided in Table 2–2 should be set in the [Disable] section of the INI file.

Table 2–2 System Tray INI Option

Parameter	Description	Default
SYSTEMTRAY=[0|1]	Specify whether to display the system tray icon. Set to *0* to display the system tray icon. Alternately, you can also leave this option empty to display the icon. Set to *1* to disable the system tray icon.	0

2.3 Background Color Option

You can specify the background color to be used for different file formats. To specify the background color from the AutoVue UI, open the Configuration dialog (select **Options** and then **Configure**), and then select **Colors** from either **2D**, **3D**, **EDA, Graphics**, or **Desktop Office**. Refer to the *User's Manual* for more information. Syntax and additional information for the following options are described in Section 2.3.1, "Background Color INI Options".

Note: Refer to section 3D Color INI Options for more information about the 3D background color INI option.

2.3.1 Background Color INI Options

Note: For parameters in the following table, specify an integer that represents an RGB color (Red + 256 * Green + 65536 * Blue). The values for Red, Green, and Blue range from 0 to 255.

All options in the following table should be placed under the **[UI COLORS]** header in the INI file.

Table 2–3 Background Color INI Options

Parameter	Description	Default
BKCOLORARCHIVE	Specifies background color for archive files.	16777215
BKCOLORDOCUMENT	Specifies background color for Document format (eg Word, TXT, RTF)	16777215
BKCOLOREDA	Specifies background color for EDA files.	12632256
BKCOLORCOLORRASTER	Specifies background color for raster formats.	16777215
BKCOLORMONORASTER	Specifies background color for monochrome raster formats.	16777215
BKCOLORNOFILESET	Specifies background color when no file is open in AutoVue.	12632256
BKCOLORSPREADSHEET	Specifies background color for spreadsheets.	16777215
BKCOLORVECTOR	Specifies background color for vector and PDF formats.	12632256

2.4 File Open/File Browse Dialogs

AutoVue provides certain options to configure the File Open and File Browse dialogs. Some of these options are applicable when you are integrated with a DMS. Syntax and additional information for the following options are described in section File Open/File Browse Dialog INI Options.

- The File Open dialog in AutoVue is called a Universal File Chooser (UFC) dialog. The dialog lets you browse local file systems, DMS and server directories. This dialog has an auto-complete capability for the file name field. In some instances where you notice a performance decrease while invoking the File Open dialog, it is recommended to disable the auto-complete capability by setting INI option ENABLEUFCAUTOCOMPLETE to 0.
- You can customize the location and size properties of the File Open and File Browse dialogs by setting the UFCSETTINGS and BROWSESETTINGS INI options, respectively. The customizable properties are as follows: location of the dialog in the display, dialog size (width and height), type of view (list or detailed), and column widths.

> **Note:** If you use a MAC it would be better to disable the universal file chooser.

Example 2–1 BROWSESETTINGS INI option example

```
BROWSESETTINGS=500,300,1000,700,1,500,400,300

This setting displays the File Browse dialog in the top-left location (500,300)
with a width of 1000 pixels and height of 700 pixels. The content of the dialog
appears in a detailed view. The first column has a width of 500 pixels wide, the
second column has a width of 400 pixels, and the third column has a width of 300
pixels.
```

- If you do not wish to use the Universal File Chooser dialog for opening files, you can use File Open dialog, which is a simplified dialog without the embedded Document Management System (DMS) integration, Web URL, and so on. To open the files using the File Open dialog, set INI option ENABLEUNIVERSALFILECHOOSER to 0. When using the AutoVue client on a Mac operating system, you must disable the option by setting it to 0.

> **Note:** If you are using Windows Shortcuts, the shortcuts do not open with the universal File Open dialog. You must switch to the native File Open dialog to be able to open the shortcuts.

- When you are browsing for files in a DMS from AutoVue, you can choose how many columns you want displayed in the DMS browse dialog by configuring INI option DMSBROWSEUICOLUMNS.
- AutoVue does not open the extracted zipped files in separate windows. AutoVue fails to render the selected file in the same primary window. Password-protected zipped files have to be opened in separate windows in order to render their contents in AutoVue. Press the control Key and double click the selected file from the list of the zipped file to be able to view it properly.

2.4.1 File Open/File Browse Dialog INI Options

All the options described in the following table should be placed under the **[OPTIONS]** header in the INI file:

Table 2–4 File Open/File Browse Dialog INI Options

Parameter	Description	Default
DMSBROWSEUICOLUMNS = [-1|0|*numcolumns*]	Option controls the number of custom columns to display in the File Open dialog when doing a DMS Browse. Set to **-1** to use the number of columns specified in the DMS GUI definition Set to **0** to not display custom columns Set *numcolumns* to the number of columns you want to display. **Note**: Option works only when ENABLEUNIVESALFILECHOOSER=1. **Note**: When using viewing the AutoVue client on a Mac operating systems, you must disable the option by setting it to 0.	-1
ENABLEUNIVERSALFILECHOOSER=[0|1]	Set to **1** to display the dialog with "universal file opening" ability. This dialog lets you browse local files and DMS systems. Set to **0** to display the 19.3 and earlier File Open dialog.	1
ENABLEUFCAUTOCOMPLETE=[0|1]	Specify whether to enable auto-complete for the file name field of the Universal File Chooser dialog. Set to **1** to enable auto-complete for the file name field of the Universal File Chooser dialog. Set to **0** to disable auto-complete for the file name field of the Universal File Chooser dialog.	1
UFCSETTINGS= <*int*, *int*, *int*, *int*, [0|1], *int*, *int*>	Specify customization parameters for the File Open dialog. **Syntax:** <top-left-x-position>,<top-left-y-position>,<width>,<height>,<view-type>,<column1-width>,<column2-width>,...,<columnN-width> For <view-type>, accepted values are: **0**: List view **1**: Detailed view **Note:** The <column*N*-width> fields are optional.	
BROWSESETTINGS= <*int*, *int*, *int*, *int*, [0|1], *int*, *int*>	Specify customization parameters for the File Browse dialog. **Syntax:** <top-left-x-position>,<top-left-y-position>,<width>,<height>,<view-type>,<column1-width>,<column2-width>,...,<columnN-width> For <view-type>, accepted values are: **0**: List view **1**: Detailed view **Note:** The <column*N*-width> fields are optional.	

2.5 UI Configuration

Syntax and additional information for the following options are described in Section 2.5.1, "UI Configuration INI options".

- You can configure what menu items and toolbar items, the position of the markup toolbar, and many other options by using a customized GUI file. This configuration is described in the *Oracle AutoVue Client/Server Deployment Installation and Configuration Guide*.
- You can control whether or not to display the tree (bookmarks/models/views/eda panels) in the AutoVue workspace by setting the SHOWTREE INI option to 1. You can also do this from the AutoVue user interface by selecting **Options**, **Show Panels**, and then **Main Panel**.
- You can control whether or not to display the markup tree in the AutoVue workspace by setting the SHOWMARKUPTREE INI option to 1. You can also do this from the AutoVue user interface by selecting **Options**, **Show Panels**, and then **Markup Panel**.
- You can set a custom width for the file name field in the status bar by setting the STATUSBARPATHPREFERREDWIDTH INI option.
- AutoVue, by default is in Zoom Box mode when viewing and marking up 2D, Office, Raster or EDA documents. In some situations, you may not want to be in this mode. INI option ZOOMBOXENABLED can set the initial state of the zoom box mode. When set to 0, zoom box mode is disabled.
- For AutoVue Desktop Deployment, you can maximize or minimize the initial Desktop Deployment window by setting the FRAMESTATE option. Note that this can be done only for AutoVue Desktop Deployment.

2.5.1 UI Configuration INI options

The following options should be placed under the [OPTIONS] header in the INI file

Table 2–5 UI Configuration INI Options

Parameter	Description	Default
FRAMESTATE = [6|1]	Set to **6** to maximize the windows display Set to **1** to minimize the windows display. Note: Applicable for AutoVue Desktop Deployment only.	0: Normal
SHOWTREE = [0|1]	Set to **1** to display tree. Set to **0** to switch off the tree display.	1
SHOWMARKUPTREE = [0|1]	Set to **1** to display the markup tree. Set to **0** to switch off the markup tree display.	1
STATUSBARPATHPREFERREDWIDTH = [*numeric value*]	Specify the character width of the file name field in the status bar. When you specify a value for STATUSBARPATHPREFERREDWIDTH, it controls the proportion of the file name field with respect to the other fields displayed in the status bar. The file name field width will vary when loading different types of formats or if the size of AutoVue Windows changes. This is because the value specified controls the proportion and does not set it to a fixed width. **Note**: To be able to display 56 characters in the file name field (STATUSBARPATHPREFERREDWIDTH=56), the width of the AutoVue window must be greater than 800 pixels when all the default fields are displayed in the status bar.	12

Table 2–5 (Cont.) UI Configuration INI Options

Parameter	Description	Default
ZOOMBOXENABLED=[0|1]	When a file is opened, this parameter sets the default mode of the mouse pointer to a zoom box. **Note**: This parameter only works with non-3D designs. Set to **1** to set the default mode of the mouse pointer to a zoom box. Set to **0** to disable zoom box mode.	1

2.6 Rendering Configuration

AutoVue provides some options to set the accuracy, detail, and speed of rendering. Syntax and additional information for the following options are described in Section 2.6.3, "Rendering INI Options".

2.6.1 Rendering Options

- If your drawing contains white or black entities and the workspace background is white or black, respectively, they might not display since the entities are the same color as the background color. Using the KEEPORIGINALCOLORS INI option, you can specify whether or not AutoVue should invert entity colors in these situations.
- You can choose whether or not to force the display of all colors in vector entities in the drawing to black and all colors in raster files to gray-scale by setting the FORCETOBLACK INI option. This option can also be configured from the AutoVue user interface by selecting the **Force To Black** check box from the General pane of the Configure dialog.

> **Note:** From the **Options** menu, select **Configure** to open the **Configuration** dialog.

- Aliasing is the distortion of a continuous line due to the nature of screen display, which relies on a matrix of pixels. Anti-aliasing visually corrects this by introducing additional colored pixels to give the impression of a continuous line or curve. To enable or disable anti-aliasing, you can set INI option ANTIALIAS. If you disable anti-aliasing, it degrades the quality of the display. This option can also be controlled from the AutoVue user interface by selecting **Manipulate**, **Visual Effects**, and then **Anti-Alias**. Anti-aliasing affects image display when an image is down scale, text and geometry.
- When anti-aliasing is enabled, you can specify if certain types of anti-aliasing should be disabled by setting the ANTIALIASING option in the [Disable] section of the INI file.

2.6.2 Rendering Performance-Related Options

- When you are zoomed into an area of a document, AutoVue has a look ahead feature that pre-renders tiles that are adjacent to your view area. As a result, when you scroll through the adjacent areas, the viewed area is rendered quickly. The disadvantage of this feature is that if AutoVue is idle for a second, look ahead is triggered which could slow down current operations. Once all the adjacent tiles are rendered, the current operations speed up again. INI option LOOKAHEAD determines whether or not the look ahead feature is enabled.
- The TILES INI option allows you to control the number of tiles that AutoVue stores in memory. Changing the value of the INI option allows less or more tiles, thereby affecting

the memory usage for the interactive operations such as zoom, scroll and pan. Additionally, keeping more tiles in the cache may improve performance when scrolling and panning, but may increase memory usage. If you are working primarily with Office documents, the value should be set to 2.

2.6.3 Rendering INI Options

The following options should be placed under the **[OPTIONS]** header in the INI file:

Table 2–6 Rendering INI Options

Parameter	Description	Default
ANTIALIAS = [0|1]	If set to **1**, anti-aliasing is enabled. If set to **0**, anti-aliasing is disabled and degrades the quality of the display.	1
LOOKAHEAD = [1|0]	Specify whether or not to enable the look ahead feature. Set to **0** to pre-render tiles adjacent to the current tile when the clients is idle for one second. This provides the advantage that it speeds up scrolling to the adjacent areas of the document. Set to **1** if you do not want the pre-rendering of files adjacent to the current tile. This option can also be controlled from the AutoVue User Interface by selecting the **Enable Lookahead** check box from the **General** tab of the Configure dialog (**Options** > **Configure** > **General**).	0
KEEPORIGINALCOLORS = [0|1]	Set to **1** to keep original colors - white graphics and black graphics will always be drawn white and black respectively, even if the background is white or black. Set to **0** to invert colors for white and black graphics on white and black background. **Note**: This parameter has different default values for different file formats.	
FORCETOBLACK = [0|1]	Set to **1** to force all colors in vector files to display/print as black all colors in raster files to print as gray-scale. Set to **0** to force all colors in vector files to display/print as colors in raster files.	0

The following option should be placed under the **[DISABLE]** header in the INI file:

Table 2–7 Rendering INI Options in [DISABLE] header

Parameter	Description	Default
ANTIALIASING = [0|1|2|4|8]	Specify whether to disable certain types of antialiasing. Set to **0** to enable all types of antialiasing. Set to **1** to disable image antialiasing. This also disables image blurring (value=8). Set to **2** to disable text antialiasing. Set to **4** to disable geometry antialiasing. Geometry includes lines, arcs, polygons, ellipses and rectangles. Set to **8** to disable image blurring. Blurring is an interpolation that is performed when images are magnified to prevent pixelation. Disabling image antialiasing (value=1) also disables blurring. **Note**: To use this option, ANTIALIAS must be set to 1.	0

The following options should be placed under the **[DISPLAYMEMORY]** header in the INI file:

Table 2–8 Rendering INI Options in [DISPLAYMEMORY] header

Parameter	Description	Default
TILES=[1-9]	Specify the number of tiles that AutoVue stores in memory. This INI option is applicable for only AutoVue Desktop Deployment only.	9
STACKS=[0-5]	Specify the number of zoom levels at which to cache tiles. The minimum value is 0. When set to 0, none of the previous zoom levels are cached.	5

2.7 Client/Server Request Configuration

Syntax and additional information for the following option is described in section Client/Server Request INI options.

- You can set the interval at which the AutoVue client polls the AutoVue server by setting the REQUESTTIMEOUT INI option. It is recommended to leave this option at the default value, unless your network usage is expensive and you need to decrease the number of client/server polls.

2.7.1 Client/Server Request INI options

The following option should be placed under the **[OPTIONS]** header in the INI file.

Table 2–9 Client/Server Request INI Options

Parameter	Description	Default
REQUESTTIMEOUT	Specify the interval (in milliseconds) at which the AutoVue client will poll the AutoVue server. It is recommended to leave this at the default value unless your network usage is expensive and you would like to decrease the number of polls. You can decrease the number of polls by increasing the value.	500

2.8 Client Logging Configuration

When trouble-shooting issues on the AutoVue client side, it is necessary to enable logging for the AutoVue client. You can enable logging for specific clients/users by setting options described below in the user's INI files:

- You can set INI option VERBOSE in the user INI file to generate logs for the specific user. This is useful when trouble-shooting issues that only occur with specific users. This option overrides the VERBOSE parameter of AutoVue client.
- You can redirect log messages to an output file instead of the console by setting the LOGFILE INI option. This option overrides the LOGFILE parameter of AutoVue client.

2.8.1 Client Logging INI Options

The following options should be placed under the **[LOGGING]** header in the INI file

Table 2–10 Client Logging INI Options

Parameter	Description	Default
VERBOSE=<OFF|ERROR|INFO|DEBUG|ALL>	Specifies the verbosity for the AutoVue client. Option must be set in the user's INI file. This option overrides the verbosity set on the AutoVue client.	
LOGFILE=<full path of log file>	Specifies the log file into which client's verbose messages should be written. Option must be set in the user's INI file. This option overrides the LOGFILE parameter of AutoVue client. This option is used when debugging client issues.	

2.9 Measurement Configuration

Syntax and additional information for the following options are described in Section 2.9.1, "Measurement INI options".

- For files that do not store units, AutoVue lets you configure the units you want to use for the file using the DEFAULTFILEUNITS INI option. This can also be configured from the AutoVue user interface from the **Default File Units** drop-down in the Measurements pane of the Configure dialog.
- You can configure the default units to use when performing measurements using the MEASUREMENTUNITS INI option. You can either specify a unit or you can specify that you want to use the units of the file for measurements. This can also be configured from the AutoVue user interface from the **Measurement Units** drop-down in the Measurements pane of the Configure dialog.
- You can configure the number of decimal digits to display when performing measurements using the DIGITSNUMBER INI option. This can also be configured from the AutoVue user interface from the **Decimal Digits** drop-down in the Measurements pane of the Configure dialog.

2.9.1 Measurement INI options

The following options should be placed under the **[OPTIONS]** header in the INI file.

Table 2–11 Measurement INI Options

Parameter	Description	Default
DEFAULTFILEUNITS=[1|2|4|5|6|7|8|9|10|11|12|13|14|15]	Specify the unit to use if native file does not contain units information. 1 - inches 2 - millimeters 4 - twip 5 - centimeters 6 - decimeters 7 - meters 8 - kilometers 9 - feet 10 - yards 11 - miles 12 - mils 13 - mil./10 14 - microns 15 - microinches	1
MEASUREMENTUNITS=[1|2|4|5|6|7|8|9|10|11|12|13|14|15|16]	Specify the default unit to use for measurements. When you select native file units, AutoVue uses the units of the file that you are currently viewing for measurements. 1 - inches 2 - millimeters 4 - twip 5 - centimeters 6 - decimeters 7 - meters 8 - kilometers 9 - feet 10 - yards 11 - miles 12 - mils 13 - mil./10 14 - microns 15 - microinches 16 - native file units	1
DIGITSNUMBER	Specify the number of decimals to display when measuring in AutoVue.	6

2.10 Watermarks in View Mode

AutoVue allows you to add watermarks to a document when in View mode. Syntax and additional information for the following options are described in Section 2.10.1, "Watermarks in View Mode INI Options".

Note: To disable the watermark in View mode, you must either remove the whole [WATERMARK] section, remove the TEXT option, or assign an empty string to the TEXT option.

- You can specify the text to be printed as a watermark with the TEXT INI option. You can also set this feature from the AutoVue UI. To do so, from the **Print Properties** dialog, click the Watermark tab, and enter the text in the **Watermark Text** field.

Note: By entering specifics codes in the **Print Properties** dialog, users can insert Watermark information such as the full file path of a document, document drive/directory and so on. For a list of these codes, refer to the "Watermarks" section of the *Oracle AutoVue User's Manual*.

- You can specify the font used for the printed watermark text by setting the FONTNAME INI option. You can also set this feature from the AutoVue UI. To do so, from the **Print Properties** dialog, click the **Watermark** tab, then click **Set Font** to open the Font dialog. From the dialog, select a font from the **Font** list.
- You can select the font style to use for the watermark text by setting the FONTSTYLE INI option. You can also set this feature from the AutoVue UI. To do so, from the Print Properties dialog, click the Watermark tab, and then click **Set Font** to open the Font dialog. From the dialog, select a style from the **Font Style** list.
- You can specify the font size for the watermark text by setting the FONTSIZE INI option. You can also set this feature from the AutoVue UI. To do so, from the **Print Properties** dialog, click the **Watermark** tab, and then click **Set Font** to open the **Font** dialog. From the dialog, select a font size from the **Size** list.
- You can specify the X-axis position of the watermark in the AutoVue window by setting the XFACTOR INI option. You can specify the Y-axis position of the watermark in the AutoVue window by setting the YFACTOR INI option. Position [0,0] is the top-left corner of the screen.
- You can specify a valid RGB color value in the AutoVue window by setting the COLOR INI option.
- You can control the transparency level of the watermark by setting the ALPHA INI option.

2.10.1 Watermarks in View Mode INI Options

All of the following options should be placed in the [**WATERMARK**] header of the INI file:

Table 2–12 Watermarks in View Mode INI Options

Parameter	Description	Default
TEXT	Specify watermark text. **Example**: TEXT=AutoVue 21.0.0.	
FONTNAME	Specify font to be used for the watermark. **Example**: FONTNAME=Times New Roman.	

Table 2–12 (Cont.) Watermarks in View Mode INI Options

Parameter	Description	Default
FONTSTYLE	Specify the font style for the watermark. **0** - Plain **1** - Bold **2** - Italic **3** - Bold and Italic *Example*: FONTSTYLE=3.	
FONTSIZE	Specify font size. **Example**: FONTSIZE=24.	
XFACTOR	Specify watermark x position on the AutoVue window. Value should range from 0 to 1. **Example**: XFACTOR=0.05.	
YFACTOR	Specify watermark y position on the AutoVue window. Value should range from 0 to 1. **Example**: YFACTOR=0.90.	
COLOR	Specify a valid RGB color value. **Example**: COLOR=0x0000FF.	
ALPHA	Specify the transparency level of the text. Value can range from 0x00 (not visible) to 0xFF (opaque). **Example**: ALPHA=0x80.	

3

Viewing Configuration for AEC Formats

This chapter describes the INI options and provides useful hints when working with AEC formats in AutoVue . This chapter discusses options that apply to all AEC formats. Other sections provide information on specific file formats.

3.1 General AEC Configuration

This section discusses the options that generally apply to all AEC formats. It comprises of the following:

1. Section 3.1.1, "AEC Display-Related Configuration"
2. Section 3.1.2, "AEC Display-Related INI Options"
3. Section 3.1.3, "AEC Fonts"
4. Section 3.1.4, "AEC Font-Related INI Option"

3.1.1 AEC Display-Related Configuration

Syntax and additional information for the following options are described in Section 3.1.2, "AEC Display-Related INI Options".

1. You can control whether or not to show dimensions in 2D drawings by setting the SHOWDIMENSION INI option. This option can also be configured from the user interface of the application by selecting the **Show Dimensions** check box from the **General** pane of the **Configure** dialog.
2. You can control whether or not to show text in 2D drawings by setting the SHOWTEXT INI option. This option can also be configured from the user interface of the application by selecting the **Show Text** check box from the **General** pane of the **Configure** dialog.
3. You can control whether or not to show line weights in 2D drawings by setting the SHOWLINEWEIGHT INI option. This option can also be configured from the user interface of the application by selecting the **Show Line Weight** check box from the **General** pane of the **Configure** dialog.
4. You can control whether or not to show line styles in 2D drawings by setting the SHOWLINESTYLE INI option. This option can also be configured from the user interface of the application by selecting the **Show Line Style** check box from the **General** pane of the **Configure** dialog.
5. You can control whether or not to show filling in 2D drawings by setting the SHOWFILL INI option. This option can also be configured from the user interface of the application by selecting the **Show Fill** check box from the **General** pane of the **Configure** dialog.

6. The INI option SHOWXREFS lets you specify whether the external reference files are displayed. This option can also be configured from the user interface of the application by selecting the **Load External References** check box from the **General** pane of the **Configure** dialog.
7. The INI option VECTORFIT lets you specify, on file load, whether to fit the drawing to the workspace or to display the drawing as per its last saved view extents.

Note: When using a batch command to open multiple secondary AutoVue windows in Oracle AutoVue Desktop Deployment, the VECTORFIT option does not work in the secondary windows.

3.1.2 AEC Display-Related INI Options

All options in the following table should be placed under the *[OPTIONS]* header in the INI file.

Table 3–1 AEC Display-Related INI Options

Parameter	Description	Default
SHOWDIMENSION = [0|1]	Set to **1** to show dimension entities. Otherwise, they are not shown.	1
SHOWFILL = [0|1]	Set to **0** to display only the outlines of filled entities (solids, fat polylines, and so on). Set to **1** so that the entities are shown as filled.	1
SHOWLINESTYLE = [0|1]	Set to **1** to show linestyle patterns. Set to **0** so that linestyles are displayed as solid lines.	1
SHOWLINEWEIGHT = [0|1]	Set to **1** to display varying line thicknesses. Set to **0** so that no line weights are displayed for any lines (all lines appear equal).	1
SHOWTEXT = [0|1]	Set to **1** so that text entities are shown. Set to **0** not to show text entities in 2D drawings	1
SHOWXREFS = [0|1]	Set to **1** so that external reference files are shown. Set to **0** so that the external references are not displayed.	1
VECTORFIT = [0 |1]	Set to **1** so that Vector files are "Auto-Fit" once they are loaded. Set to **0** to display the drawing as per its last saved view extents.	0

3.1.3 AEC Fonts

Syntax and additional information for the following options are described in Section 3.1.4, "AEC Font-Related INI Option".

1. In some situations when you have rotated or flipped non-English text, the rotated or flipped text may not display correctly since the glyphs required to draw these text are missing from the TrueType font used for the text. You can set INI option REPLACEMENTFONTS and specify a semi-colon separated list of replacement font face names to use when required glyphs are missing from fonts.

3.1.4 AEC Font-Related INI Option

The option in table below should be placed under the **[OPTIONS]** header in the INI file.

Table 3–2 AEC Font-Related INI Option

Parameter	Description	Default
REPLACEMENTFONTS=*font1;font2;...;fontn*	Specify a list of replacement TrueType font face names to use when required TrueType fonts do not have the required glyphs. The substitution is used for rotated or flipped TrueType text. This option applies to all 2D vector formats containing non-English TrueType text. Specify a semicolon (;) separated list of font face names.	

3.2 AutoCAD

This section discusses the options that generally apply to all AutoCAD formats. It comprises of the following:

1. Section 3.2.1, "AutoCAD Fonts"
2. Section 3.2.2, "Non-English Text"
3. Section 3.2.3, "AutoCAD Font Mapping"
4. Section 3.2.4, "AutoCAD Line Weights"
5. Section 3.2.5, "AutoCAD Visual Styles"
6. Section 3.2.6, "AutoCAD Pen Settings"
7. Section 3.2.7, "AutoCAD Password-Protected Files"
8. Section 3.2.8, "AutoCAD Performance-Related Options"
9. Section 3.2.9, "AutoCAD INI Options"

3.2.1 AutoCAD Fonts

AutoCAD drawings typically use three types of SHX fonts - big fonts (16-bit fonts), small fonts (8-bit fonts), and shape fonts. When viewing AutoCAD drawings, the application tries to locate required fonts in the following order:

1. At the location saved in the drawing
2. At the file location
3. At the font path specified to AutoVue using *XFONTPATHS* INI option
4. In the fonts sub-folder of the application installation

If the required fonts are not found, AutoVue substitutes the fonts with its Universal Font Files (UFF). This may generate a different display for text in AutoVue as compared to the AutoCAD application.

AutoVue also provides a way to substitute missing AutoCAD fonts with other AutoCAD fonts. INI options *ACADDEFAULTFONT*, *ACADDEFAULTBIGFONT* and *ACADDEFAULTSHAPEFONT* can be set to specify the substitute font for small fonts, big fonts and shape fonts, respectively. Refer to Section 3.2.9, "AutoCAD INI Options" for more information on these options.

3.2.2 Non-English Text

To correctly display AutoCAD drawings that contain non-English text, you can set INI option CODEPAGE to match the language in the drawing. When the CODEPAGE option is set to the

right value, AutoVue displays text corresponding to the CODEPAGE correctly. For example, to display Japanese text in AutoCAD files, you will need to set CODEPAGE to 932. For a complete list of values, refer to the following Web sites:

https://en.wikipedia.org/wiki/Code_page

3.2.3 AutoCAD Font Mapping

As with AutoCAD, AutoVue allows you to change the font mapping for both TrueType and AutoCAD SHX fonts. To match AutoCAD's font mapping, update *acadfont.map* located at <AutoVue Installation Directory>\bin and specify the required font mapping.

> **Note:** Changes to acadfont.map will take effect when the AutoCAD file is reloaded.

The *acadfont.map* contains 2 sections: BIGFONTCODEPAGES and FILENAMES.

1. **BIGFONTCODEPAGES**:

   When a big font is missing, AutoVue displays 'FONT [Unknown Codepage]: font name' in the **Fonts** section of the **Resources** tab in the **File Properties** dialog. The BIGFONTCODEPAGES section can be used to specify the big font that you want to use for a specific codepage (similar to AutoCAD's bigfont.ini file). The codepage should be the Windows codepage numeric value.

   For example,

   ```
   [BIGFONTCODEPAGES]
   japanesebigfont.shx;932
   ```

   In this example, the application will use japanesebigfont.shx font to display any text with the codepage 932 (JAPANESE).

   > **Note:** The SHX font should be accessible to the application via the search mechanism listed in the Fonts section above.

2. **FILENAMES**:

   In this section, you can

   – map Postscript fonts used in the AutoCAD drawing to TrueType or SHX fonts.

   – map TrueType font file names to TrueType font face names

   In the [FILENAMES] section, add mapping using below syntax:

   ```
   <font file name>;<font face name>;<type>;<style>
   ```

   where <*font file name*> is the name of the TrueType or Postscript font,

   <*font face name*> is the font face name

   <*type*> can be t or s, where t represents TrueType font and s represents SHX font

   <*style*> represents the font style for TrueType fonts. Values can be b (bold), i (italic) or bi (bold and italic). When empty, the normal font is used.

   Following is an example of some typical custom font mapping entries:

```
[FILENAMES]

cibt;CityBlueprint;t
cobt;CountryBlueprint;t
```

Refer to the instructions included in acadfont.map for more information on modifying the font mapping.

3.2.4 AutoCAD Line Weights

1. AutoCAD provides a command *lwdefault* that sets a default line weights for entities that use the value 'Default'. AutoVue provides an INI option LWDEFAULT that provides the same behavior as AutoCAD's *lwdefault* .
2. INI option LWDISPLAYSCALE controls the display scale of line weights in the modelspace page of AutoCAD drawings. Lines can appear thicker or thinner than they are depending on the value that this option is set to.
3. You can choose whether or not to display a drawing's line weights when converting or printing the drawing by setting the ACAD_LWDISPLAY INI option. By displaying the line weights, the output matches that of AutoCAD for conversion and printing.

Refer to AutoCAD INI Options for more information on these options.

3.2.5 AutoCAD Visual Styles

In AutoVue , the page *ModelSpace* always displays the 2D representation of the model. This is equivalent to using 2D Wireframe Visual Style in AutoCAD.

3.2.6 AutoCAD Pen Settings

1. When printing, you can control the effect of the pen settings by setting ACAD_ PENSETTINGSAFFECTLINEWIDTH option to 0. This means that the pen settings does not modify the display of non-zero constant width polylines.
2. When using pen settings for printing, you can force AutoCAD version 2004 and up files to use AutoCAD color index (AIC) instead of the RGB color. This can be done by setting ACAD2004RGBCOLOR option to 0.

Refer to Section 3.2.9, "AutoCAD INI Options" for more information on these options.

3.2.7 AutoCAD Password-Protected Files

AutoVue supports loading of password-protected AutoCAD files of version 2004 up to the version 2015. When you load a password-protected file, the application prompts for a password. When the correct password is specified, the application loads the file.

Note: From AutoCAD 2016, creating a password protected file feature isn’t available.

3.2.8 AutoCAD Performance-Related Options

AutoVue provides several INI options for AutoCAD that can help you choose between speed versus accuracy or speed versus memory. This section describes the options available for performance tuning of the AutoCAD format. For more information about the options described in this section, refer to AutoCAD INI Options.

1. Rendering of dashed and complex linestyles takes longer than rendering a solid line. AutoVue lets you control when to replace a dashed or a complex linestyle with a solid line by using the ACAD_MAXNUMLINETYPECYCLES INI option. Any entity segment that has more cycles than specified is drawn with a solid line type. Setting this option to a smaller value results in the 2D file loading faster as it contains many non-solid linestyles entities. However, there may be some loss of accuracy since linestyles will be rendered solid.
2. Controlling whether or not to display AutoCAD drawings according to the display list also affects performance. INI option DRAWORDER determines if entities should be drawn in the order specified by the last save of the drawing or if entities should be drawn in the order in which they are first created. AutoCAD draws entities in the order in which they were created. If you choose to draw entities in the order in which they were created, it results in faster loading of 2D pages. AutoCAD draws according to the display list order.
3. Choosing whether or not to render the background for fields helps you control the rendering performance for AutoCAD drawings. INI option FIELDDISPLAY controls whether or not to draw backgrounds for fields. When backgrounds are not drawn, rendering of 2D pages is faster.
4. When AutoCAD drawings contain non-rectangular viewports, AutoVue takes longer to load the drawings. You can choose whether or not to display non-rectangular viewports using the option SHOWNONRECTVIEWPORTS. When you disable non-rectangular viewports, a less complex algorithm is used to render the display which results in faster loading of 2D pages.
5. You can choose whether to load the model space, paper space, or the last saved mode by setting the INI option TILEMODE.

3.2.9 AutoCAD INI Options

Options below are for AutoCAD 2D. All options in table below should be placed under the **[OPTIONS]** header in the INI file.

Table 3–3 AutoCAD INI Options

Parameter	Description	Default
ACAD_ MAXNUMLINETYPE CYCLES = [0-1000]	Specify the maximum number of times a line style pattern can be repeated for a line segment. **Note**: Any entity segment that has more cycles than the specified line type is drawn with a solid line type.	256
ACAD_ PENSETTINGSAFFEC TLINEWIDTH= [0|1]	When set to **0**, pen settings do not affect non-zero constant width polylines. When set to **1**, pen settings affect non-zero constant width polylines.	0
ACAD2004RGB COLOR=[1|0]	Set to **1** to use RGB color. Set to **0** to use AIC (AutoCAD Indexed Color). **Note**: Should be set to **0** to be able to use pen settings for printing. **Note**: This is for AutoCAD version 2004 and up files.	1
ACADDEFAULT FONT=[fontname]	This font is used as the substitution if an 8-bit SHX font is not located for AutoCAD drawings. Specify the full path to the 8-bit substitution font or just specify the font file name. When you just specify the font file name, ensure that the font is accessible to AutoVue as per the search mechanism specified in the Section 3.2.1, "AutoCAD Fonts".	

Table 3–3 (Cont.) AutoCAD INI Options

Parameter	Description	Default
ACADDEFAULTBIG FONT= [bigfontname]	This font is used as the substitution font if a 16-bit SHX font is not located. Specify the full path to the 16-bit substitution font or just specify the font file name. When you just specify the font file name, ensure that the font is accessible to AutoVue as per the search mechanism specified in the Section 3.2.1, "AutoCAD Fonts".	
ACADDEFAULT SHAPEFONT= [shapefontname]	This font is used as the substitution font if a shape SHX font is not located. Specify the full path to the shape font file or just specify the font file name. When you just specify the font file name, ensure that the font is accessible to AutoVue as per the search mechanism specified in the Section 3.2.1, "AutoCAD Fonts".	
ACAD_LWDISPLAY = [0|1|2]	Specify whether or not to display line weight in the drawing when printing or converting it to PDF/TIFF. Set to **0** to disable the Line weight regardless of the file setting. As a result, entities print without line weight even if they contain line weight. Set to **1** to enable the Line weight regardless of the file setting. As a result, entities print with line weight if they contain line weight. Set to **2** to use the default line weights display settings saved in the file (that is, if the file contains line weights).	2
DRAWORDER=[0|1]	Set to **1** to draw sorted (ordered) entities from the last save of the DWG file. Set to **0** to draw entities in the order they were first created.	1
FIELDDISPLAY = [0|1]	Specify whether or not field backgrounds display. Set to **1** to display field backgrounds. Set to **0** to hide field backgrounds. **Note**: For AutoCAD 2005 and up files.	1
LWDEFAULT = [1-100]	Set the default line weight. Specify a value between **1** (which corresponds to 0.01mm) and **100** (which corresponds to 1mm). Default value is **25** (which corresponds to 0.25mm).	25
LWDISPLAYSCALE= [0-100]	This option controls the display scale of line weights in the modelspace page. Set this option to [0-100]. For no line weight scaling, set this option to 25. For thicker lines, set this option above 25. For thinner lines, set this option below 25. **Note**: For AutoCAD Release 2000 and up files.	25
SHOWALLLAYERS= [0|1]	Set to **1** to turn on all the layers in the base and XREF files.	0

Table 3–3 (Cont.) AutoCAD INI Options

Parameter	Description	Default
SHOWNONRECT VIEWPORTS = <0|1>	In AutoCAD it is possible to create non-rectangular viewports. When a file has non-rectangular viewports, it may take the application longer to display the drawing. Set to **1** to display non-rectangular viewports. Set to **0** to disable display of non-rectangular viewports and improve performance. Note that the accuracy of the display will be compromised. **Note**: This options applies to AutoCAD 2000 and up files.	1
TILEMODE = [-1|0|1]	Specify if you want AutoVue to first load the model space or the paper space (the first layout page) or if AutoVue should load as per the last saved settings in the file. 1. **1**: Model space 2. **0**: Paper space 3. **-1**: Automatic	-1

3.3 MicroStation

This section discusses the external references, fonts, line styles and weights, color table, performance-related configuration, and the INI options of MicroStation.

3.3.1 MicroStation External References

This section discusses the following:

1. Section 3.3.1.1, "AutoCAD XREFs"
2. Section 3.3.1.2, "Circular XREFs"
3. Section 3.3.1.3, "Raster XREFs"
4. Section 3.3.1.4, "XREFs Lookup in MicroStation"

3.3.1.1 AutoCAD XREFs

When MicroStation 8 files contain AutoCAD XREFs and their unit information is not stored in the MicroStation drawing or if the XREF displays stretched/squashed, you can specify unit information for the application by setting DGN8XREFUNITS INI option. The selected unit should be the same as the unit chosen for DWG in MicroStation. Consult the MicroStation help for a complete list of units. If the unit is not specified or an invalid value is entered, AutoVue reads the units from the AutoCAD XREFs and hence, XREFs may not be scaled properly.

This option applies to MicroStation 8 files and up.

3.3.1.2 Circular XREFs

When two MicroStation drawings are inserted as XREFs into each other, it is known as circular reference. MicroStation 8.5 provides a MS_REF_CYCLECHECK environment variable to determine how the circular references are displayed. AutoVue provides the same behavior using the DGNREFCYCLECHECK INI option. When set to 1, the application will check for circular XREFs in reference paths and will display them only once. When set to 0, they will be displayed as long as the nesting depth permits.

This option applies to MicroStation 8 files and up.

3.3.1.3 Raster XREFs

Some older MicroStation 7 files reference raster files which have been created by the MicroStation/J application (for example, I/RASB). Since they do not follow the typical raster convention, they may appear stretched. AutoVue provides the DGNIRASB option to control raster XREFs which have been created with I/RASB convention. Set this option to 1 to correct the display. By enabling this option, AutoVue changes the insertion point by resizing the width and height of raster XREFs.

3.3.1.4 XREFs Lookup in MicroStation

When comparing AutoVue display with MicroStation, if you notice extra entities in the display, it may be because the file contains absolute paths to XREFs which are not being resolved by MicroStation but by AutoVue . AutoVue automatically looks for them in the current folder and then at the location specified in the application through the INI options to configure external references. You can force MicroStation to resolve them by loading the file and then 'reload' the XREF in the reference manager.

3.3.2 Z-Clipping INI Option

Z-Clipping

If a MicroStation 2D drawing with more than one graphical entity only partially displays in AutoVue , it can be because not all the entities are being loaded. You can use DGNDISABLEZCLIP INI option which determines whether to take the z-axis into consideration when applying a clip region (a cut-out region) to a 2D drawing.

3.3.3 MicroStation Fonts

There are several options available to configure fonts in MicroStation drawings in case text display is not correct.

1. Custom Fonts (.RSC) File

   Some MicroStation drawings need to reference custom font (.RSC) files. When these drawings are loaded in AutoVue , the missing font resources are listed in the **Resources** tab of the **File Properties** dialog with a red 'X'. For AutoVue to correctly display them, set DGNFONTRSC INI option to the full path of the font resource (.RSC) file. To specify multiple fonts, use a semicolon (;) separated list of file paths. Once found, the font will be listed in the **Resource** dialog as found.

2. Arabic Text

   AutoVue provides the DGNARABICFONTS INI option to view Arabic text, which is in the right-to-left direction, for MicroStation drawings.

3. Language Specific UFF font

   AutoVue determines which language version of UFF font to use based on the GUI LOCALE option. This option is a parameter specified in the AutoVue INI file. Currently, only the "JA" (Japanese) is supported for MicroStation UFF fonts.

3.3.4 MicroStation Line Styles and Line Weights

AutoVue provides several options to configure line display in terms of line types, line weight, line style and patterns in MicroStation 7 and/or 8 files:

1. Custom Line Style (.RSC) files

Some MicroStation drawings need to reference custom line style Resources (.RSC) files. When these drawings are loaded in AutoVue, the missing line style resources are listed in the resources tab with a red 'X'. For AutoVue to correctly display them, set the DGNLSTYLERSC INI option to the resource file path. To specify multiple line styles, use a semicolon (;) separated list of file paths. Once found, the line style will be listed in the **Resources** dialog as found.

2. Zero Length lines

   Some MicroStation files contain lines that are 1 pixel long or zero length. AutoVue lets you control the display of such lines using the DGNSHOWZEROLENGTHLINES INI option. When set to 1, zero-length lines will be displayed as fixed-sized filled squares otherwise they will be ignored.

   This option only applies to MicroStation 7 files.

3. Line Weight

   AutoVue lets you change the line thickness of all lines in a drawing through the DGN8LWDISPLAYSCALE INI option. This will scale the line weights by a specified factor. For example, when set to 2, all line weights will be doubled, when set to 0.5 all line weights will be reduced by half.

   This option applies to MicroStation 8 files only.

4. Line Patterns

   AutoVue lets you override the default seven line styles and define your own dash-dot combinations to use in MicroStation drawings. Use the DGNLSTYLEDASHDOT INI option to define up to 7 line styles, each of them containing up to 6 patterns separated by commas. Every line style is preceded by a description and an integer specifying the number of patterns.

3.3.5 MicroStation Color Table

1. Some MicroStation 7 drawings use a custom color-table element if one is not already defined in the drawing. Such drawings point to a color.tbl file. To display the drawing correctly, AutoVue provides the DGNCOLORTBL INI option which should be set to the full path of the color.tbl file. Once the color.tbl file is located, it is listed in AutoVue's **Resource** dialog as COLOR TABLE <Name and path to the color table>. Note that if a color-table element exists in the MicroStation file, it will supersede this option. This option applies to MicroStation 7 files only.

2. Entity/Layer Symbology

   Symbology settings in MicroStation drawings are definitions for color, line weight and line style for a given graphic element. There are two ways to display the entities: using the entity's own symbology or the symbology attached to the layer/level the entity resides on. AutoVue can display graphic entities in either way via the DGNDEACTIVATELEVSYMB INI option.

3.3.6 MicroStation Performance-Related Configuration

The performance-related configuration for MicroStation is explained in the section – MicroStation 2D.

3.3.6.1 MicroStation 2D

Syntax and additional information for the options described in the following are in Section 3.3.7, "MicroStation INI Options".

1. Controlling how to display circular/nested XREFs in MicroStation 8 drawings affects performance. INI option DGNREFCYCLECHECK checks for circular XREFS and displays them once or as long as the nesting depth permits. If you choose to display them only once, it results in faster loading of 2D pages.
2. Checking for zero length lines and then rendering those lines takes longer than ignoring them. However, there may result in some loss of accuracy since the zero length lines will not be drawn. AutoVue lets you control this using the DGNSHOWZEROLENGTHLINES INI option. Option only applies to MicroStation 7 files.

3.3.7 MicroStation INI Options

Options below are for MicroStation 2D. All options should be placed under the **[OPTIONS]** header in the INI file.

Table 3–4 MicroStation INI Options

Parameter	Description	Default
DGN8LWDISPLAYSCALE = [0.0-1000.0]	Set to a value, greater than or equal to 0.0, representing the scaling factor which is applied to all line weights in the drawing. **Example:** Set to **0.0**: Reduces all line weights to 0 (1 pixel width). Set to **1.0**: Line weights remain at their default value. Set to **0.5**: Reduces all line weights by half. Set to **2.0**: Multiplies all line weights by 2. **Note**: Only applies to MicroStation 8 files.	1.0
DGN8XREFUNITS=[*unit*]	Specify the unit to use for AutoCAD XREFs when units information for the XREFs is not stored in the MicroStation drawing. The selected unit should be the same as the unit chosen for the DWG in MicroStation. Consult the MicroStation help for a complete list of units. If the unit is not specified or an invalid value is entered, AutoVue reads the units from the AutoCAD XREF and hence, XREFs may not be scaled properly. **Example**: DGN8XREFUNITS = meters **Note**: Option applies to MicroStation version 8 files with AutoCAD XREFs.	
DGNARABICFONTS = [0|1]	Support for Arabic fonts for MicroStation. Set to **1** to specify right-to-left drawing. Set to **0** if there is no Arabic text in MicroStation drawings.	0
DGNCOLORTBL = [<*file path* >\color.tbl]	Specify the full path to a MicroStation DGN color table file. This option is used only if the MicroStation file does not have a color-table element in it. If a color-table element exists in the file, it will supersede this option. **Note**: Option applies to MicroStation version 7 files.	
DGNDEACTIVATELEVSYMB = [0|1]	Set to **1** to display the entities using the entities own symbology. Set to **0** to display symbology attached to the layer/level the entity resides on.	0

Table 3–4 (Cont.) MicroStation INI Options

Parameter	Description	Default
DGNDISABLEZCLIP = [0|1]	Specify whether to take the z-axis into consideration when applying a clip region (a cut-out region) to a 2D drawing. Set to **1** if the contents of the clipped image should not be restricted based on the z-coordinate of individual objects. Set to **0** if the contents of the clipped image should be restricted based on the z-coordinate of individual objects. **Note**: This option only applies to 2D drawings. **Note**: Option applies to MicroStation 7 files.	0
DGNFONTRSC = [<*file path* >\font.rsc;full 2. . .]	Specify a semi-colon separated list of full paths to MicroStation font RSC files.	
DGNIRASB = [0|1]	Set to **0** so that MicroStation raster hybrid files follow the I/RASB conventions for raster extents. Set to **1** if you find that the raster components of MicroStation files appear stretched. **Note**: Option only applies to MicroStation 7 files.	0
DGNLSTYLERSC =[<*file path* >\style.rsc]	Specify a semi-colon separated list of the full paths to MicroStation line style RSC files.	
DGNREFCYCLECHECK = [0|1]	Set to **1** to check for circular reference in reference paths. Circular references will not be displayed, except for the case where a given model references itself. This improves memory performance. Set to **0** to display all the circular references as long as the nesting depth permits. **Note**: Option applies to MicroStation 8 files and corresponds to MicroStation v8.5 environment variable MS_REF_CYCLECHECK.	1
DGNSHOWZEROLENGTHLINES = [0|1]	Set to **1** to display zero-length lines as fixed-sized filled squares. Set to **0** to ignore zero-length lines. **Note**: Option applies to MicroStation 7 files.	0
DGNLSTYLEDASHDOT =[*description* , *number of patterns* , *pattern1* , *pattern2* ,... , *pattern6*]	Defines up to seven line styles (indexed from 1 to 7). Each line style, separated by a comma, can include up to six patterns. Each line style must be preceded by a description and a number specifying the number of patterns for the style. **Example:** DGNLSTYLEDASHDOT = style1,5,-1,1,0,-1,2,style2,3,2,-2,-2 In this example, two line styles (style1 and style2) are defined. The line styles provided by this parameter replaces the default seven standard styles. A line that uses style index that has not been provided is displayed as a solid line (for example, a line with style3 when only two styles have been defined).	

3.4 Autodesk DWF

This section discusses about the fonts, the color configuration, the password-protected files, the performance-related options, and the INI options of Autodesk DWF.

3.4.1 Autodesk DWF Fonts

DWF files generally use TrueType fonts - symbol TrueType fonts and non-symbol TrueType fonts. If a required symbol TrueType font is missing, AutoVue tries to substitute the missing

font with another symbol TrueType font. In cases where the symbol TrueType leads to incorrect text display, we recommend that you direct AutoVue to use a non-symbol TrueType font. You can do this by setting INI option NOSYMBOLTTF to 1. See the Section 3.4.6, "Autodesk DWF INI Options" for more information.

3.4.2 Autodesk DWF 3D File Attributes

When a DWF 3D file attribute name has more than one attribute value, AutoVue displays both attributes in the **Attributes** tab of the **Entity Properties** dialog. The second attribute value is preceded by the "native:" string.

3.4.3 Autodesk DWF Color Configuration

Syntax and additional information for the following options are described in Section 3.4.6, "Autodesk DWF INI Options". DWF files generally contain color information stored in the RGB color scheme. By default, AutoVue also uses the RGB color scheme when loading DWF files. AutoVue also provides you the option of using a color index table that you can update to get to the desired color mapping.

1. RGB Color

   By default, AutoVue uses RGB colors for DWF files. If you want to change this behavior and use the color index table, set the INI option DWFRGBCOLOR to 0.

2. Color Index Table

   AutoVue provides a DWF color table, dwfcol.tbl at <AutoVue Installation Directory>\bin folder. This mapping file maps color indices to RGB colors. To direct AutoVue to use the color index table, you must set DWFRGBCOLOR to 0. The color table file to use is specified by the DWFCOLORTBL INI option. If you choose to use the color index table, update the default color mapping or create a new color mapping file and point to this new file in the DWFCOLORTBL INI option. Each entry in the color table should follow syntax: <color_index>,<red_color>,<blue_color>,<green_color>.

   A maximum of 256 color indices can be defined, ranging from index 0 to index 255. The value of each color component must also range between 0 and 255. Lines beginning with the pound '#' character are treated as comments. Once the color index table is located, it is listed in AutoVue's **Resource** dialog as COLOR TABLE <Name and path to the color table>

3.4.4 Autodesk DWF Password-Protected Files

AutoVue supports loading of password-protected Autodesk DWF files of version 6.0 and up. When you load a password-protected file, AutoVue prompts for a password. When the correct password is specified, AutoVue loads the file.

3.4.5 Autodesk DWF Performance-Related Options

Syntax and additional information for the following options are described in Section 3.4.6, "Autodesk DWF INI Options".

1. Using the DWFLOADPMI, you can control the loading of PMI entities in DWF 3D files. For more information on this INI option refer to Section 3.4.6, "Autodesk DWF INI Options".

Note: When you enable or disable loading of 3D pages it results in more or fewer pages displayed, respectively. This impacts markups as they may be associated with the 3D model. When the option is changed, markups may appear on incorrect pages.

3.4.6 Autodesk DWF INI Options

You can choose whether or not to load the 3D pages of Autodesk DWF drawings using the INI option DISABLE3DMODEL. If you only need to access the 2D pages, we recommend that you disable the loading of 3D pages. This will mean faster loading of Autodesk DWF drawings and will mean faster generation of streaming files.

The DWF INI options are provided in Table 3–5. These options should be set in the **[OPTIONS]** header of the INI file.

Table 3–5 Autodesk DWF INI Options

Parameter	Description	Default
DISABLE3DMODEL = [0|1]	Specify whether or not the 3D page of Autodesk DWF files should be loaded. Set to **1** to disable the 3D model in the design. Set to **0** to include the 3D model in the design	0
DWFRGBCOLOR=[0|1]	Set to **1** to use RGB color. Set to **0** to use AIC (AutoVue Indexed Color). **Note**: Should be set to **0** to be able to use pen settings for printing.	1
DWFCOLORTBL=[*file path*]	Option is applicable only when **DWFRGBCOLOR=0**. Specify the path and the name to a color table. Specified color table overrides the palette stored in the DWF file. If no external palette is specified, the default palette stored in the DWF file will be used. Here are some of the common colors and their corresponding pen numbers: 0, 0, 0 /* 0, Black */ 128, 128, 128 /* 248, Gray */ 255, 0, 0 /* 190, Red */ 0, 255, 0 /* 40 Green */ 255, 255, 0 /* 251, Yellow */ 0, 0, 255 /* 15, Blue */ 255, 0, 255 /* 195, Violet */ 0, 255, 255 /* 45, Cyan */ 255, 255, 255 /* 225, White */	
DWFLOADPMI = [0|1]	Controls the loading of PMI entities in DWF 3D files. Set to **1** to enable loading of PMIs. Set to **0** to disable loading of PMIs.	1
NOSYMBOLTTF=[0|1]	Set to **1** to force the original symbol font to be substituted by a non-symbol font if it is missing. Set to **0** to allow the original symbol font to be substituted by another symbol font if it is missing.	0

3.5 CGM

Syntax and additional information for the following options are described in Section 3.5.2, "CGM INI Options".

3.5.1 CGM Display

1. Some CGM drawings have a color for the background. AutoVue, by default, does not show the background for CGM files. AutoVue provides an INI option SHOWBACKGROUND to control whether or not to show the background. Note that when background is displayed, you may run into issues when you print drawings containing large black or dark backgrounds.
2. When you have drawings that display blank or incomplete in AutoVue, you can set INI option CGMNOCLIP to 1 to display entities outside the defined clip regions. By default, AutoVue enables clip regions. Setting option CGMNOCLIP to 1 will disable clipping of CGM files.

3.5.2 CGM INI Options

The options described in Table 3–6should be set in the [OPTIONS] section in the INI file:

Table 3–6 CGM INI Options

Parameter	Description	Default
CGMNOCLIP = [0|1]	Set to **0** to enable clipping in CGM files. Some files may display as empty when the value is **0**. Set to **1** to disable clipping.	0
SHOWBACKGROUND=[0|1]	Set to **1** to display the background of CGM files with color backgrounds. Set to **0** if you have problems printing CGM files that contain large black or dark backgrounds.	0

4

Viewing Configuration for 3D Formats

This chapter describes the INI options and provides useful hints when working with 3D formats in AutoVue .

The Section 4.1, "General 3D Configuration" section describes options that apply to all 3D formats. Other sections provide information on specific file formats.

4.1 General 3D Configuration

The following configuration options generally apply to all 3D formats:

- Section 4.1.1, "General 3D Performance-Related Configuration"
- Section 4.1.2, "General 3D Performance-Related INI Options"
- Section 4.1.3, "General 3D Display"

4.1.1 General 3D Performance-Related Configuration

Syntax and additional information for the following options are described in section Section 4.1.2, "General 3D Performance-Related INI Options".

- Some 3D file formats contain both Mesh and BREP data. AutoVue will read Mesh data if the 3D file formats contain only that information. But if BREP data is available, it will use it.
  - Boundary representation (BREP) represents objects using analytical functions; it consists of topological and geometrical information. The geometrical information defines the vertices. The topological information identifies which edges and faces the vertices belong to.

    For such files AutoVue supports only one type of load mode: BREP mode.
  - This mode is used to have more accurate measurements. If the BREP information is not available, AutoVue will load the mesh.
- AutoVue allows dynamic loading of 3D models. The INI option to enable dynamic loading of 3D models is 3DPOLICYMANAGER.
- AutoVue also lets you configure the resolution at which models load in the workspace. The lower the resolution, the faster the file is displayed. However, surfaces may not appear smooth at low resolution. At higher resolutions, files display well, but take longer to display. The INI option is MESHRESOLUTION.
- If a 3D model contains a large number of PMI entities, AutoVue could take a long time to load the file. AutoVue lets you choose whether or not to load PMI entities. If you choose to load PMI entities, AutoVue lets you specify a number of PMI entities as a threshold. If the number of PMI entities in the model is more than the threshold, AutoVue does not load

any PMI entities for the model. The INI option to determine whether or not to load PMI entities is PMIINITIALVISIBILITY and the option to specify PMI threshold is PMITHRESHOLD. These options can also be configured from the AutoVue user interface from the PMI Initial Visibility section of the **3D** > **Model** panel of the **Configure** dialog.

- AutoVue provides you with a dynamic loading option for 3D files. When this option is enabled, AutoVue loads the model with just enough data to accurately display the model. When you zoom into or rotate into other parts of the model, AutoVue loads the data for the parts accessed. When disabled, AutoVue loads data in 10% chunks until it reaches full resolution. Enabling this option will lead to better performance since AutoVue refines data on demand. The INI option is 3DPOLICYMANAGER. This option can also be controlled from the AutoVue user interface by selecting the **Dynamic Loader** check box from the 3D > Model panel of the Configure dialog.
- AutoVue provides you with an option towards optimizing speed or memory. The INI option is PERFORMANCEPREFERENCE. Setting option value=1 impacts only the loading process of EDA-3D and CATIA 4, CATIA 5, Creo Parametric (Pro/ENGINEER), Autodesk Inventor, Mechanical Desktop, IGES and STEP 3D models. Data dumping will be enabled.
- Display of 3D models relies on OpenGL. For optimal performance, it is recommended that you have a graphics card that supports OpenGL and has dedicated memory on the AutoVue machines. If OpenGL is not supported on your graphics hardware, it will run from within Windows on Windows operating systems which will result in much slower performance. On non-Windows operating systems, 3D models will not display in the absence of a graphics card with OpenGL support.
- A tristrip or a triangle strip is a series of connected triangles, sharing vertices, allowing for faster rendering and more efficient memory usage for computer graphics. AutoVue enables tristrip by default. You can control whether or not to enable this feature by setting the TRISTRIP INI option. This option can also be configured from the applications' user interface by selecting the **Tristrip** check box from the **3D** panel of the **Configure** dialog.
- If you want the text display at smaller zoom levels, then set TEXTBITMAPRENDERING to 1. This option will use the font glyphs to display text.

4.1.2 General 3D Performance-Related INI Options

Options listed here should be placed under the [OPTIONS] header of the INI file:

Table 4–1 General 3D Performance-Related INI Options

Parameter	Description	Default
3DPOLICYMANAGER = [0|1]	Set to **1** to enable dynamic loading of 3D models. Set to **0** to load incrementally.	1
MESHRESOLUTION = [LOW | MEDIUM | HIGH | VERYHIGH]	Specify the default mesh resolution for 3D files. Note that the higher the mesh resolution, the more time required to load the image. Set to LOW for low mesh resolution. Set to MEDIUM for medium mesh resolution. Set to HIGH for high mesh resolution. Set to VERYHIGH for very high mesh resolution.	LOW
PMIINITIALVISIBILITY=[0|1]	Set to **1** to not load PMI entities for 3D models. Set to **0** to load PMI entities.	0

Table 4–1 (Cont.) General 3D Performance-Related INI Options

Parameter	Description	Default
PMITHRESHOLD=[num]	Specify the threshold to use when PMIINITIALVISIBILITY=0. If the number of PMI entities in the entire model exceeds this threshold, AutoVue will not load any PMI entities.	200
PERFORMANCEPREFERENCE=[1|2|4]	If set to 4, the optimization is assigned to the speed performance. If set to 2, the optimization is balanced between speed and memory performance. Data dumping will be enabled. If set to 1, the optimization is assigned to memory usage.	4
TRISTRIP=[0|1]	Set to **0** to disable Tristrip. Set to **1** to enable Tristrip. **Note**: Tristrip affects only DWF3D files and EDA 3D pages.	1
TEXTBITMAPRENDERING = [0|1]	Set this option to **1** will render text glyphs using bitmaps. Set this option to **0** will not render text glyphs using bitmaps.	1

4.1.3 General 3D Display

Syntax and additional information for the following options are described in section Section 4.1.4, "3D Display-Related INI Options".

- If users of AutoVue experience one of the following issues with 3D models:
  - Not able to see the 3D model completely,
  - Not able to perform measurements on the 3D, or
  - Not able to markup documents,

  Specify if you would like to use JOGL's heavyweight or light weight widget to render 3D Models, using the HEAVYWEIGHT Client parameter. Refer to the *AutoVue Client Parameters* section of the *Oracle AutoVue Client/Server Installation and Configuration Guide* for more information about this parameter.

  Note: The HEAVYWEIGHT parameter is specific to Client/Server Deployment case, however you can still use the HEAVYWEIGHT INI option to control hardware acceleration in Desktop Deployment case. Refer to 3D Display-Related INI Options for more information about this INI option.

- You can specify whether models should display with smooth shading or with flat shading using the SMOOTHSHADING INI option. This option can also be configured from the AutoVue user interface from the **Smooth Shading** check box in the **3D** panel of the **Configure** dialog.
- You can specify which rendering mode to use when you manipulate 3D models by setting the DYNAMICRENDERING INI option. This can also be configured from the AutoVue user interface using the **Dynamic Rendering** drop-down list in the **3D** panel of the **Configure** dialog.
- You can choose whether or not to render the backfaces of the model by setting the BACKFACEREMOVAL option. By enabling backface removal, rendering performance is

improved but does not provide a realistic display of the model. This option can also be set from the AutoVue user interface by selecting the **Backface removal** check box from the **3D** panel of the **Configure** dialog.

- You can configure if a 3D model at initial load should display at default visibility or with all parts visible or all parts invisible. INI option is INITIALVISIBILITY and can also be configured from the AutoVue user interface from the **Initial Visibility** section of the **3D** > **Model** panel of the **Configure** dialog.
- You can specify the default render mode of 3D models using the INI option CURRENTRENDERMODE. This can also be configured from the AutoVue user interface from **Manipulate** > **Visual Effects** > **Rendering** menu.
- You can control whether or not to display a model in perspective view using INI option PERSPECTIVE. You can also control this from the AutoVue user interface from **Manipulate** > **Visual Effects** > **Perspective** menu.
- You can specify if a selected part should be displayed with a bounding box or should be highlighted using the default highlight color using the SELECTIONHIGHLIGHT INI option. You can also control this from the **3D - Miscellaneous** pane of the **Configure** dialog.
- AutoVue will process 3D files that have the documented extensions for supported file format.

Note: Refer to the AutoVue Supported File Formats.

4.1.4 3D Display-Related INI Options

Options listed here should be placed under the [OPTIONS] header of the INI file:

Table 4–2 3D Display-Related INI Options

Parameter	Description	Default
SMOOTHSHADING = [0|1]	Set to **1** to enable smooth shading of 3D display. Set to **0** to display 3D models with flat shading.	1
DYNAMICRENDERING = [0|1|2|3|4|5|6]	Specify mode for dynamic rendering of 3D. **0** - current render mode **1** - Flat Shading **2** - Wire Polygons **3** - Wire Frame **4** - Vertex cloud **5** - Fast Frame **6** - Bounding box	0
PREFERREDFRAMERATE=<integer from 1 to 10>	Specify the frame rate (number of frames/sec) for rotation and zooming of 3D models. A higher frame rate result in a lower resolution when the model is in motion. **1** - low frame rate **10** - highest frame rate	1

Table 4–2 (Cont.) 3D Display-Related INI Options

Parameter	Description	Default
BACKFACEREMOVAL=[0|1]	Set to **1** to enable removal of backfaces. Provides faster rendering, but there is loss of surfaces while the model is in motion. Set to **0** to disable removal of backfaces.	0
HEAVYWEIGHT=[0|1]	Set to **1** if you would like to use JOGL's heavyweight to render 3D models. Set to **0** if you would like to use JOGL's lightweight widget to render 3D Models. When heavyweight is on, AutoVue uses hardware acceleration to render 3D. By default, the option is not set and AutoVue uses heavyweight rendering on all operating systems except Windows 7 and up. **Note**: ▪ This option is not supported on MAC platform. ▪ In Client/Server Deployment, this option can be ignored depending on the value of the HEAVYWEIGHT client parameter. Refer to the *AutoVue Client Parameters* section of the *Oracle AutoVue Client/Server Deployment Installation and Configuration Guide* for more information about the HEAVYWEIGHT client parameter.	
INITIALVISIBILITY=[0|1|2]	Specify if a 3D model should load at default visibility or with all parts visible or with parts invisible. The option controls the initial load of the model. You can modify visibility of part(s) after the model is loaded from the model tree. **0** - Default Visibility **1** - All Visible **2** - All invisible	0
SELECTIONHIGHLIGHT = [0|1]	Set to **0** if the selected part is displayed within a bounding box. Set to **1** if the selected part is highlighted using the entity default highlight color.	0

Options listed here should be placed under the **[SMVIEW]** header of the INI file:

Table 4–3 Options to be included in [SMVIEW]

Parameter	Description	Default
CURRENTRENDERMODE = [1|2|4|8|16|32|16384|32768]	Specify the current render mode for 3D models. 1 - Shaded model 2 - Wire Polygons 4 - Wireframe 8 - Hidden line 16 - Silhouette 32 - Shaded wire display 16384 - Reflective 32768 - Reflective Wire	1

Table 4–3 (Cont.) Options to be included in [SMVIEW]

Parameter	Description	Default
PERSPECTIVE=[0|1]	Set to **0** to display a 3D model in the normal view. Set to **1** to display a 3D model in the perspective view.	0

4.1.5 3D Measurement

The distance measurement tab has been improved so that AutoVue matches snapping and measurement capabilities of other CAD applications. If you wish to revert to the previous distance measurement mechanism, called point to point distance measurement, you can set INI option SHOW_POINTTOPOINT_PAGE to 1.

Syntax and additional information for the following option is described in section Section 4.1.6, "3D Measurement INI Option".

4.1.6 3D Measurement INI Option

Option listed here should be placed under the [OPTIONS] header of the INI file:

Table 4–4 3D Measurement INI Option

Parameter	Description	Default
SHOW_POINTOPOINT_PAGE = [0|1]	Set to **0** to hide the Point to Point distance tab. Set to **1** to display the Point to Point distance tab. **Note**: When snapping to an edge with the Point to Point distance tab enabled, the distance is measured from the exact point you click on the edge (rather than the midpoint).	0

4.1.7 3D Color Configuration

Syntax and additional information for the following options are described in section Section 4.1.8, "3D Color INI options".

AutoVue provides several different configuration parameters to configure background color, measurement color, selection color, and highlight color. See INI options section below for a list of the color configuration options. These options can also be configured from the AutoVue user interface from the **3D - Colors** panel of the **Configure** dialog.

4.1.8 3D Color INI options

All options listed below should be placed in the [SMCOLORS] header of the INI file.

Note: For parameters in the following table, specify an integer that represents an RGB color (Red + 256 * Green + 65536 * Blue). The values for Red, Green, and Blue range from 0 to 255.

Table 4–5 3D Color INI Options

Parameter	Description	Default
BACKGROUNDCOLOR	Specifies the background color for 3D models.	
ENTITYDEFAULTCOLOR	Specifies the default color for 3D models. This option only applies to formats that do not read native colors.	

Table 4–5 (Cont.) 3D Color INI Options

Parameter	Description	Default
EDGEHIGHLIGHTCOLOR	Specifies the color for highlighting edges.	
FACEHIGHLIGHTCOLOR	Specifies the color for highlighting faces.	
MEASUREMENTCOLOR	Specifies the color for measurements.	
MINDISTANCESET1 HIGHLIGHTCOLOR	Specifies the color for first set in minimum distance measurement.	
MINDISTANCESET2 HIGHLIGHTCOLOR	Specifies the color for second set in minimum distance measurement.	
SECTIONEDGESCOLOR	Specifies the section edge color.	
SECTIONFILLCOLOR	Specifies the section fill color.	
SELECTIONCOLOR	Specifies the color for selecting models or model parts.	
VERTEXHIGHLIGHTCOLOR	Specifies the color for highlighting vertices.	

4.1.9 3D Workspace and Background Configuration

Syntax and additional information for the following options are described in Section 4.1.10, "3D Workspace and Background INI Options".

This section covers configuration options available to you to configure the 3D axes displays, the background color, and the background image.

- You can choose whether or not to show the global axes on the workspace using the SHOWGLOBALAXES INI option. You can also configure this from the AutoVue user interface by selecting the **Show Global Axes** check box from the **3D-Miscellaneous** panel of the **Configure** dialog.
- You can change the size of the global axes using the AXESSIZE INI option. You can also configure this from the AutoVue user interface from the **Size of Axes** slider in the **3D-Miscellaneous** panel of the **Configure** dialog.
- You can choose if you want to have a plain background for the 3D workspace or if you want a radial or a directional background using the BKTYPE INI option. You can also configure this from the AutoVue user interface from the **3D - Background** panel of the **Configure** dialog.

4.1.10 3D Workspace and Background INI Options

The following options should be placed in the **[OPTIONS]** header in the INI file.

Table 4–6 Workspace and Background INI Options

Parameter	Description	Default
SHOWGLOBALAXES = [0|1]	Set to **1** to display global axes for 3D models. Set to **0** not to show global axes on the workspace for 3D models.	1
AXESSIZE = [0-100]	Enables you to resize the 3D axes. Setting the value to 0 displays the smallest possible 3D axes. If you assign a value greater than 0, the size of the 3D axes will increase.	50

Table 4–6 (Cont.) Workspace and Background INI Options

Parameter	Description	Default
BKTYPE	Specify the type of 3D background. Three classes of values: *radial gradient*, *directional gradient*, and *plain color* (default value). **Radial gradient values:** CENTER, TOP, BOTTOM, LEFT, RIGHT, TOP_LEFT, TOP_RIGHT, BOTTOM_LEFT, or BOTTOM_RIGHT. Set BKTYPE to one of the above value for Radial gradient background. **Directional gradient values:** An integer value (angle in degrees). Note that **0** is in the "3 o'clock" direction and that the angles rotate CCW.	PLAIN

4.1.11 3D PMI Entities

Syntax and additional information for the following options are described in section Section 4.1.12, "3D PMI Entities INI Options".

When 3D models contain PMI data, AutoVue displays these PMI entities in the workspace and in the model tree. AutoVue provides several configuration parameters that let you control what PMI data should be visible on the workspace/tree, how PMI text is displayed when you zoom to the text and whether or not to load PMI data.

- INI option PMITEXTRENDERINGSTYLE lets you choose if PMI text should be displayed as saved in the native file or if the text should be displayed in 3D mode or if text should be displayed flat-to-screen. This option can also be set from the AutoVue user interface. To access this, from the **Options** menu, select **Configure**, and then in the **Configuration** dialog, select **PMI** from the **3D** options.
- AutoVue also provides several INI options to control visibility and tree listing of various kinds of PMI entities. All of these options can be set from the AutoVue user interface. To access this, from the **Options** menu, select **Configure,** and then in the **Configuration** dialog, select **PMI** from the **3D** options. In the INI file, these options should be set in the [PMI] section. Refer to the INI options below for a list of options.
- AutoVue provides some options for PMI such as PMIINITIALVISIBILITY and PMITHRESHOLD, that have an effect on performance when loading files with PMI entities. Refer to the Section 4.1.2, "General 3D Performance-Related INI Options" section for more information on these options.

4.1.12 3D PMI Entities INI Options

This option described in Table 4–7should be set in the **[OPTIONS]** header in the INI file.

Table 4–7 3D PMI Entities Options in [OPTIONS] header file

Parameter	Description	Default
PMITEXTRENDERINGSTYLE = [0|1|2]	Specify the text rendering style for PMI entities. **0** - Native Setting **1** - 3D **2** - Flat-to-screen	0

Options below should be placed in the *[PMI]* header in the INI file. The INI options provided in Table 4–8 control the visibility of the different types of PMI in the model tree or their default visibility.

Table 4–8 3D PMI Options in [PMI] header file

Parameter	Description	Default
COORDINATE_SYSTEM_ TREE_ VIS = [0|1]	Set to **1** to display datum coordinate system entities in the tree. Set to **0** to hide datum coordinate system entities from the tree.	1
COORDINATE_SYSTEM_ VIEW_ VIS = [0|1|2]	Set to **2** to set the visibility of datum coordinate system entities to the last saved state in the native application. Set to **1** to display datum coordinate system entities. Set to **0** to hide datum coordinate system entities from the display.	2
DATUM_FEATURE_ SYMBOL_ TREE_VIS = [0|1]	Set to **1** to display datum feature symbol entities in the tree. Set to **0** to hide datum feature symbol entities from the tree.	1
DATUM_FEATURE_ SYMBOL_ VIEW_VIS = [0|1|2]	Set to **2** to set the visibility of datum feature symbol entities to the last saved state in the native application. Set to **1** to display datum feature symbol entities. Set to **0** to hide datum feature symbol entities from the display.	2
DATUM_TARGET_TREE_ VIS = [0|1]	Set to **1** to display datum target entities in the tree. Set to **0** to hide datum target entities from the tree.	1
DATUM_TARGET_VIEW_ VIS = [0|1|2]	Set to **2** to set the visibility of datum target entities to the last saved state in the native application. Set to **1** to display datum target entities. Set to **0** to hide datum target entities from the display.	2
DIMENSION_TREE_VIS = [0|1]	Set to **1** to display dimension entities in the tree. Set to **0** to hide dimension entities from the tree.	1
DIMENSION_VIEW_VIS = [0|1|2]	Set to **2** to set the visibility of dimension entities to the last saved state in the native application. Set to **1** to display dimension entities. Set to **0** to hide dimension entities from the display.	2
FEATURE_CONTROL_ FRAME_ TREE_VIS = [0|1]	Set to **1** to display datum feature control frame entities in the tree. Set to **0** to hide datum feature control frame entities from the tree.	1

Table 4–8 (Cont.) 3D PMI Options in [PMI] header file

Parameter	Description	Default
FEATURE_CONTROL_ FRAME_ VIEW_VIS = [0|1|2]	Set to **2** to set the visibility of datum feature control frame entities to the last saved state in the native application. Set to **1** to display datum feature control frame entities. Set to **0** to hide datum feature control frame entities from the display.	2
LINE_WELD_TREE_VIS = [0|1]	Set to **1** to display lineweld entities in the tree. Set to **0** to hide lineweld entities from the tree.	1
LINE_WELD_VIEW_VIS = [0|1|2]	Set to **2** to set the visibility of lineweld entities to the last saved state in the native application. Set to **1** to display lineweld entities. Set to **0** to hide lineweld entities from the display.	2
LOCATOR_TREE_VIS = [0|1]	Set to **1** to display locator entities in the tree. Set to **0** to hide locator entities from the tree.	1
LOCATOR_VIEW_VIS = [0|1|2]	Set to **2** to set the visibility of locator entities to the last saved state in the native application. Set to **1** to display locator entities. Set to **0** to hide locator entities from the display.	2
MEASUREMENT_POINT_ TREE_ VIS = [0|1]	Set to **1** to display point measurement entities in the tree. Set to **0** to hide point measurement entities from the tree.	1
MEASUREMENT_POINT_ VIEW_ VIS = [0|1|2]	Set to **2** to set the visibility of point measurement entities to the last saved state in the native application. Set to **1** to display point measurement entities. Set to **0** to hide point measurement entities from the display.	2
NOTE_TREE_VIS = [0|1]	Set to **1** to display note entities in the tree. Set to **0** to hide note entities from the tree.	1
NOTE_VIEW_VIS = [0|1|2]	Set to **2** to set the visibility of note entities to the last saved state in the native application. Set to **1** to display note entities. Set to **0** to hide note entities from the display.	2
REFERENCE_GEOMETRY_TREE_ VIS = [0|1]	Set to **1** to display reference geometry entities in the tree. Set to **0** to hide reference geometry entities from the tree.	1

Table 4–8 (Cont.) 3D PMI Options in [PMI] header file

Parameter	Description	Default
REFERENCE_GEOMETRY_VIEW_ VIS = [0|1|2]	Set to ***2*** to set the visibility of reference geometry entities to the last saved state in the native application. Set to **1** to display reference geometry entities. Set to **0** to hide reference geometry entities from the display.	2
SPOT_WELD_TREE_VIS = [0|1]	Set to **1** to display spotweld entities in the tree. Set to **0** to hide spotweld entities from the tree.	1
SPOT_WELD_VIEW_VIS = [0|1|2]	Set to **2** to set the visibility of spotweld entities to the last saved state in the native application. Set to **1** to display spotweld entities. Set to **0** to hide spotweld entities from the display.	2
SURFACE_FINISH_TREE_ VIS = [0|1]	Set to **1** to display surface finish entities in the tree. Set to **0** to hide surface finish entities from the tree.	1
SURFACE_FINISH_VIEW_ VIS = [0|1|2]	Set to **2** to set the visibility of surface finish entities to the last saved state in the native application. Set to **1** to display surface finish entities. Set to **0** to hide surface finish entities from the display.	2
WIRE_TREE_VIS = [0|1]	Set to **1** to display wire entities in the tree. Set to ***0*** to hide wire entities from the tree.	1
WIRE_VIEW_VIS = [0|1|2]	Set to **2** to set the visibility of wire entities to the last saved state in the native application. Set to **1** to display wire entities. Set to **0** to hide wire entities from the display.	2

4.2 Autodesk Inventor

This section comprises of the following:

- Section 4.2.1, "Autodesk Inventor Display"
- Section 4.2.2, "Autodesk Inventor INI Options"

4.2.1 Autodesk Inventor Display

Syntax and additional information for the following options are described in section Section 4.2.2, "Autodesk Inventor INI Options".

- AutoVue , by default, does not draw the background sheets for Inventor 2D. If you want AutoVue to display backgrounds for 2D drawing files to match Autodesk Inventor, you can set INI option AIBACKGROUND to 1.

Note: As is the case with Autodesk Inventor, AutoVue displays but does not print background images.

- You can limit the Inventor drawing to the sheet borders by clipping entities that are outside the drawing page. To do so, you can set INI option DRAWINGPAGE. This option is useful when performing a Zoom Fit to only display the drawing page (entities outside the frame are not shown) or when printing.

4.2.2 Autodesk Inventor INI Options

All options in table below should be placed under the *[OPTIONS]* header in the INI file.

Table 4–9 Autodesk Inventor INI Options

Parameter	Description	Default
AIBACKGROUND= [0|1]	Set to **1** to draw background sheet. Set to **0** to draw the outline only. **Note**: Option applicable to AutoDesk Inventor 2D versions 10 and later.	1
DRAWINGPAGE = [0|1]	Set to **1** to limit the loading of the drawing to the sheet borders. Set to **0** to display the whole drawing.	0

4.3 CATIA 5

This section discusses the CATIA 5 Fonts.

4.3.1 CATIA 5 Fonts

- It is recommended to point AutoVue to CATIA 5 Type 1 fonts for a correct and complete display of 2D drawing files. These fonts have to be referenced using the XFONTPATHS option.
- At small zoom levels, PostScript text in CATIA 5 can be displayed in AutoVue using font glyphs or using bitmaps. Using font paths ensures better quality display at small zoom levels however file rendering may become slower.

4.4 Creo Parametric (Pro/ENGINEER)

Syntax and additional information for the options described in the following sections are in Section 4.4.5, "Creo Parametric (Pro/ENGINEER) INI Options".

Note: Streaming file generation is disabled for ProE 2D files.

4.4.1 Creo Parametric (Pro/ENGINEER) External References

- The XREF location mechanism in AutoVue does not function in the same manner as the mechanism in Creo Parametric (Pro/ENGINEER). There may be differences in the location mechanism between the two.
- AutoVue does not accurately display 3D Creo Parametric (Pro/ENGINEER) parts and assemblies that contain family table instances if the instance accelerator files are missing. You must ensure that the accelerator files are generated in Creo Parametric

(Pro/ENGINEER) in order for AutoVue to display correctly. You can use the following option if the accelerator files are missing:

- You can generate the accelerator files from Creo Parametric (Pro/ENGINEER) by using the save_instance_accelerator option. Open the files in Creo Parametric (Pro/ENGINEER) and select **Tools > Options > save_instance_accelerator** to generate the accelerator files.

- AutoVue does not support 2D Creo Parametric (Pro/ENGINEER) drawings that do not contain Display Lists. You must make sure to save Creo Parametric (Pro/ENGINEER) drawings with Display Lists. To save Display List, open the file in Creo Parametric (Pro/ENGINEER) and select **Tools > Options > Environment**. A dialog appears. Select **Save Display** and then save the file.
  - AutoVue displays Creo 2D drawings based on the following criteria:
    * If Display List exists and is up-to-date – Drawings are displayed as per the display list.
    * If Display List exists and is out-of-date – A message is displayed indicating that the Display List is out-of-date. The **File Properties** dialog box is displayed.
    * If Display List does not exist – AutoVue displays the following message: Cannot display the ProE 2D file that does not have display list! Please resave the file in Creo with save_display option set to 'yes'.

Note: A Display List is considered up to date only if the difference in time stamps between the 2D and 3D root file is within one minute or if the 2D file is more recent than the 3D file.

4.4.2 Creo Parametric (Pro/ENGINEER) 3D Loading Mode

AutoVue will load in BREP mode by default for Creo Parametric (Pro/ENGINEER) 3D entities. However, it actually loads Mesh when there is XREF missing or when data is stored in the assembly, assembly level features, assemblies with boolean operations, etc.

4.4.3 Creo Parametric (Pro/ENGINEER) Font Substitution

When required fonts are not found in 2D Creo Parametric (Pro/ENGINEER) drawings, AutoVue substitutes fonts as specified in the proefont.map file located in <AutoVue Installation Directory>\bin\fonts. The .map file contains font substitution information for both native stroke fonts and TrueType fonts.

In addition, to display 2D Creo Parametric (Pro/ENGINEER) drawings AutoVue provides the PROELANG INI option which should be set to the language of the native font support.

The proefont.map file is divided into two sections; native fonts and TrueType fonts.

Native Fonts

This section is for resolving native language Creo Parametric (Pro/ENGINEER) fonts. The languages are classified as the following:

- Latin based fonts (such as English, German, French, Italian, and Spanish) specified under [USASCII] section
- Korean, Japanese, Chinese and Hebrew specified under [<*language*>] where <*language*> is Korean, Japanese, Chinese_tw, Chinese_cn, Hebrew.

For example, to support Japanese text that uses special.fnt, the following would need to be entered in this section:

```
[USASCII]
font=ascii.fnt;special.fnt;latin_1.fnt
font3d=font3d.fnt;special.fnt;latin_1.fnt
[Japanese]
font=ascii.fnt;katakana.fnt;sigma.fnt;special.fnt;latin_1.fnt
```

In addition to this, the INI option PROELANG must be set to *Japanese* in allusers.ini.

TrueType Fonts

This section contains a list of Creo Parametric (Pro/ENGINEER) defined TrueType fonts. It maps a TrueType font name to its font face name.

> **Note:** Ensure that the TrueType font has been installed before adding it to this section.

The following is a typical entry in this section:

```
[True Type]
;;----------------------------
;;ProE defined TrueType fonts
;;----------------------------
bluprnt=Blueprint MT
bluprntb=Blueprint MT Bold
```

Refer to the guidelines in proefont.map for more instructions on updating it.

4.4.4 Creo Parametric (Pro/ENGINEER) Performance-Related Options

AutoVue provides several INI options for Creo Parametric (Pro/ENGINEER) that can help you choose between speed versus accuracy or speed versus memory. This section describes the options available for performance tuning of the Creo Parametric (Pro/ENGINEER) format.

4.4.4.1 Creo Parametric (Pro/ENGINEER) 3D

You can turn off the display of datum cosmetic entities in Creo Parametric (Pro/ENGINEER) 3D by setting INI option PROELOADCOSMETICS. When you do not display datum cosmetic entities, you will get faster loading time and clear secondary entities from displaying on the model.

4.4.5 Creo Parametric (Pro/ENGINEER) INI Options

The options listed here should be placed under the *[OPTIONS]* header of the INI file.

Table 4–10 Creo Parametric (Pro/ENGINEER) INI Option

Parameter	Description	Default
PROELANG=[*native font*]	Specify the native font to use for Creo Parametric (Pro/ENGINEER) 2D drawings. Possible values are: Korean/Japanese/Chinese_cn/Chinese_ tw/Hebrew/Russian **Example** : ProELang = Chinese_cn Font files to use should be defined in the proefont.map file located in the <AutoVue Root Install>\bin\font directory. Refer to proefont.map for more instructions regarding font mapping.	
PROELOADCOSMETICS=[0|1]	Enable or disable the loading and display of datum planes, datum axes, datum points and coordinate systems. Set to **1** to turn on loading and display of PMI entities. Set to **0** to turn off display of datum cosmetics (coordinate system, datum planes, datum axes, and datum points).	1

4.5 SolidWorks

Syntax and additional information for the options described in the following sections are in Section 4.5.3, "SolidWorks INI Options".

4.5.1 SolidWorks 2D Display

- AutoVue displays SolidWorks 2D in a mode which is similar to SolidWork's quick view mode. In this mode, the 3D models are not checked for updates.
- You can control the visibility of borders in 2D drawings using the option SWSHOWVIEWPORTBORDER. Set it to 0 to hide the borders and 1 to display them.
- You can change the color of 2D projection views using the option SWWIRECOLORVISIBLE to the color's RBG value. By default, it is black.
- AutoVue 2D Professional does not support draft quality, shaded, and shaded with wire views for SolidWorks drawings. As a work around, open the file in SolidWorks, select each view and modify its quality to *High Quality* and then re-save the file.
- To ensure that the drawings are displayed correctly in AutoVue when you open the SolidWorks 2D files, you have to set the Automatic view update mode in Solidworks application. This allows drawing views to be updated as user changes the model. In order to update the view automatically when opening 2D files in SolidWorks, do the following:
  - From the **Tools** menu, select **Options**, then **System Options**.
  - From **System Options**, select **Drawings**.
  - Select **Allow auto-update**.

Note: You can get additional information in the help for SolidWorks.

4.5.2 SolidWorks Saved Configurations

SolidWorks allows users to create multiple configurations of a part or assembly which are saved into one file. AutoVue supports viewing of these different configurations of SolidWorks parts and assemblies (supported for parts and assemblies version 2006 and above). The list of configurations is shown in AutoVue 's bookmark tree.

4.5.3 SolidWorks INI Options

The options listed here should be placed under the **[OPTIONS]** header of the INI file.

Table 4–11 SolidWorks INI Options

Parameter	Description	Default
SWWIRECOLORVISIBLE=[integer value]	Specify the color to use for drawing SolidWorks wireframe models for SolidWorks drawings. Value should be an integer value specifying the RGB color. (Red +256 * Green + 65536 * Blue). The values for Red, Green, and Blue range from 0 to 255.	0 (Black)
SWSHOWVIEWPORTBORDER = [0|1]	Set to **1** to display the border (bounding box) of 2D views in a SolidWorks drawing. Set to **0** so that no border is drawn.	0

5

Viewing Configuration for EDA Formats

This chapter describes the INI options and provides useful hints when working with EDA formats in AutoVue .

The section – Section 5.1, "General EDA Configuration" describes options that apply to all EDA formats. Other sections provide information on specific file formats.

5.1 General EDA Configuration

The following options generally apply to all EDA formats.

5.1.1 EDA Cross-Probing

Syntax and additional information for the options described are in Section 5.1.2, "EDA Cross-Probing INI Options".

- When cross-probing EDA designs, you can control whether AutoVue should zoom to the selected entities or to extents of the drawing by setting the CROSSPROBE_ACTION INI option. This option can also be configured from the AutoVue user interface. On the Autovue user interface, click the Options menu, and then Configure, expand the EDA tree and select Analysis.
- When cross-probing a schematic page with another file, AutoVue automatically selects a PCB file if it is present. When cross-probing a PCB page with another file, AutoVue automatically selects a 3D page if the schematic page is not present. To manually select which page to cross-probe to, you can set the CROSSPROBE_AUTOMATIC_PAGETYPE INI option. This option can also be configured from the AutoVue user interface. On the AutoVue user interface, to initiate the crossprobe action, click the Analysis menu item, then the Crossprobe command, and selecting the file to crossprobe. Select/de-select the Automatic check box from the Scope/Occurrences dialog to enable manual selection. When it is not selected, you can specify the page type from the **Type** list.

5.1.2 EDA Cross-Probing INI Options

All options in the following table should be placed under the **[ECAD]** header in the INI file.

Table 5–1 EDA Cross-Probing INI Options in [ECAD] section

Parameter	Description	Default
CROSSPROBE_ ACTION = [0|1|2]	Specifies entity selection behavior when cross-probing EDA files. This option can have one of the following values: **0** - Keep zoom level **1** - Zoom selected **2** - Zoom Fit	1
CROSSPROBE_ AUTOMATIC_ PAGETYPE = [0|1]	Specifies whether the Automatic option is enabled or disabled when cross probing EDA files. Set to **1** to enable Automatic mode during an EDA cross probe. Set to **0** to disable Automatic mode during an EDA cross probe.	1

5.1.3 General EDA Selecting/Searching Entities

Syntax and additional information for the options described in the following sections are in Section 5.1.4, "General EDA Selecting/Searching Entities INI Options".

- You can control whether to perform an entity search in the entire design or the current page for multipage schematic files by setting the ECAD_SEARCH_DESIGN INI option. You can also set this option through the AutoVue user interface by selecting **Edit**, then **Entity Search,** and then making a selection from the Defining Scope dialog.
- You can set the snap radius in pixels for snap box to appear to select an entity by setting the ECAD_SNAPRADIUS INI option. You can also set this option from the Configuration dialog by selecting **2D**, and then entering the snap radius in the **Snap Radius** field.
- You can control whether Highlight Selected or Dim Unselected should be the default behavior when selecting an entity by setting the ECAD_SELECTIONHIGHLIGHT INI option. You can also set this option from the Configuration dialog by selecting **EDA**, and then selecting **Highlight Entity** or **Dim Unselected**.
- You can control the dim level of all the entities that are not selected by setting the **ECAD_ DIMLEVEL INI** option. This option is enabled when Dim Unselected is enabled. This option can also be set from the AutoVue user interface. To do so, from the Configure dialog, click **EDA** and then select **Dim Unselected** and drag the slider to modify the dim level.
- You can change the color of the selected EDA entity by setting the **ECAD_ SELECTIONCOLOR INI** option. This option can be controlled from the AutoVue user interface. To do so, from the **Configure** dialog, select **EDA**, then select **Colors** panel. From the **Colors** panel, select **Selection** under **Common** section and pick the color.

5.1.4 General EDA Selecting/Searching Entities INI Options

All options in the following table should be placed under the **[ECAD]** header in the INI file.

Table 5–2 General EDA INI Options in [ECAD] section

Parameter	Description	Default
ECAD_SEARCH_ DESIGN = [0|1]	Specifies EDA entity search scope. Set to **1** to search the entire design. Set to **0** to search the current page. This option only affects files with multiple schematic pages.	0
ECAD_SNAPRADIUS	Specifies snap radius for snap box to appear to select entity. The snap radius is configured in pixels.	5
ECAD_ SELECTIONHIGHLIGHT = [0|1]	Select either Highlight Selected or Dim Unselected as the default behavior when selecting entities. Set to **1** to enable Dim Unselected. Set to **0** to enable Highlight Selected.	0
ECAD_DIMLEVEL = [0.0-1.0]	Specifies the dim level. The value corresponds to a percentage. For example 0.3 is 30%. Change takes effect whether you change it manually or through the GUI. Set a value between *0.0* and 1.*0*. This option only takes effect if Dim Unselected is enabled.	0.5
ECAD_ SELECTIONCOLOR	Specifies the color to use for a selected EDA entity. The value should be an integer specifying the RGB color (Red +256 * Green + 65536 * Blue). The values for Red, Green, and Blue range from 0 to 255.	-256 (yellow)

5.1.5 EDA Layer Display

Syntax and additional information for the options described in the following sections are in Section 5.1.6, "EDA Layer INI Options".

- You can control whether to expand or collapse the Logical Layers pane in the Layers dialog by setting the LOGICALLAYERS INI option.
- You can control whether to expand or collapse the Physical Layers pane in the Layers dialog by setting the PHYSICALLAYERS INI option.

5.1.6 EDA Layer INI Options

All options in the following table should be placed under the *[ECAD]* header in the INI file.

Table 5–3 EDA Layer INI Options in [ECAD] section

Parameter	Description	Default
LOGICALLAYERS = [0|1]	Expand or collapse the Logical Layers pane in the Layers dialog. Set to **0** to expand the Logical Layers pane. Set to **1** to collapse the Logical Layers pane.	0
PHYSICALLAYERS = [0|1]	Expand or collapse the Physical Layers pane in the Layers dialog. Set to **0** to expand the Physical Layers pane. Set to **1** to collapse the Physical Layers pane.	1

5.1.7 EDA Enhanced Display Modes

AutoVue provides configuration options that let you control line caps/joins display, plated hole visibility and color, non-plated hole visibility and color, pad filling and global transparency. All of these options can be configured from the AutoVue user interface from the Configure dialog, EDA panel. All options below, except ECAD_GLOBAL_TRANSPARENCY, are only supported for Cadence Allegro format.

- You can control the visibility of plated holes by setting the ECAD_PLATED_HOLE_VISIBILITY INI option. Similarly, you can configure the visibility of non-plated holes by setting the ECAD_NON_PLATED_HOLE_VISIBILITY. These options can also be controlled from the AutoVue user interface from the Configure dialog, EDA and then Display Options panel.
- You can specify if the color of the plated holes should be as saved in the native application or if you want to specify a custom color by setting the ECAD_NATIVE_PLATED_HOLE_COLOR INI option. When you set ECAD_NATIVE_PLATED_HOLE_COLOR to 0, you can specify a custom color using the ECAD_PLATED_HOLE_COLOR INI option. Similarly you can set INI options ECAD_NATIVE_NON_PLATED_HOLE_COLOR and ECAD_NON_PLATED_HOLE_COLOR to control color of non-plated holes. These options can be controlled from the AutoVue user interface from the Configure dialog, EDA and then the Colors panel.
- You can specify if line caps/joins should be on or off or should be displayed as saved in the native file by setting the ECAD_LINE_CAPS_JOINS INI option. This option can also be controlled from the AutoVue user interface from the Configure dialog, EDA and then the Display Options panel.
- You can specify whether or not to display filling for pads by setting the ECAD_PAD_FILLING INI option. This option can also be controlled from the AutoVue user interface from the **Configure** dialog, EDA and then the Display Options panel.
- You can control the global transparency when displaying EDA files by setting the ECAD_GLOBAL_TRANSPARENCY INI option. This option can also be controlled from the AutoVue user interface from the Configure dialog, EDA and then the Display Options panel. Note that there could be performance issues with rendering the drawing when transparency is enabled.

5.1.8 EDA Enhanced Display Mode INI Options

All options in the following table should be placed under the *[ECAD]* header in the INI file.

Table 5–4 EDA Enhanced Display Mode INI Options

Parameter	Description	Default
ECAD_PLATED_HOLE_VISIBILITY = [0|1|2]	Specifies whether plated holes should be visible or not visible or if visibility of plated holes should be as saved in the file. Set to **0** to set visibility of plated holes as saved in the file. Set to *1* to display plated holes. Set to 2 to turn off visibility for plated holes.	0

Table 5–4 (Cont.) EDA Enhanced Display Mode INI Options

Parameter	Description	Default
ECAD_NON_ PLATED_HOLE_ VISIBILITY= [0|1|2]	Specifies whether non-plated holes should be visible or not visible or if visibility of non- plated holes should be as saved in the file. Set to 0 to set visibility of non-plated holes as saved in the file. Set to *1* to display non-plated holes. Set to 2 to turn off visibility for non-plated holes.	0
ECAD_NATIVE_ PLATED_HOLE_ COLOR=[0|1]	Specifies if plated hole color should be as saved in the native application or if AutoVue should use a custom color for plated holes. Set to 0 to override color saved in the file and use a custom color for plated holes. Set to 1 to use the color saved in the file for displaying plated holes.	1
ECAD_PLATED_ HOLE_COLOR=	Specifies the color for plated holes when ECAD_ NATIVE_PLATED_HOLE_COLOR = 0 The value should be an integer specifying the RGB color (Red +256 * Green + 65536 * Blue). The values for Red, Green, and Blue range from 0 to 255.	-256 (Yellow)
ECAD_NATIVE_NON_ PLATED_HOLE_ COLOR=[0|1]	Specifies if non-plated hole color should be as saved in the native application or if AutoVue should use a custom color for non-plated holes. Set to 0 to override color saved in the file and use a custom color for non-plated holes. Set to 1 to use the color saved in the file for displaying non-plated holes.	1
ECAD_NON_ PLATED_HOLE_ COLOR=	Specifies the color for non-plated holes when ECAD_ NATIVE_NON_PLATED_HOLE_COLOR = 0 The value should be an integer specifying the RGB color (Red +256 * Green + 65536 * Blue). The values for Red, Green, and Blue range from 0 to 255.	-256 (Yellow)
ECAD_LINE_CAPS_ JOINS=[0|1|2]	Specifies if line caps/joins should be displayed as saved in the file or if line caps should be on or off. Set to **0 t**o display line caps/joins as saved in the file. Set to 1 to display line caps/joins. Set to 2 to turn off line caps/joins.	0
ECAD_PAD_ FILLING=[0|1|2]	Specifies if pad filling should be displayed as saved in the file or if pads filling should be on or off. Set to 0 to set filling for pads as saved in the file. Set to *1* to display filling for pads. Set to 2 to turn off filling for pads.	0
ECAD_GLOBAL_ TRANSPARENCY=[0-255]	Specifies the transparency for EDA files. Specify a value from 0 to 255. At 255, the display is not transparent and at 0, the drawing is completely transparent.	255

5.1.9 EDA 3D Display

Syntax and additional information for the options described in the following sections are in Section 5.1.10, "EDA 3D INI Options".

- You can control the color of the PCB board of 3D ECAD model by setting the ECAD_3D_BOARDCOLOR INI option. This option can also be set from the AutoVue user interface. To do so, from the Configure dialog, click *EDA*, select *Colors*, and then click the color box next to **Default Board Color** to make your selection. Reload the file for the changes to take effect.
- You can control the color of the PCB components in the 3D ECAD model by setting the ECAD_3D_COMPONENTCOLOR INI option. This option can also be set from the AutoVue user interface. To do so, from the Configure dialog, click on *EDA*, select *Colors*, and then click the color box next to *Default Component Color* to make your selection. Reload the file for the changes to take effect.
- You can control whether to cut drill holes out of the 3D ECAD model by setting the ECAD_3D_CUTOUTDRILLHOLES INI option.
- You can control the default board thickness for the 3D ECAD model by setting the ECAD_3D_DEFAULTBOARDTHICKNESS INI option. This option is used when the PCB design does not have a thickness defined for the board. This option can also be set from the AutoVue user interface. To do so, from the Configure dialog, click *EDA*, and then enter a value in the **Default Board Thickness** field. Reload the file for the changes to take effect.
- You can control the default thickness for components of the 3D ECAD model by setting the ECAD_3D_DEFAULTCOMPONENTTHICKNESS INI option. This option is used when the design does not have a thickness defined for the component. This option can also be set from the AutoVue user interface. To do so, from the Configure dialog, click *EDA*, and then enter a value in the **Default Component Height** field. Reload the file for the changes to take effect.
- You can specify the default component and board thickness unit of measurement for 3D ECAD model by setting the ECAD_3D_DEFAULTTHICKNESSUNIT INI option. This option can also be set from the AutoVue user interface. To do so, from the Configure dialog, click on *EDA*, and then select a unit of measurement from the *Default Units* list. Reload the file for the changes to take effect.
- You can control whether or not to display 3D models by setting the ECAD_LOAD_3D_PAGE INI option. You can set this option to 0 when you do not need the 3D display. This results in faster loading of the file.

> **Note:** When you enable or disable loading of the 3D models, it results in more or fewer pages displayed, respectively. This impacts markups as they are associated with a page number. When the option is changed, markups may appear on incorrect pages.

5.1.10 EDA 3D INI Options

All options in the following table should be placed under the *[ECAD]* header in the INI file.

Table 5–5 EDA 3D INI Options in [ECAD] section

Parameter	Description	Default
ECAD_3D_BOARDCOLOR	Specify the color option of the 3D PCB board in Windows RGB format: B + 256xG + 65536xR.	25600 (dark green)

Table 5–5 (Cont.) EDA 3D INI Options in [ECAD] section

Parameter	Description	Default
ECAD_3D_ COMPONENTCOLOR	Specify the color of the PCB components in 3D.	2631720 ("very" dark gray)
ECAD_3D_ CUTOUTDRILLHOLES = [0|1]	Specify whether to cut drill holes out of the 3D model of the board. Set to *1* to cut out drill holes. Set to *0* to disable drill holes. Setting this option to 1 increases the amount of memory required to load the 3D model. Also, for DMU purposes, this option should be set to 1 to correctly check for interference for parts that go through the drill holes. **Note**: DMU cannot be set from the AutoVue user interface. However, you can still add the feature programmatically. For more information refer to the KM Note - `Doc ID 2083164.1` **Note**: Only supported for Allegro and PADS.	0
ECAD_3D_ DEFAULTBOARDTHICKNESS	Specify default board thickness for EDA. **Note**: This option is used when the board thickness is not specified in the design.	40.0 (mils)
ECAD_3D_ DEFAULTCOMPONENTTHICKNESS	Specify default thickness for components for 3D EDA. **Note**: This option is used when the component height is not specified in the design.	40.0 (mils)
ECAD_3D_ DEFAULTTHICKNESSUNIT	Specify the unit to be used for the options ECAD_3D_ DEFAULTBOARDTHICKNESS and ECAD_3D_ DEFAULTCOMPONENTTHICKNESS.	12 (mils), 40.0 (mils)
ECAD_LOAD_3D_ PAGE=[0|1]	Enable or disable display of 3D models of EDA files. Set to *0* to disable display of 3D model. Set to *1* to enable display of 3D model. Option applies to the following PCB formats: ▫ Altium Designer ▫ Cadence Allegro ▫ Cadence Projects ▫ IDF ▫ Mentor BoardStation ▫ Mentor CCZ ▫ Mentor Expedition ▫ ODB++	1
PROTELDISPLAYLABELS = [0|1]	Specify whether pad and via labels should be displayed when viewing PCB files. Set to **1** to display pad and via labels. Set to **0** so that pad and via labels are not displayed.	0

5.2 Allegro

Syntax and additional information for the options described in the following sections are in Section 5.2.7, "Allegro INI Options".

5.2.1 Allegro Fonts

When a required font is not found, AutoVue substitutes the font with AutoVue 's Universal Font File (UFF) located in the <AutoVue Directory>\bin\fonts folder. Using UFF fonts may generate slight differences in display for text in AutoVue when compared to the Allegro application.

If loading time is to be optimized and you are not concerned with the display quality, you can improve the performance of many text heavy files by setting the ALLEGRO_USETRUETYPEFONTS option to use TrueType fonts. Refer to Section 5.2.7, "Allegro INI Options" for more information.

5.2.2 Allegro Displaying Non-Archived Cadence Projects

AutoVue supports archived and non-archived Cadence projects.

- Archived projects: A project where all required libraries are contained within its folder structure.
- Non-archived projects: A project that may reference libraries outside its folder structure (for example, a central library stored on a network).

To properly support non-archived and archived Cadence projects, you can create a new resource file called *cadence.config* in the <AutoVue Installation directory>\bin directory. This file allows you to specify environment variables (used to resolve library paths) and custom variables (used to display custom text) when viewing Cadence projects in AutoVue .

There are two sections in the cadence.config file:

- Environment Variables
- Custom Variables

5.2.2.1 Environment Variables Section

This section is used to specify environment variables used to correctly display non-archived Cadence projects. Any environment variables that are not set are listed as missing resources in AutoVue 's File Properties dialog.

Each environment variable represents a file path. These variables are typically set when the Cadence suite is installed on a machine. However, they are not limited to these variables. You can find the values of these environment variables by executing the *set* command from a shell or command prompt.

An entry in this section must be given as follows:

```
<environment variable name>=<file system path>
```

The following is an example of some typical entries for this section:

```
[Environment Variables]
$CONCEPT_INST_DIR=C:\Cadence\SPB_16.3
$CHDL_LIB_INST_DIR=C:\Cadence\SPB_16.3
```

When editing the cadence.config resource file, the following are important notes to keep in mind:

- The environment variables section name is not case sensitive.
- Environment variable names must begin with a dollar sign ($). For example, $CONCEPT_INST_DIR is a valid environment variable, whereas CONCEPT_INST_DIR is not.
- Only environment variables given under the Environment Variables section are accepted.
- The value of each environment variable is read as a single file path. As a result, you cannot specify multiple paths for a given environment variable.
- Duplicate entries are ignored, not concatenated.
- Unicode file paths are accepted.
- UNC file paths are not supported.
- Both the forward slash (/) and backward slash (\) can be used as valid path separators. However, it is recommended to use the correct path separator of the operating system on which the AutoVue server is running.
- The variables defined in cadence.config apply to all Cadence projects.
- If a variable is defined in both cadence.config and the Cadence project CPM file, the value from the CPM file takes precedence.

5.2.3 Allegro Custom Variables Section

This section is used to specify site-level custom variables that should apply to both archived and non-archived designs. These variables are usually obtained from the CUSTOMVAR section of the *site.cpm*, *user.cpm*, and *cds.cpm* files that are part of a Cadence SPB installation.

Note: You may enter any custom variables you require in this section and they are not limited to the ones present in the aforementioned files.

The following is an example of some typical cadence.config entries:

```
[Custom Variables]
SCH_ENTERPRISE=Oracle Corporation
```

In the example above, all instances of <*SCH_ENTERPRISE*> in the drawing are replaced by the text "Oracle Corporation".

5.2.4 Allegro Enhanced Display Modes

AutoVue allows users to dynamically control the display of plated and non-plated holes (visibility and color), pad filling, line caps and joins without re-saving and re-loading files. These can be configured via the Options dialog.

AutoVue provides the *ALLEGRO_ENABLEENHANCEDDISPLAYMODES* option to enable or disable this feature.

5.2.5 Allegro Display

This section discusses the schematic and PCB Designs.

5.2.5.1 Schematic Designs

The following configurations apply to the display of Cadence Allegro schematic files.

- Occurrence Edit Mode

Schematic designs in the Cadence Design Entry application can be displayed through Occurrence Edit mode. In this mode, the schematic design contains all PCB board information. Similarly, AutoVue , by default, displays schematic files in Occurrence Edit mode. This is to better support cross-probing.

When comparing display in AutoVue with Allegro Design Entry HDL application, you must switch the view mode to No Occurrence Editing from the user interface. To do so, from the View menu, select Views to open the Select a Named View dialog. From the dialog, select **No Occurrence Editing**. The default is No Occurrence Editing mode.

- Variant Views

  AutoVue supports design variants by including the different schematic views as new designs when loading a project file. These extra schematic views are listed in the bookmark tree. Each variant is treated as a separate design, meaning it is considered on its own when performing various tasks such as cross-probing, entity search, go to net instances, and Bill Of Material. AutoVue provides the ECAD_DISABLE_VARIANTS option to control loading of variant views.

  Note: When you enable or disable variant views it results in more or fewer pages displayed, respectively. This impacts markups as they are associated with a page number. When the option is changed, markups may appear on incorrect pages.

- View Schematic Files Only

  AutoVue provides the CADENCE_CONCEPTHDLONLY option to view either the schematic files in a project or both schematic and PCB layouts.

- View Sub-Designs

  AutoVue provides the CADENCE_CPMONLY option to view sub-designs as an independent design or as part of the parent design. If a Cadence project file contains sub-designs, by default AutoVue loads them as part of the parent design. To view the sub-designs as an independent design, set the option to 0.

- Mechanical Callouts

  A callouts file in a Cadence project contains a list of mechanical parts. This information can be added to the Bill Of Material report for a project. AutoVue provides the CADENCE_CALLOUTSFILE option to add or exclude this information from the Bill Of Material. Once the callouts file is located, it is listed in AutoVue 's **Resource** dialog as: [CALLOUTS] <Name and path to callouts file>.

5.2.5.2 PCB Designs

This section applies to the display of Cadence Allegro PCB layout files.

- Extra PCB Designs

  When a user opens a project in the Allegro Project Manager, they can only access the PCB layout that is defined in the master.tag file located in the project's physical folder. However, when AutoVue loads the project, AutoVue includes all PCB designs in the project's physical folder with the layout defined in the master.tag file as the first one displayed.

- PCB Display Mismatches

  If you notice differences in display between AutoVue and Allegro, note the following:

  – Filled shapes are displayed differently in AutoVue when compared to Allegro PCB Editor version16.3 and up. AutoVue uses a non-zoomable horizontal hatch pattern

whereas Allegro uses a solid fill. AutoVue 's display matches that of Allegro PCB Editor version 15.7.

- Native highlighting is displayed differently in AutoVue when compared to Allegro PCB Editor version 16.3 and up. AutoVue draws the highlighted entity using the correct highlight color, and then draws a thin, dashed line using the layer color on top. Allegro PCB Editor version 16.3 uses the highlight color. AutoVue 's display matches that of Allegro PCB Editor version 15.7.
- AutoVue relies on the file version to determine the layer ordering. For files whose version is 16.2 and above, AutoVue uses the layer-based priority mechanism that was introduced in version 16.2 of Allegro PCB Editor. For older version files, AutoVue uses the color-based priority mechanism that Allegro PCB Editor used in previous versions.

- Filled shapes and Thick lines/arcs
  - If filled shapes or thick lines are displayed differently in AutoVue when compared to Allegro PCB Editor, you can adjust the global transparency in AutoVue which is applied by default in Allegro PCB editor. To do so, from the **Options** menu, select **Configure** to open the **Configuration** dialog. From the dialog, select **Display Options** under **EDA**. Move the slider under Global Transparency.

5.2.6 Allegro Performance-Related Options

AutoVue provides several INI options for Allegro files that can help you choose between speed vs. accuracy or speed vs. memory. This section describes the options available for performance tuning of the Allegro format. For more information on the options described in this section, refer to Allegro INI Options.

- You can improve file loading time for text-rich files by using TrueType fonts instead of native stroke fonts by setting ALLEGRO_USETRUETYPEFONTS option to 1. In addition, the streaming file size will be smaller.
- Loading variant views takes longer and consumes more memory. If you do not need the design variants, you can reduce streaming file size and memory usage by setting ECAD_DISABLE_VARIANTS option to 1.

  Note: When you enable or disable variant views it results in more or fewer pages displayed, respectively. This impacts markups as they are associated with a page number. When the option is changed, markups may appear on incorrect pages.

- If you do not need the PCB boards, you can choose to load only schematic views. They load much faster and consume less memory. Set CADENCE_CONCEPTHDLONLY INI option to 1. In addition, it also reduces the size of streaming file and makes the bookmark tree less cluttered.

  Note: When you enable or disable loading of the PCB boards it results in more or fewer pages displayed, respectively. This impacts markups as they are associated with a page number. When the option is changed, markups may appear on incorrect pages.

- Loading the 3D model of a PCB layout takes time and consumes memory. If you are only concerned with the PCB board and not the 3D model, you can disable loading of 3D model by setting ECAD_LOAD_3D_PAGE option to 0.

- Loading the parent design without the individual sub-designs uses less memory and loads in less time. If the sub-designs are not needed, you can set CADENCE_CPMONLY option to 1 to load only the parent design.

  Note: When you enable or disable loading of the individual sub-designs it results in more or fewer pages displayed, respectively. This impacts markups as they are associated with a page number. When the option is changed, markups may appear on incorrect pages.

- Loading a PCB board in 3D with the holes drawn in it takes longer than without the holes. If the holes are not needed then you can improve file loading time by setting ECAD_3D_SHOWHOLES to 0.

5.2.7 Allegro INI Options

The following options are for PCB layouts. All the options should be placed under the *[ECAD]* header in the INI file.

Table 5–6 Allegro INI Options in [ECAD] section

Parameter	Description	Default
ALLEGRO_USETRUETYPE FONTS = [0|1]	Set to **0** to use stroke font. Set to **1** to use TrueType font instead (increases performance).	0
ALLEGRO_ENABLEENHANCEDDISPLAYMODES = [0|1]	Set to **1** to enable enhanced display modes. Set to **0** to disable them.	1
ECAD_3D_SHOWHOLES = [0|1]	Set to **1** if you want holes to be drawn in the 3D model. Set to **0** if you do not want holes to be drawn in the 3D model.	0

The following options are for Cadence project files. All the options should be placed under the *[ECAD]* header in the INI file.

Table 5–7 Cadence INI Options in [ECAD] section

Parameter	Description	Default
CADENCE_CALLOUTSFILE = [*file path*]	Specify the full path to a callouts file. The callouts file is used to create abstract mechanical part entities for the design	
CADENCE_CONCEPTHDLONLY=[0|1]	Controls whether or not to load and display PCB boards in a Cadence project. Set to **0** to include PCB boards when loading a project. Set to **1** so that PCB boards should not be displayed.	0
CADENCE_CPMONLY=[0|1]	Load and display all pages in the Cadence project file, or only the files listed in the CPM file. Set to **1** if you want only files listed in the CPM file displayed. Set to **0** to load and display all the pages inside the Cadence project file.	1

Table 5–7 (Cont.) Cadence INI Options in [ECAD] section

Parameter	Description	Default
ECAD_DISABLE_VARIANTS = [0|1]	Specify whether to enable or disable variant views. This option can be used to improve performance if the project contains multiple variant views. Set to **1** to disable variant views. Set to **0** to enable variant views. This option currently only supports Cadence/Allegro projects.	0

5.3 Altium Designer

Syntax and additional information for the options described in the following sections are in Altium Designer INI Option.

Note: If an Altium Schematic design contains a CurrentTime Parameter, its value is updated each time when refreshing the workspace in Altium Designer. When viewing in AutoVue , the CurrentTime Parameter value is computed only once during file loading after which it will remain unchanged. Note that streaming files are not generated for Altium Designer files that contain the CurrentDate and/or CurrentTime parameters as they are determined when the file is opened.

5.3.1 Altium Designer Field Names

- If an Altium Schematic design has a field name with spaces in it, Altium Designer resolves the field to "#NAME?". AutoVue is able to process these fields and displays the correct value.

5.3.2 Altium Designer Performance-Related Option

- AutoVue provides INI option PROTELDISPLAYLABELS to allow you to specify whether or not to load pad and via labels for PCB files. Enabling this option slows down performance speed. That is, it increases server and client memory usage and the size of the streaming file.

5.3.3 Altium Designer INI Option

All options in the following table should be placed under the *[ECAD]* header in the INI file.

Table 5–8 Altium Designer INI Options in [ECAD] section

Parameter	Description	Default
PROTELDISPLAYLABELS = [0|1]	Specify whether pad and via labels should be displayed when viewing PCB files. Set to *1* to display pad and via labels. Set to *0* so that pad and via labels are not displayed.	0

5.4 Gerber

Syntax and additional information for the options described in the following sections are in Section 5.4.3, "Gerber INI Options".

5.4.1 Gerber Display

This section discusses the Initial and Aperture Display of Gerber formats.

5.4.1.1 Initial Display

Gerber files are comprised of a set of coordinate data that can be interpreted in different ways based on certain settings. AutoVue provides several INI options to configure the viewing of Gerber files to match the settings of the application used to generate the Gerber files.

The following is a list of options that may need to be configured in case the display in AutoVue is incorrect:

- ENDOFCOMMAND: Use this option to set the token used to end a Gerber command.
- INCREMENTALMODE: Use this option to indicate if the Gerber commands are given in incremental mode (current location is based on the previous location) or absolute mode (current location is given as is).
- MULTIQUADRANT_ARCS_BY_DEFAULT: Use this option to indicate if arcs can span more than one quadrant.
- NUMDECIMALS: Use this option to determine how many numbers comprise the decimal portion of a value.
- NUMDIGITS: Use this option to determine how many numbers comprise the whole portion of a value.
- TRAILINGZEROS: Use this option to indicate if coordinate data is in trailing zeros format.
- UNITS: Use this option to specify the units of the Gerber data (inches or millimeters).

Note: The configuration settings provided above apply mainly for Gerber RS-274D files. However, some options, such as ENDOFCOMMAND, also apply to Gerber RS-274X files.

Refer to Section 5.4.3, "Gerber INI Options" for more information on these options

5.4.1.2 Aperture Display

AutoVue provides options to configure the aperture (tool) settings if the drill hole display is incorrect. The following is a list of options that may need to be configured to get the correct drill hole display.

- TOOLFILEPATH: Use this option to provide a relative or absolute file system path of the tool file. The tool file defines the different apertures (name, shape, sizes) used in a Gerber file.
- TOOL_UNIT: Use this option if the units of the apertures defined in the tool file are different from the units of the Gerber files to display.
- TOOLFILETYPE: Use this option to indicate the format type used for the tool file.
- APERTURE_FORMAT_FILEPATH: You can also define your own format for the tool file by using this option to provide the relative or absolute file system path of the aperture

format file. AutoVue reads this file to determine how different tools are defined in the tool file.

Note: The configuration settings provided above apply mainly for Gerber RS-274D files.

Refer to Section 5.4.3, "Gerber INI Options," for more information on these options.

5.4.2 Gerber Layer File

If you need to overlay multiple Gerber files at once, you can do so by creating a Gerber Layer File.

The Gerber Layer File (GBL) format allows you to open multiple Gerber files at once in AutoVue . This file format also allows you to analyze multiple Gerber files for net connectivity by creating net entities in AutoVue to connect the different traces and pins.

A GBL is divided into four main sections:

- Header section
- INI configuration section
- Aperture file section (optional)
- Gerber layers section

5.4.2.1 Header

The header is used to recognize a file as a Gerber Layer File (GBL). All GBLs must begin with the following line:

```
GBL FILE (CSI)
```

If a file does not begin with this line, it will not be treated as a GBL.

5.4.2.2 INI Configuration

The INI configuration section allows you to configure the following INI options that are used when processing each Gerber layer and Gerber Layer File.

- APERTURE_FORMAT_FILEPATH
- INCREMENTALMODE
- NUMDECIMALS
- NUMDIGITS
- TRAILINGZEROS
- TOOLFILEPATH
- TOOLFILETYPE
- TOOL_UNIT
- UNITS

These INI options are the same as the Gerber-specific options.

5.4.2.3 Aperture File

The aperture file section is used to specify the aperture file required by Gerber files. If you do not provide an aperture file in the Gerber Layer File, then the aperture file specified in AutoVue 's INI file is used.

The aperture file section is a single line in the GBL and follows this structure:

APP <aperture_file_path> <aperture_file_type>

Where:

- APP is a keyword to indicate that the current line refers to aperture information.
- <aperture_file_path> is the absolute or relative file system path of the aperture file.

This field is mandatory.

- <aperture_file_type> is an optional field that indicates the format used to store the aperture information. The following table provides a list of possible values.

Table 5–9 Aperture File Types

File Type	Typical File Extension	Description
0	.too	Default aperture file type.
1	.app	OrCAD Layout file aperture file type.
2	.gap	ECAM aperture file type
3	.rep	Protel/Altium Designer aperture file type.
4	.apt	Artwork aperture file type.
5	.txt	Allegro aperture file type.
6	Visula	Visula aperture file type.
7	.apr (Autotrax)	Autotrax aperture file type.

For example:

```
APP aperture.txt 5
```

This example specifies an Allegro-type aperture file, aperture.txt, in the same folder as the GBL.

5.4.2.4 Gerber Layers

The Gerber layers section is used to list the Gerber files to be opened as layers in the Gerber Layer File and includes two fields: OPTIONALATTRIBUTES and LAYER.

OPTIONALATTRIBUTES is an optional field used to list the names of the attributes that are provided for each Gerber layer. It is specified as a semicolon (;) separated list.

For example:

```
OPTIONALATTRIBUTES=<attribute1>;<attribute2>;...
```

There are currently seven supported attributes: COLOR, LAYERNAME, LAYERTYPE, OFFSET, VISIBLE, POLARITY, and UNITS.

- COLOR: Used to provide the color of the layer. The color can be given either as a color index (refer to the following table) or as an RGB color.

  The following table provides a list of possible color indices:

Table 5–10 Color Indices

Index	Color
0	Black
1	Red
2	Yellow
3	Green
4	Cyan
5	Blue
6	Magenta
7	White
8	Dark grey

RGB colors are specified as follows:

```
RGB(<r_components>,<g_component>,<b_components>)
```

- LAYERNAME: Used to provide the name of the layer that appears in the Logical Layer dialog.
- LAYERTYPE: Used to provide the type of the layer. This is used to construct the net connectivity. There are three possible values:
  - signal
  - nonsignal
  - plane

  Only the signal and plane layer types are considered when constructing the net connectivity. Any value other than these three is treated as a nonsignal.
- OFFSET: Used to provide the offset of the layer in native units.

  ```
  Syntax: (x,y)
  ```

  For example: (10.0, 20.0)
- VISIBLE: Used to provide the initial visibility of a layer. To set a layer as invisible, the value of this attribute should be set to *false* (case-insensitive). Any other value is treated as *true*.
- POLARITY: Used to provide the initial polarity of a layer. To set a layer's polarity to negative, the value of this attribute must be set to *negative*. Note that the attribute value is case-insensitive. Any other value is treated as *positive*.
- UNITS: Used to provide the units of a layer. Possible values are *in* for inches, *mm* for millimeters, and *mil* for microns.

> **Note:** To include whitespaces, the argument should be enclosed between double quotes ("").

As the following example shows, the order of the attributes is not important and their names are not case sensitive (that is, COLOR is the same as color).

```
OPTIONALATTRIBUTES=COLOR;LAYERTYPE
OPTIONALATTRIBUTES=layerName;Color;layerTYPE
```

The LAYER field entry represents a Gerber file that makes up a layer in the GBL. It is specified as follows:

```
LAYER <optional_attributes> <Gerber_filename>
```

Where:

- LAYER is the keyword for this field.
- <optional_attributes> is a list of attributes in the order given by the OPTIONALATTRIBUTES field. All attributes given in the OPTIONALATTRIBUTES field must be provided for each LAYER entry in the same order.
- <Gerber_filename> is the absolute or relative file system path of the Gerber file.

5.4.3 Gerber INI Options

The following are Gerber INI options. All the options should be placed under the *[GERBER FORMAT]* header in the INI file.

Table 5–11 Gerber INI Options in [GERBER FORMAT] section

Parameter	Description	Default
APERTURE_ FORMAT_ FILEPATH=[*file path]*	Specify the file path for the aperture format file.	
ENDOFCOMMAND = [ASTERISK | DOLLAR | ENDOFLINE | AUTODETECT]	Specify the end of command character if known. If end of command character is not known, ENDOFCOMMAND can be set to AUTODETECT mode. Available values: ASTERISK: End of command is * DOLLAR: End of command is $ ENDOFLINE: End of command is the end of the line. AUTODETECT: AutoVue automatically detects the end of command character.	AUTODETECT
INCREMENTALMODE = [0|1]	Set to **1** if data is in incremental mode. Set to **0** if data is in absolute mode.	0
MULTIQUADRANT_ ARCS_BY_DEFAULT = [0|1]	Specify whether the default circular interpolation is multi-quadrant or single-quadrant. Set to **0** so that the circular interpolation is single-quadrant. Set to **1** so that the circular interpolation is multi-quadrant.	0
NUMDECIMALS = [num]	Enter the number of decimals. Specify a value between 1 and 6.	3
NUMDIGITS = [num]	Enter the number of digits. Specify a value between 1 and 6.	2
TOOLFILEPATH = [<*filepath*>*defaul* t.too]	Specify the path to the aperture list file.	<install directory>\bin\defa ult.too

Table 5–11 (Cont.) Gerber INI Options in [GERBER FORMAT] section

Parameter	Description	Default
TOOLFILETYPE=[0|1|2|3|4|5|6|7]	Specify the type of aperture list file. **0** = CSI **1** = Orcad **2** = ECAM **3** = Protel **4** = Artwork **5** = Allegro **6** = Visula **7** = Autotrax	0
TRAILINGZEROS=[0|1]	Set to **1** if coordinate data is in trailing zeros format.	0
TOOL_UNIT=[-1|1|2|12]	Specify the unit for the tool and aperture file if unit is different from the Gerber file. **-1** = Unspecified file unit. Aperture file will adopt the same unit as the Gerber file. **1** = inches **2** = millimeters **12** = mil	-1
UNITS = [1|2]	Specify the unit. Set to **1** for inches (in). Set to **2** for millimeters (mm).	1

5.4.4 Mentor

This section discusses the views, designs and INI options for Mentor Display.

5.4.4.1 Mentor Display

You can control which Mentor PCB Design Tool (Mentor Librarian, Mentor Layout and Mentor Fablink) display to match by setting the MENTOR_PCB_DESIGNTOOL.

- Since AutoVue does not support multiple layer visibility association with vias, AutoVue 's display only matches Mentor Fablink's initial via display. If the visibility of "VIA_USAGE" layer is changed, AutoVue may not match Mentor Fablink's display.

Schematic Designs Back Annotated Views

Schematic designs in the Mentor Design Architect application can be displayed through *Set Viewpoint* view mode. In this mode, the schematic design contains all PCB information. Similarly, AutoVue , by default, displays schematic files in *Back Annotated Views* view mode. This is to better support cross-probing. It is recommended to switch to the back-annotated view in Mentor Design Architect.

When comparing the display in AutoVue with Mentor Design Architect, you must switch the view mode to *No Back Annotations* from the user interface in Mentor Design Architect. To do so, from the *View* menu, select *Views* to open the Select a Named View dialog. From the dialog, select *No Back Annotations.*

Compressed and Uncompressed Mentor Designs

There is no native Mentor application which can open both PCB layouts and Schematic designs (if both are present) from a compressed (for example, zipped) design. However, AutoVue can load PCB layouts and Schematic designs, if present, from a compressed design.

To load uncompressed PCB layout files, select *pcb.Mgc_pcb.attr* file from the design project. To load uncompressed schematic files, select *mgc_schematic.attr* file from the design project.

Mentor INI Option

The following are Mentor INI options. All the options should be placed under the *[ECAD]* header in the INI file

Table 5–12 Mentor INI Option in [ECAD] section

Parameter	Description	Default
MENTOR_PCB_DESIGNTOOL = [0|1|2]	Controls which Mentor PCB Design Tool's display to match. Set to **0** so that AutoVue matches the display of Mentor Librarian. Set to **1** so that AutoVue matches the display of Mentor Layout. Set to **2** so that AutoVue matches the display of Mentor Fablink.	2

5.5 NC Drill

Syntax and additional information for the options described in the following sections are in Section 5.5.2, "NC Drill INI Options".

5.5.1 NC Drill Display

This section discusses the initial, and aperture display of NC Drill formats.

5.5.1.1 Initial Display

NC Drill files are comprised of a set of coordinate data that can be interpreted in different ways based on certain settings. AutoVue provides several INI options to configure the viewing of NC Drill files to match the settings with that of the application used to generate the NC Drill files.

Following is a list of potential INI options that may need to be configured in case the display in AutoVue is incorrect:

- NCD_UNITS: Use this option to specify the units of the NC Drill data. It can be inches or millimeters.
- NCD_TRAILINGZEROSOMITTED: Use this option to indicate the coordinate data format. It can be trailing zeros omitted, leading zeros omitted, all digit present or explicit decimal point format
- NCD_COMMENTSYMBOL: Use this to indicate what character is used to begin a comment line. Any line beginning with this character will be ignored.
- NCD_INCREMENTALMODE: Use this option to indicate if the NC Drill commands are given in incremental mode (current location is based on the previous location) or absolute mode (current location is given as is).
- NCD_NUMDIGITS: Use this option to determine how many numbers comprise the whole portion of a value.

- NCD_NUMDECIMALS: Use this option to determine how many numbers comprise the decimal portion of a value.

5.5.1.2 Aperture Display

AutoVue provides options to configure the aperture (tool) settings if the drill hole display is incorrect, The following is a list of potential options that may need to be configured to get the correct drill hole display.

- NCD_TOOLFILEPATH: Use this option to provide a relative or absolute file system path of the tool file. The tool file defines the different apertures (name, shape, sizes) used in a NC Drill file.
- NCD_APERTURE_FORMAT_FILEPATH: Use this option to provide the relative or absolute file path of the aperture format file. AutoVue reads this file to determine how different tools are defined in the tool file.

5.5.2 NC Drill INI Options

The following are NC Drill INI options. All the options should be placed under the *[ECAD]* header in the INI file.

Table 5–13 NC Drill INI Options in [ECAD] section

Parameter	Description	Default
NCD_UNITS=[1|2]	Specify units for NC-Drill files. *1* = inches *2* = millimeters	1
NCD_ TRAILINGZEROSOMITTED= [0|1|2|3]	*0* = Coordinate data is trailing zero omitted *1* = Coordinate data is leading zero omitted *2* = Coordinate data is all digits present *3* = Coordinate data is explicit decimal point	0
NCD_ COMMENTSYMBOL=[*symbol]*	Specify the comment symbol.	;
NCD_ INCREMENTALMODE=[0|1]	Set to *1* if data is in incremental mode. *0* = absolute mode *1* = incremental mode	0
NCD_NUMDIGIT=[0-6]	Specify the number of digits to determine how many numbers comprise the whole portion of a value. Enter a value between 0 and 6. Changing this value will affect the x, y coordinate.	2
NCD_NUMDECIMALS=[0-6]	Specify the number of decimals to determine how many numbers comprise the decimal portion of a value. Enter a value between 0 and 6. Changing this value will affect the x, y coordinate.	4
NCD_APERTURE_FORMAT_ FILEPATH=[*file path]*	Complete path for Aperture format file. This file provides information on how to read the tool file	
NCD_TOOLFILEPATH=[*file path]*	Complete path for Tool file.	

5.6 OrCAD Capture

This section discusses what AutoVue does not support in terms of OrCAD Capture’s schematic designs and bookmarks.

5.6.1 OrCAD Capture Display

AutoVue does not support freezing of the reference grid in OrCAD schematic designs. When a schematic design's title block is larger than the drawing's frame/grid, some information in the title may be omitted when viewing in AutoVue .

5.6.2 Bookmarks

For OrCAD Capture 16.5 and up files, AutoVue bookmarks tree does not match with OrCAD Capture's hierarchy view. AutoVue only lists the bookmarks whereas OrCAD Capture lists all components on a page, including net groups and hierarchy blocks.

5.7 GDSII Format

This section discusses the boundary and box entities in the GDSII files.

AutoVue provides an option to fill up the closed boundary and box entities in the GDSII files.

Table 5–14 GDS Files Format INI Option

Parameter	Description	Default
GDS_FILLING	Specify if you want to fill up the closed boundary and box entities in the GDSII files. The possible value could be as follows: ▫ 1 - turn ON filling for all closed Boundary and Box entities in the GDSII files. ▫ 0 - turn OFF filling to all closed Boundary and Box entities in the GDSII files. **Note**: Turn OFF filling if you notice rendering performance of GDSII files in AutoVue.	0

6

Viewing Configuration for Raster Formats

This chapter describes the INI options and provides useful hints when working with Raster formats in AutoVue .

The Section 6.1, "General Raster Configuration" describes options that apply to all Raster formats. Other sections provide information on specific file formats.

6.1 General Raster Configuration

The following configuration options generally apply to raster formats and to raster formats which are embedded in other formats. For example, if an AutoCAD drawing contains a TIFF image, setting the options below would impact the display of the TIFF image within the AutoCAD drawing.

6.1.1 General Raster Display

Syntax and additional information for the options described are in Section 6.1.2, "General Raster Display-Related INI Options".

- You can specify a brightness when viewing raster formats by setting the INI option BRIGHTNESS. This option only has an impact on non-monochrome raster formats.
- You can choose whether or not to invert a raster drawing display by setting the INVERT INI option. When you invert a drawing, the colors of the foreground and the background are reversed. This option can also be configured from the AutoVue user interface from the **Manipulate** > **Visual Effects** > **Invert** menu item.
- You can set the DIBTRUECOLOR INI option to force the display of 4-bit and 8-bit raster images on a 24-bit pixmap.
- When you load raster files, you can configure whether the files should display at full resolution or at fit to page on first load. You can control this by setting the RASTERFIT INI option. You can also set this from the AutoVue user interface from the **Full Resolution/Fit to screen** radio buttons from the **General** pane of the **Configure** dialog.
- When FORCETOBLACK option is on, you can set RASNOFORCETOBLACK option so that raster files or embedded rasters in other drawings are not forced to grayscale.
- Aliasing is the distortion of a continuous line due to the nature of screen display, which relies on a matrix of pixels. Anti-aliasing visually corrects this by introducing additional colored pixels to give the impression of a continuous line or curve. To enable or disable anti-aliasing, you can set INI option ANTIALIAS. If you disable anti-aliasing, it degrades the quality of the display. This option can also be controlled from the AutoVue user interface by selecting **Manipulate**, **Visual Effects**, and then **Anti-Alias**. Anti-aliasing affects image display when an image is down scale, text and geometry.

6.1.2 General Raster Display-Related INI Options

Options listed here should be placed under the **[OPTIONS]** header of the INI file:

Table 6–1 General Raster Display-Related INI Options in [OPTIONS] section

Parameter	Description	Default
BRIGHTNESS = <(-100)-100>	Specify the brightness value for the current control (this only affects non-monochrome raster formats and vectors overlaying them). Value can be an integer between **-100** (black display) and **100** (white display).	0
CONTRAST =<0-100>	Applies contrast to raster images. The value can range from **0** (low contrast) to **100** (high contrast).	0
INVERT = [0|1]	If **1**, monochrome raster images are displayed inverted.	0
DIBTRUECOLOR = [0|1]	Set to **1** to force rendering of 4-bit and 8-bit raster images on a 24-bit pixmap.	0
RASTERFIT = [0|1]	Set to **1** to fit the initial display of raster images to the screen. Set to **0** so that the full resolution is shown.	1
RASNOFORCETOBLACK = [0|1]	Set to **1** to disable Force to Black for raster overlays and raster files. **Note**: Option is applicable only when **FORCETOBLACK = 1**.	0

6.2 BMP

6.2.1 BMP Display

- You can specify whether or not to use the alpha-channel stored in the raster file to apply transparency by setting the INI option APPLYRASTERTRANSPARENCY.

6.2.2 BMP INI Option

The option provided in Table 6–2 should be placed under the **[OPTIONS]** header in the INI file.

Table 6–2 BMP INI Option in [OPTIONS] section

Parameter	Description	Default
APPLYRASTERTRANSPARENCY=[0|1]	Set to **0** to ignore alpha-channel and display the whole bitmap opaque. Set to **1** to use the alpha-channel stored in the file to apply transparency.	1

6.3 TIFF

This section discusses the performance-related, and display INI options of TIFF formats.

6.3.1 TIFF Display

Syntax and additional information for the options described are in Section 6.3.3, "TIFF INI Options".

- When loading or printing TIFF files containing zero pixel white entities on a black background, you can set the TIFF_ZERO_PIXEL INI option to white. This will force the background color to be white and the drawing to be black. Similarly, setting option to black will force a white background to black and black entities to white.
- When overlaying TIFF files, you can control the transparency of the files by setting the OVERLAYALPHAVALUE INI option.

6.3.2 TIFF Performance-Related Options

Syntax and additional information for the options described are in Section 6.3.3, "TIFF INI Options".

- AutoVue provides INI option TIFF_LOADPREVIEWS to allow you to choose whether or not to load preview pages for TIFF files. Enabling this option (setting to 1) impacts performance since extra pages may be displayed.

> **Note:** Enabling this option may invalidate previous markups as different number pages may be created.

6.3.3 TIFF INI Options

All options in table below should be placed under the *[OPTIONS]* header in the INI file.

Table 6–3 TIFF INI Options

Parameter	Description	Default
TIFF_ZERO_PIXEL = [BLACK | WHITE | FILE]	Specify how pixel values are interpreted in black and white TIFF files. Set to **BLACK** to force zero pixels to display black. Set to **WHITE** to force zero pixels to display white. Set to **FILE** to force zero pixels to display as the pixel color specified in the file. **Note**: This only applies to black and white TIFF images.	FILE
TIFF_ LOADPREVIEWS = [0|1]	Specifies if the TIFF images with reduced resolution (that is, preview pages) are displayed. Set to **1** to display all pages including the preview pages. Set to **0** so that the preview pages are not displayed.	0
OVERLAYALPHAVALUE = [0|1]	Controls transparency of overlaid tiff files. Set to **1** so that the overlay is opaque. Set to **0** so that the overlay is transparent.	0.5

6.4 JPEG

This section discusses the performance-related, and display INI options of JPEG formats.

6.4.1 JPEG Performance-Related Option

Syntax and additional information for the option described is in Section 6.4.2, "JPEG INI Option".

- AutoVue by default uses true colors when loading an image, which increases loading time of the image. For quicker display, set JPGQUANTIZE option to 1.

6.4.2 JPEG INI Option

The option in Table 6–4 should be placed under the [OPTIONS] header in the INI file.

Table 6–4 JPEG INI Option in [OPTIONS] section

Parameter	Description	Default
JPGQUANTIZE = [0|1]	Quantizes JPEG images to 256 colors for quicker display. Quantizing images affects quality of the color display. Set to **1** to quantize images. Set to **0** to use true colors.	0

6.5 JPEG2000

Syntax and additional information for the option described is in section Section 6.5.2, "JPEG 2000 INI Option".

6.5.1 JPEG 2000 Performance-Related Option

- AutoVue provides INI option J2KRESOLUTION that lets you control speed versus accuracy for JPEG 2000 files. When set to HIGH, AutoVue displays JPEG2000 files with a high resolution, but decreased performance. When set to a factor, AutoVue increases or decreases the resolution by the factor.

6.5.2 JPEG 2000 INI Option

The option in table below should be placed under the [OPTIONS] header in the INI file.

Table 6–5 JPEG 2000 INI Option in [OPTIONS] section

Parameter	Description	Default
J2KRESOLUTION= [DYNAMIC | HIGH | MEDIUM | LOW | +num | - num]	Set to HIGH to display with a high resolution. This could cause a decrease in performance. Other values: **LOW**, **MEDIUM**, and **DYNAMIC**. You can also set J2KRESOLUTION values to +num or -num, where num is a number between 1 and 100. Setting the value to +num gives the same result as DYNAMIC but increases the resolution by a factor of num where num is a value from 1 to 100 (up to the maximum possible resolution of the image). Note that this will decrease performance. Setting to -num gives the same result as DYNAMIC but decreases the resolution by a factor of num where num is a value from 1 to 100 (down to the lowest possible resolution of the image). Note that this will increase performance.	DYNAMIC

7

Viewing Configuration for Office Formats

This chapter describes the INI options and provides useful hints when working with Office formats in AutoVue.

Note: If you would like to re-enable markup creation for Office formats, we recommend that you ensure that all machines viewing the files have the same set of fonts installed.

7.1 General Office Option

- You can choose whether or not to enable creation of markup for office documents by setting the ENABLEOFFICEMARKUPS INI option. This option impacts Microsoft Word, Microsoft Excel, RTF, and TXT formats.

Office formats render differently on different machines if the fonts on the machines vary. Due to differences in fonts, documents may have line breaks and page breaks that vary from one machine to another. This could result in a situation where markup entities appear misplaced with respect to underlying text in documents. If you are using a AutoVue Server farm, we recommend that you make sure all machines have the same fonts installed.

7.1.1 General Office INI Option

The following option should be placed in the [OPTIONS] header of the INI file:

Table 7–1 General Office INI Option in [OPTIONS] section

Parameter	Description	Default
ENABLEOFFICEMARKUPS = [0|1]	Enable/disable creation of markups for office documents. Set to **1** to enable markups for office formats. Set to **0** to disable markups for office formats.	The value is: - 0 for Desktop Deployment - 1 for CS Deployment

7.2 Microsoft Excel

Syntax and additional information for the options described in the following sections are in Section 7.2.5, "Microsoft Excel INI Option".

7.2.1 Microsoft Excel Fonts

- If you are comparing how AutoVue displays an Excel file to how Excel displays it, ensure that they both have access to the same font resources. If using the Client-Server Deployment of AutoVue, the fonts need to be accessible to the AutoVue server.
- If fonts are missing, Microsoft Excel substitutes missing fonts with alternative fonts. AutoVue also substitutes missing fonts with alternative fonts. However AutoVue does not always do the same substitution as Microsoft Excel. As a result, the display in AutoVue could be different from Microsoft Excel's display. It is recommended that you resolve any missing resources to ensure that the AutoVue's display closely matches Microsoft Excel's display.
- Microsoft Excel has a special font called *Small Fonts* which ships with Microsoft Excel. When a font is set to a point size of 7, Microsoft Excel automatically switches the font to Small Fonts. The *USESMALLFONTSFOREXCELSMALLTEXT* INI option enables the same behavior in AutoVue . However, AutoVue does this substitution only for text in cells. This substitution is not done for text in Text Boxes. It is also not reported as a missing resource since this is a dynamic font substitution done on the fly depending on the zoom level. For more information about this option, refer to the Section 7.2.5, "Microsoft Excel INI Option".

7.2.2 Microsoft Excel General

- AutoVue disables the Rotate features for Excel documents since these features are not very useful for these documents.
- When viewing Excel files that contain review comments overlaid on top of text, it is not possible to reposition the comments in AutoVue to view the hidden text. It is recommended to do one of the following when saving the Excel files in the native application:
  - Hide the comments. These comments can still be read in AutoVue by hovering the mouse cursor over them.
  - Ensure comments are visible all the time and reposition them so that they do not obscure any text.
- AutoVue only displays the Normal View of Excel spreadsheets. Page Layout and custom views are not supported.

7.2.3 Microsoft Excel Printing Options

AutoVue supports Excel's print settings that are saved in the document. You can set INI option USEFILESETTINGS to enable AutoVue to print using the print settings saved in the Excel document. You can also enable this from the AutoVue user interface from the **Native Settings** (from file) check box in AutoVue 's **Print** dialog.

For additional information on excel native print settings, refer to Section 9.4.1, "Excel Print INI Options".

7.2.4 Microsoft Excel Streaming Files

Streaming files are not generated for Microsoft Excel files.

7.2.5 Microsoft Excel INI Option

The following is an Excel INI option that should be placed under the *[OPTIONS]* header in the INI file:

Table 7–2 Microsoft Excel INI Options in [OPTIONS] section

Parameter	Description	Default
USESMALLFONTSFOR EXCELSMALLTEXT = [0|1]	Set to **1** so that the Excel Small Fonts font is used to display text at small fonts sizes of 7 points or less (matching Excel behavior). Set to **0** so that the Small Fonts font is not used. This parameter has effect only if the Small Fonts font is installed on the system.	0
EXCELDISABLEREFOR MATONZOOM = [0|1]	Ensures markup entities that are associated with specific lines of text in Excel are positioned correctly when zoom levels are changed. Set to 1 to disable AutoVue reformatting of the multi-line text within a cell of an Excel sheet when changing the zoom level. This feature is necessary when the Excel file has associated markups. Set to 0 to allow AutoVue to reformat the multi-line text within the cell of an Excel sheet cell text when changing the zoom level. This is the default behaviour, set to match that of Microsoft Excel.	0

7.3 Adobe PDF

Syntax and additional information for the options described in the following sections are in Section 7.3.5, "Adobe PDF INI Options".

Note: While saving the Adobe Illustrator files, select the check box **Create PDF Compatible File**, the Adobe Illustrator files can be opened in AutoVue .

7.3.1 Adobe PDF Fonts

AutoVue supports TrueType fonts, Type1 fonts (including multiple master fonts), Type3 fonts and CID fonts. All fonts could be embedded or non-embedded.

- When viewing Adobe PDF files, it is recommended to use Adobe PDF fonts for complete and correct display.

7.3.2 Adobe PDF Font Substitution

AutoVue allows you to specify font substitution for fonts used by PDF documents. This font mapping information is stored in *pdffont.map* located at <AutoVue Installation directory>\bin\resourcemaps. If you want to use a font that is not part of AutoVue to match the PDF's font mapping information, then update the pdffont.map with the required font mapping.

The pdffont.map file contains three sections: Standard 14 Fonts, Specific Mapping and Adobe Fonts.

- Standard 14 Fonts

  Adobe PDF files have a special handling for fourteen standard fonts. The fonts are listed in the Standard 14 Fonts section of *pdffont.map* file along with a mapping to the Windows font face names. Note that this section takes precedence to all other sections and should not be edited. The following is an example of some typical entries in this section:

```
[Standard 14 Fonts]
Times-Roman=Times New Roman
```

```
Times-Bold=Times New Roman Bold
```

In this example, AutoVue uses the Windows font Times New Roman to display Adobe PDF text in Times Roman.

- Specific Mapping

  If a font is not from the 14 standard font families, then you can specify a mapping for them in this section. Unicode font names can also be specified.

  Syntax to add new entries to this section is:

  OriginalFont=FontSubstitution

  Following is an example of some typical entries in this section:

  ```
  [Specific Mapping]
  ARH=Arphic Gyokailenmentai Heavy JIS
  ```

- Adobe Fonts

  If Adobe fonts are installed on your machine, then AutoVue uses these fonts (specified by the mapping in the Adobe Fonts section of the *pdffont.map* file) to display Adobe PDF files.

  Following is an example of some typical entries in this section:

  ```
  [Adobe Fonts]
  Adobe Sans MM=ZX_____.PFB
  Adobe Serif MM=ZY_____.PFB
  ```

7.3.3 Adobe PDF Display

AutoVue provides additional INI options that perform the many of the same functions as Adobe Acrobat's options.

Custom Resolution

Adobe Acrobat provides an option to specify the zoom level at which to display Adobe PDF files through *Preferences* > *Page Display* > *Resolution*. Similarly, AutoVue provides the PDFCUSTOMRESOLUTION INI option that should be set to the same value as in Adobe Acrobat. If you zoom to Full resolution, you see the same display as in Adobe. Note that this setting does not affect the initial display of PDF files.

Adobe PDF Password-Protected Files

AutoVue supports loading of password-protected PDF files. AutoVue prompts for authentication information when a password-protected file is loaded.

To stop AutoVue from asking for a password, click the **Cancel** button in the pop-up dialog that appears asking for password.

7.3.4 Adobe PDF Performance-Related Options

AutoVue provides several INI options for Adobe PDF files that can help you choose between speed vs. memory or speed vs. accuracy. This section describes the options available for performance tuning of Adobe PDF format. For more information about the options described in this section, refer to Section 7.3.5, "Adobe PDF INI Options".

Note: PDF rendering is now done client-side. As a result, operations on the file (for example, text search) are much quicker as the client does not have to communicate with the server. Additionally, server resources are now free to handle other requests.

- Adobe Acrobat provides an option to enhance thick lines. This option is useful when lines start to disappear in the display when zoomed out. AutoVue provides a similar behavior by providing the INI option PDFENHANCELINES, with which you can enable or disable enhancement of line display.
- Adobe PDF files containing large images take longer to load compared to those containing small images. You can specify the maximum amount of memory, in MegaBytes, you would like to allocate to load the large images before they are scaled down by setting the PDFMAXIMAGESIZEMB INI option. Note that the images display may not be as accurate as if they were loaded without scaling them down.
- At small zoom levels, Adobe PDF text can be displayed in AutoVue using font paths or using bitmaps. Using font paths ensures better quality display at small zoom levels however file rendering may become slower.
- When vector geometry in PDF files are under one pixel width, entities may not display until you zoom in. To make sure these thin entities display, AutoVue provides INI option ENHANCETHINLINES.
- When viewing a PDF file that contains overprinted fills that obscure content, you can choose whether to hide or display the fills by setting the PDFOVERPRINTPREVIEW INI option.

7.3.5 Adobe PDF INI Options

The following are Adobe PDF INI options. All the options should be placed under the *[OPTIONS]* header in the INI file.

Table 7–3 Adobe PDF INI Options in [OPTIONS] section

Parameter	Description	Default
PDFENHANCELINES=[0|1]	If set to **1**, this option results in enhanced line display similar to the Adobe Acrobat option Enhance Thin Lines. This option is useful for cases when lines start to disappear in the application display when zooming out. If set to **0**, this option is disabled and the line display is not enhanced.	0
PDFMAXIMAGESIZEMB = [*val*]	Allows users to set the maximum image size (in Mbytes) of large bitmaps in PDF files after which the PDF decoder starts reducing resolution to reduce memory use.	150
PDFCUSTOMRESOLUTION = *[val]*	When viewing PDF documents, specify a resolution at which to display the documents. This corresponds to Adobe's resolution setting (Preferences > Page Display > Resolution). This resolution setting determines the zoom level at which AutoVue displays PDF documents (same behavior as Adobe). val can be any value between 10 and 4800. When val is <=0, use system screen resolution.	110

Table 7–3 (Cont.) Adobe PDF INI Options in [OPTIONS] section

Parameter	Description	Default
ENHANCETHINLINES =[0|1]	Set to **1** to render all geometry that have under one pixel thickness to a thickness of 1 pixel. Set to **0** to disable this option.	1
PDFOVERPRINTPREVIEW = [0|1]	Displays content that otherwise may be obscured by overprinted fills. Set to **1** to draw all the entities in Overprint preview mode except for entities represented using Separation color space. Such entities are not displayed at all. Set to **0** to display all the entities ie the overprinted content in Overprint Preview mode.	0

7.4 Microsoft Word

Syntax and additional information for the options described in the following sections are in Section 7.4.7, "Microsoft Word INI Options".

7.4.1 Microsoft Word Display

AutoVue displays Word documents as Microsoft Word would print them. If you see a discrepancy in display between AutoVue and Word, it is probably because you are comparing Word's normal display to AutoVue . You should compare AutoVue display to how the document displays in Microsoft Word's print preview mode.

Since AutoVue displays as in Word's print preview mode, grid lines (for example, table borders) do not display. To display the grids, use the DOC_SHOWTABLEGRIDLINES INI option.

AutoVue displays Word documents as Microsoft Word's Final version, If you see a discrepancy in display between Word and AutoVue , it may be because you are comparing Word's Final Showing Markup display to AutoVue . You should compare the AutoVue display to how the document displays in Word's Final review mode.

For more information about display related INI options, see Section 7.4.7, "Microsoft Word INI Options".

7.4.2 Microsoft Word Streaming Files

Some Microsoft Word files contain *fields* which are used to insert dynamic text into a document. For example, field text can be used to save dates and times, equations used for entering formulas and so on. AutoVue treats Microsoft Word files containing Date and Time field differently in that it does not create streaming files for these. This is because the information for the date and time shown in the Word file should be the current one and not a stored value.

7.4.3 Microsoft Word Comparing Documents

When comparing how a Word document displays in AutoVue and how it displays in Microsoft Word, it is recommended to use the same version of Microsoft Word application as the document's version.

7.4.4 Microsoft Word Display Issues

The Word document format is not a page description format. Specifically, the document itself does not indicate where on each page a particular piece of content will appear. This can be observed by the fact that the same document may display differently in Microsoft Word (depending on the version of Word used and the configuration of the system in use).

AutoVue strives to accurately render all of the content of the original Word document, and generally provides high fidelity displays for Word documents. However, due to slight differences in text height and width calculations, it cannot be guaranteed that the display is identical to any particular version of Microsoft Word (both page and line breaks may occur in different locations).

- When page or line breaks are explicitly inserted in the Word document, AutoVue displays the breaks correctly. However, if a paragraph text extends to the next page automatically, the break display in AutoVue may appear different from that in Word.

7.4.5 Microsoft Word Fonts

AutoVue provides several ways to resolve font issues in Microsoft Word files to achieve accurate display.

Microsoft Word Font Substitution

When a font required to correctly display a Word document is missing, AutoVue substitutes missing fonts with different fonts. This substitution (or font mapping information) is stored in the file *docfont.map* located at *<AutoVue Installation directory>\bin*\fonts. Microsoft Word also substitutes missing fonts with alternative fonts. If you want to match AutoVue 's font substitution with Microsoft Word's font substitution, update docfont.map.

The docfont.map contains one main section: FONT MAPPING. It also contains additional sections for custom font substitution specific to character sub range, FONT MAPPING: <CHARACTER SUB RANGE>.

FONTMAPPING Section

In this section you can specify a font mapping of a font in its entire supported character range. For example, Arial Unicode MS can be substituted by Arial for ASCII characters as shown in the following entry:

```
[Font Mapping]
Arial Unicode MS=Arial
```

Custom Font Mapping Section

Additional sections can be created to customize font substitution specific to the language or fonts character sub range. The header of this section would be of the form [FONTMAPPING:<CHARACTER SUB RANGE>] where CHARACTER SUB RANGE can be one of the following:

- Symbol
- Chinese Simplified
- Chinese Traditional
- Korean
- Japanese
- Russian
- Hebrew

- Arabic
- Greek
- Baltic
- East European
- Turkish
- Thai

For example, to substitute Arial Unicode MS by SimSun for Chinese characters, create section [FONTMAPPING:CHINESE SIMPLIFIED] and specify the font mapping.

```
[Font Mapping:Chinese Simplified]
Arial Unicode MS=SimSun
```

Refer to the guidelines provided in the docfont.map, for more information on updating the font mapping.

If you choose to use your own font map file, you must set the CUSTOMDOCFONTSUBSTITUTION INI option to point to the full path of your font map file.

AutoVue also provides the CUSTOMDOCFONTSUBSTITUTION INI option with which you can point to a font map file whose name and location differ from the one above.

Refer to Section 7.4.7, "Microsoft Word INI Options" for more information on these font related options.

7.4.6 Microsoft Word Markups

When adding markups to Word files in AutoVue , it is recommended to create markup entities within the page frame/extents. This is to ensure that all markups are present when the Word document is printed or converted to other formats.

7.4.7 Microsoft Word INI Options

The following are Microsoft Word INI options. All the options should be placed under the *[OPTIONS]* header in the INI file.

Table 7–4 Microsoft Word INI Options in [OPTIONS] section

Parameter	Description	Default
CUSTOMDOCFONTSUBSTITUTION=[*file path*]	Specify the path of the custom font mapping file (docfont.map) to use for word documents. The docfont.map contains font mapping information that identifies what font to use if a font is missing. If you wish to modify font mappings, update docfont.map	<AutoVue installation directory>\bin\fonts
DOC_SHOWTABLEGRIDLINES = [0|1]	Turn table grid lines on and off. Set to *1* to display the table gridlines. Set to *0* to hide the table gridlines. Unlike cell borders, gridlines never print.	0

7.5 Text Documents

There are several options available to configure how text documents should display in AutoVue.

7.5.1 Text Documents Fonts

You can configure the default font to use when loading text documents. There are several INI options available for font configuration for text files. These are described in the Text Documents Fonts INI section below.

This font configuration can also be done from the AutoVue user interface from the **General - Base Font** panel of the **Configure** dialog.

7.5.2 Text Documents Codepage

To correctly display Text files that contain non-English text, you can set INI option CODEPAGE to match the language in the file. When the CODEPAGE option is set to the right value, AutoVue displays text corresponding to the CODEPAGE correctly.

For example, to display Japanese text in TEXT files, you will need to set CODEPAGE to 932.

For a full list of values, refer to the following Web sites:
https://docs.microsoft.com/en-us/windows/desktop/intl/code-page-identifiers

http://en.wikipedia.org/wiki/Code_page

7.5.3 Text Documents Page Configuration

- You can specify a page size for Text documents using the DEFAULTDOCPAGESIZE INI option.
- You can set the maximum number of pages to load for Text files using the MAXPLAINTEXTPAGES INI option. Setting this to a lower value could help improve performance.
- You can specify page margins in inches for plain Text files by using the DEFAULTDOCMARGINS INI option. Setting this option affects loading time of the Text file.

7.5.4 Text Documents Font INI options

Specify base font to be used for Text files. All options should be placed under the [BASEFONT] section of the INI file.

Table 7–5 Text Document Font INI Options in [BASEFONT] section

Parameter	Description	Default
FACE=[*font style]*	Specify font style.	Arial
ISITALIC=[0|1]	Specify if font is italic.	0
SIZE = [num]	Specify font height.	13
WEIGHT = [num]	Specify font weight.	400
ISSTRIKEOUT = [0|1]	Specify if you want to strike out the text.	0
ISUNDERLINE = [0|1]	Specify if you want to underline the text.	0

Options below should be placed under the [OPTIONS] section of the INI file.

Table 7–6 Text Document Font in [Options] section

Parameter	Description	Default
CODEPAGE =[num]	Forces text display of a specific language. Specifies the codepage to use for TXT files. For example, set *CODEPAGE = 932* to display Japanese text in TXT files. For a full lists of values, refer to the following Web sites: ▪ Code Page Identifiers ▪ http://en.wikipedia.org/wiki/Code_page **Note**: This option also affects HPGL files.	
DEFAULTDOCMARGINS=[leftMargin, rightMargin, topMargin, bottomMargin]	Specify page margins in inches for plain Text files. If this option is not set, a default of 1 inch for each margin is set. *Sample Syntax:* DEFAULTDOCMARGINS=1.2, 1, 0.8, 0.8 Margin values are in inches (") and can be expressed in integers or floating point.	1, 1, 1, 1
MAXPLAINTEXTPAGES = [num]	Sets the maximum number of plain pages to be loaded to help improve performance. The option only affects unformatted text; other types of documents (Word and RTF) are not affected. Setting the option value to 0 or less results in the entire file loading.	100
DEFAULTDOCPAGESIZE=[*height, width*]	Specify the page size in inches that AutoVue should use in order to properly display text files. *Example*: DefaultDocPageSize = 11.0,8.5 will force AutoVue to display text files at a page size of 11x8.5 inches.	

8

Configuration for Markups

AutoVue provides several configuration options for markups. Many of these options can be configured from the AutoVue user interface.

8.1 Markup Entity Attributes

AutoVue provides you options to configure the default markup entity color, fill color and type, linestyle, line weights, and so on. Syntax and additional information for the options described are in Section 8.1.1, "Markup Entity Attributes INI Options".

- INI option DEF_COLOR lets you specify the default color for markup entities. You can specify if the markup entity should have the color of the markup layer or if you want a fill color to be the same color as the line color or you can specify a custom RGB color. This option can also be configured from the AutoVue user interface. To do so, from the **Markup** menu, select **Format**, and then select **Markup Entity Attributes** to open the **Markup Entity Properties** dialog. Make a selection from the **Line Color** list.
- You can specify the default line style for markup entities using the DEF_LSTYLE option. This option can also be configured from the AutoVue user interface. To do so, from the **Markup** menu, select **Format**, and then select **Markup Entity Attributes** to open the **Markup Entity Properties** dialog. Make a selection from the **Line Style** list.
- You can specify the default line width for markup entities using the DEF_LWIDTH INI option. This option can also be configured from the AutoVue user interface. To do so, from the **Markup** menu, select **Format**, and then select **Markup Entity Attributes** to open the **Markup Entity Properties** dialog. Make a selection from the **Line Thickness** list.
- You can specify the default fill type for markup entities using the DEF_FILLTYPE INI option. You can specify if the markup entity should have the color of the markup layer or if you want a fill color to be the same color as the line or you can specify a custom RGB color. This option can also be configured from the AutoVue user interface. To do so, from the **Markup** menu, select **Format**, and then select **Markup Entity Attributes** to open the **Markup Entity Properties** dialog. Make a selection from the **Fill Type** list.
- You can specify a windows RGB color as the default fill color by setting the DEF_ FILLCOLOR INI option. This option can also be configured from the AutoVue user interface. To do so, from the **Markup** menu, select **Format**, and then select **Markup Entity Attributes** to open the **Markup Entity Properties** dialog. Make a selection from the **Fill Color** list.
- You can specify the alignment position for a Leader entity by setting the DEF_ LEADERALIGN INI option. This option can also be configured from the AutoVue user interface. To do so, from the **Markup** menu, select **Format**, and then select **Markup Entity Attributes** to open the **Markup Entity Properties** dialog. Make a selection from the **Leader Alignment** list.

- You can choose whether or not to have the markup entity line thickness scale according to the zoom level by setting the LINETHICKNESS_ZOOMABLE INI option.
- You can choose whether to turn on or off the visibility of the markup text box by setting the DEF_TEXTBOXVISIBLE INI option. This option can also be configured from the AutoVue user interface. To do so, from the **Markup** menu, select **Format**, and then select **Markup Entity Attributes** to open the **Markup Entity Properties** dialog. Make a selection from the **Text Box Visibility** list.
- When creating Leader entities and when making markup measurements, you can specify whether to create zoomable arrow heads for the lines. This is done by setting the ARROW_SIZE INI option. This option can also be configured from the AutoVue user interface. To do so, from the **Markup** menu, select **Format**, and then select **Markup Entity Attributes** to open the **Markup Entity Properties** dialog. Make a selection from the **Arrow Style** list.
- When a highlight markup is applied on a color background, you can choose to have it appear normally or dithered by setting the TRUEBACKGROUND INI option.
- When you create markup entities that have the same color as the background color, you can choose to invert the color of the entity. You can do so by setting the TRUECOLOR INI option.
- You can choose whether or not to maintain the markup entity line style at all zoom levels by setting the LINESTYLE_ZOOMABLE INI option.
- When you create Note entities, you can choose whether or not to include automatic number of the entities. This is done by setting the NOTENAME_AUTOGEN INI option.
- When you copy and paste a markup entity between AutoVue Windows, a shift in scale and markup entity display may occur. You can control whether or not to preserve the scale of the markup entity when copying and pasting between AutoVue Windows by setting the PRESERVESCALEONCOPY INI option.
- When Force To Black is enabled, you can specify whether or not this Force to Black setting should apply to markup entities by setting the MARKUPFORCETOBLACK INI option in the [Disable] section of the INI file.

8.1.1 Markup Entity Attributes INI Options

All of the following options should be placed in the [MARKUP OPTIONS] header of the INI file:

Table 8–1 Markup Entity Attributes Options in [MARKUP OPTIONS] section

Parameter	Description	Default
DEF_COLOR=	Specifies a windows RGB color for default markup entity color. Other values: **-1** - Assign layer color to markup entity **-2** - Hide markup entity	-1

Table 8–1 (Cont.) Markup Entity Attributes Options in [MARKUP OPTIONS] section

Parameter	Description	Default
DEF_LSTYLE=[0,7]	Specifies the default linestyle for markup entities. Possible values are: **0** - Solid line **1** - Dashed line **2** - Dashed line (smaller dashes) **3** - Dash Dot **4** - Dash Dot Dot **6** - Cloud linestyle **7** - Triangle linestyle	0
DEF_LWIDTH=[num]	Specifies the default line width in pixels for markup entities.	1
DEF_FILLTYPE=[0,2]	Specifies the fill type for filled entities. Possible values are: **0** - No Fill **1** - Solid Fill **2** - Transparent Fill	0
DEF_FILLCOLOR=[-1,-2,-3]	Specifies a windows RGB color for default fill color. Other values: **-1** - Assign layer color to markup entity **-2** - Hide markup entity **-3** - Assign line color (option applies to fill color only)	-1
DEF_LEADERALIGN=*integer value*	Specifies the leader alignment. Set the option to one of the following nine values: **0** - top left **1** - top center **2** - top right **3** - center left **4** - center center **5** - center right **6** - bottom left **7** - bottom center **8** - bottom right	7
DEF_TEXTBOXVISIBLE=[0|1]	Set to **1** to turn on the visibility of the markup text box. Set to **0** to turn off the visibility of the markup text box.	1
ARROW_SIZE= [value]	Set to a positive value (greater than 0.1) to create zoomable arrow heads when creating leader and measurement markup entities. If set to a negative value, arrow head is not zoomable.	-7.2

Table 8–1 (Cont.) Markup Entity Attributes Options in [MARKUP OPTIONS] section

Parameter	Description	Default
TRUEBACKGROUND=[0|1]	Used when a highlight markup is applied on a colored background (for example, graphic/filled cell areas in office document tables). Set to ***1*** for a dithered highlight markup. Set to **0** for a normal highlight markup.	0
TRUECOLOR = [0|1]	Set to **0** so that the Markup entity color is inverted when it matches the background color. Set to **1** so that all entities are drawn with their actual color irrespective of the background color. Entities whose color matches or is close to the background color become invisible.	1
LINETHICKNESS_ZOOMABLE = [0|1]	Set to **1** if you want markup entity line thickness to scale according to zoom level. Set to **0** if you do not want the markup entity line thickness to scale according to zoom level.	0
LINESTYLE_ZOOMABLE = [0|1]	Set to **1** if you want to maintain markup entity line style at all zoom levels. Set to **0** if you do not want to maintain markup entity line style at all zoom levels.	0
NOTENAME_AUTOGEN = [0|1]	Set to **0** to disable automatic numbering of Note entities. Set to **1** to enable automatic numbering of Note entities.	1
PRESERVESCALEONCOPY=[0|1]	Set to **1** to preserve markup entity scale on copy and paste. Set to **0** to disable preservation of markup entity scale on copy and paste.	0

Below option should be placed in the [DISABLE] section of the INI file.

Table 8–2 Markup Entities INI Option in [DISABLE] section

Parameter	Description	Default
MARKUPFORCETOBLACK = [0|1]	Prevents the markups from being forced to black when the base file is printed using the Force to Black menu option. Set to **1** so that markup color is not forced to black (even when base file printing is forced to black). Set to **0** to use the same logic as for the base file color.	0

8.2 Attachments

Syntax and additional information for the option described are in Section 8.2.1, "Attachment INI Option".

- You can control the maximum size for an attachment markup entity by setting the ATTACHMENT_MAX_SIZE INI option.

8.2.1 Attachment INI Option

The following option should be placed in the **[MARKUP OPTIONS]** header of the INI file:

Table 8–3 Attachment INI Option in [MARKUP OPTIONS] section

Parameter	Description	Default
ATTACHMENT_ MAX_SIZE=[*value*]	Specify the maximum size in MegaBytes for attachment markup entities. When creating attachment markup entities, if attachment size exceeds the limits, an error message appears to indicate that attachment size exceeds the limit.	0 (no limit)

8.3 Markup Fonts

Syntax and additional information for the options described are in Section 8.3.1, "Markup Fonts INI Options".

- You can set the text entity font name by specifying the FACE INI option. This option can also be set from the AutoVue user interface. To do so, from the **Markup** menu, select **Format** and then **Font**. From the **Font** dialog that appears, make a selection from the **Font** list.
- You can set the text entity font size by specifying the SIZE INI option. This option can also be set from the AutoVue user interface. To do so, from the **Markup** menu, select **Format** and then **Font**. From the **Font** dialog that appears, make a selection from the **Size** list.
- You can choose whether or not to have the text entity appear in bold by setting the ISBOLD INI option. This option can also be set from the AutoVue user interface. To do so, from the **Markup** menu, select **Format** and then **Font**. From the **Font** dialog that appears, select **Bold**.
- You can choose whether or not the text entity should be underlined by setting the ISUNDERLINE INI option. This option can also be set from the AutoVue user interface. To do so, from the **Markup** menu, select **Format** and then **Font**. From the **Font** dialog that appears, select **Underline**.
- You can choose whether or not the text entity should be italicized by setting the ISITALIC INI option. This option can also be set from the AutoVue user interface. To do so, from the **Markup** menu, select **Format** and then **Font**. From the **Font** dialog that appears, select **Italic**.

8.3.1 Markup Fonts INI Options

All of the following options should be placed in the **[MRKFONT]** header of the INI file:

Table 8–4 Markup Fonts INI Options in [MRKFONT] section

Parameter	Description	Default
FACE	Specify the text entity font name.	SansSerif
SIZE	Specify the text entity font size.	10
ISBOLD	Set to *1* so that the text entity font appears in bold.	0
ISUNDERLINE	Set to *1* so that the text entity is underlined.	0
ISITALIC	Set to *1* so that the text entity appears in italic.	0

8.4 Markup Consolidation

Syntax and additional information for the option described is in Section 8.4.1, "Markup Consolidation INI Option".

- The Consolidate option allows you to create a new Markup file that combines copies of selected layers of different Markup files. This **Open as Active Markup** option opens the newly consolidated markup as the active markup. You can choose whether or not to enable this feature by setting the CONSOLIDATE_OPENASACTIVE INI option. This option can also be set from the AutoVue user interface. To do so, from the **Markup** menu, select **Consolidate** to open the **Consolidate Markups** dialog. From the dialog, select/deselect the **Open as active markup and hide others** check box.

8.4.1 Markup Consolidation INI Option

The following option should be placed in the **[MARKUP OPTIONS]** header of the INI file:

Table 8–5 Markup Consolidation INI Option

Parameter	Description	Default
CONSOLIDATE_ OPENASACTIVE = [0|1]	Set to **1** to toggle-on "Open as Active Markup" option in **Markup Consolidation** dialog. Set to **0** to turn off this option.	1

8.5 Scaling

Syntax and additional information for the option described is in Section 8.5.1, "Scaling INI Option".

- When the orientation, as well as the width and height, of a base document has changed since creating the markup, you can scale the markup appropriately by setting the RESCALEMARKUP INI option.

8.5.1 Scaling INI Option

The following option should be placed in the [MARKUP OPTIONS] header of the INI file:

Table 8–6 Scaling INI Option in [MARKUP OPTIONS] section

Parameter	Description	Default
RESCALEMARKUP = [0|1]	If view extents of base document have changed since creating the Markup, set this option to *1* to scale Markups appropriately.	0

8.6 Sign Off

Syntax and additional information for the option described is in Section 8.6.1, "Sign Off INI Option".

- You can include a background image for a Sign Off markup entity by specifying the path to signoffstamp.bmp in the SIGNOFFFILE INI option.

8.6.1 Sign Off INI Option

The following option should be placed in the [MARKUP OPTIONS] header of the INI file:

Table 8–7 Sign Off INI Option

Parameter	Description	Default
SIGNOFFFILE = [name_to_ signoffbg]	Specify the full name for the background image for the Sign Off markup entity. The signoff background file needs to be located in the <AutoVue installation directory>\client directory. If a path is included with the filename that is not that of <AutoVue installation directory>\client, the following security warning will be logged: "Security Warning: The client is attempting to access outside of <AutoVue installation directory>\client"	No background file.

8.7 Symbols for Measurements

Syntax and additional information for the options described are in Section 8.7.1, "Symbols for Measurements INI Options".

- You can specify comma-separated list of unicode symbols to include when creating measurements by setting the SYMBOLLIST INI option.
- You can specify comma-separated list of unicode symbols to include when creating angle measurements by setting the ANGLESYMBOLLIST INI option. If you do not specify the symbols in this option, the symbols defined in SYMBOLLIST are displayed.
- You can specify a comma-separated list of unicode symbols for arc measurements by setting the option ARCSSYMBOLLIST INI option. If you do not specify the symbols in this option, the symbols defined in SYMBOLLIST are displayed.
- You can specify a comma-separated list of unicode symbols for distance measurements by setting the DISTANCESYMBOLLIST INI option. If you do not specify the symbols in this option, the symbols defined in SYMBOLLIST are displayed.
- You can specify a comma-separated list of unicode symbols for area measurements by setting the AREASYMBOLLIST INI option. If you do not specify the symbols in this option, the symbols defined in SYMBOLLIST are displayed.

8.7.1 Symbols for Measurements INI Options

All of the following options should be placed in the [MARKUP OPTIONS] header of the INI file:

Table 8–8 Symbols for Measurements INI Options in [MARKUP OPTIONS] section

Parameter	Description	Default
SYMBOLLIST=[alpha num]	Specify a comma-separated list of symbols (in unicode) for measurements. **Example**: u0398, u2221, u2248.	

Table 8–8 (Cont.) Symbols for Measurements INI Options in [MARKUP OPTIONS]

Parameter	Description	Default
ANGLESYMBOLLIST =[aplhanum]	Specify a comma-separated list of symbols (in unicode) for angle measurements. If not specified and SymbolList is specified, symbols defined in SymbolList are displayed. **Example**: u0398, u2221, u2248.	
ARCSSYMBOLLIST= [aplhanum]	Specify a comma-separated list of symbols (in unicode) for arc measurements. If not specified and SymbolList is specified, symbols specified in SymbolList are displayed. **Example**: u0398, u2221, u2248	
DISTANCESYMBOL LIST=[aplhanum]	Specify a comma-separated list of symbols (in unicode) for distance measurements. If not specified and SymbolList is specified, symbols specified in SymbolList are displayed. **Example**: u0398, u2221, u2248	
AREASYMBOLLIST= [alphanum]	Specify a comma-separated list of symbols (in unicode) for area measurements. If not specified and SymbolList is specified, symbols specified in SymbolList are displayed. **Example**: u0398, u2221, u2248	

8.8 Symbol Library

A symbol is a graphical entity, such as a company logo. Before a graphic entity can be used as a symbol, it must be added to a symbol Library. This section provide information on how you can configure the symbol library. Syntax and additional information for the option described is in Section 8.8.1, "Symbol Library INI Option".

- You can choose whether or not to allow the symbol library to be edited or deleted by setting the ALLOWSTAMPLIBRARYEDIT INI option.

8.8.1 Symbol Library INI Option

The following option should be placed in the [OPTIONS] header of the INI file:

Table 8–9 Symbol Library INI Option in [OPTIONS] section

Parameter	Description	Default
ALLOWSTAMPLIBR ARYEDIT = [0|1]	Specify whether you can edit/delete a symbol library. Set to **1** to enable editing/deleting of a symbol library. Set to **0** to disable editing/deleting of a symbol library.	1

9

Configuration for Printing

AutoVue provides several configuration options for printing. For example, you can configure format-specific printing options (Excel, Microstation, and so on) as well as general printing options (scaling/offset, watermarks, headers/footers, and so on). Many of these options can be configured from the AutoVue user interface.

9.1 General Print Attributes

AutoVue provides you options to configure the print area (extents/orientation), color, and paper size. Syntax and additional information for the options described are in Section 9.1.1, "General Print Attributes INI Options".

- You can specify whether or not to print the extents of a page, the region currently displayed in the view window, the selected entities in the workspace, or limits (for AutoCAD files only). To do so, you can set the AREA INI option. This option can also be configured from the AutoVue user interface by opening the **Print Properties** dialog and selecting either **Extents**, **Displayed**, **Limits**, or **Selected** from the **Page Area** section.
- You can force all colors (except white) in a vector file to print in black and all colors in a raster file to print in grayscale by setting the FORCETOBLACK INI option. This option can also be configured from the AutoVue user interface by opening the **Print Properties** dialog and then selecting the **Force to black** check box.
- You can specify whether to print the image as portrait or landscape by setting the ORIENTATION INI option. This option can also be configured from the AutoVue user interface by opening the **Print Properties** dialog and selecting either **Portrait** or **Landscape** or **Auto** from the **Orientation** section.
- You can specify the paper size to print by setting the PAPERNAME INI option. The list of paper sizes available to AutoVue is dependent on the printer being used and is also dependent on the Java Virtual Machine (JVM) that AutoVue is running on. This option can also be configured from the AutoVue user interface by opening the **Print Properties** dialog and making a selection from the **Paper size** list. For a list of standard paper sizes, refer to `http://en.wikipedia.org/wiki/Paper_size`.
- You can control whether or not to skip blank pages when printing using the SKIPBLANKPAGES INI option. This can also be controlled from the AutoVue user interface by selecting the **Skip Blank Pages** check box in the **Print Properties** dialog.
- You can specify whether or not to print markup notes using the PRINTNOTES INI option. Notes are printed after all the pages of the base document. This can also be controlled from the AutoVue user interface by selecting the **Print Notes** check box in the **Print Properties** dialog.
- You can specify if you want to print each note on a separate page by setting the PRINTONENOTEPERPAGE INI option. This can also be controlled from the AutoVue

user interface by selecting the **Print One Note Per Page** check box in the **Print Properties** dialog.

9.1.1 General Print Attributes INI Options

All of the following options should be placed in the [PRINTOPTIONS] header of the INI file:

Table 9–1 General Print Attributes INI Options in [PRINTOPTIONS] section

Parameter	Description	Default
AREA	Indicates if you are printing: **0** - File Extents **1** - Displayed **2** - Selected area **3** - Limits (AutoCAD files only)	0
FORCETOBLACK = [0|1]	Set to **1** to print all colors (except white) in vector files in black and all colors in raster files as grayscale.	0
ORIENTATION = [0|1|2]	Set to **0 to print** the file in portrait Set to **1** to print file in landscape. Set to **2** to print file with auto-orientation. Orientation will be based on the original document's page orientation.	2
PAPERNAME	Specify the paper size to print to. **Note**: Paper-sizes are determined by the printer. For a list of available papers sizes refer to http://en.wikipedia.org/wiki/Paper_size.	
SKIPBLANKPAGES=[0|1]	Set to **1** so that blank pages are not printed. Set to **0** to print all pages (including blank pages are printed)	0
PRINTNOTES=[0|1]	Set to **1** to print markup notes along with the base document. Set to **0** so that markup notes are not printed.	0
PRINTONENOTEPERPAGE=[0|1]	Set to **1** to restrict printing to one note entity per document page. Set to **0** to print all markup notes. PRINTNOTES must be set to 1 for this option to take effect.	0

9.2 Printing Range

Syntax and additional information for the options described are in Section 9.2.1, "Printing Range INI Options".

- You can control whether to print all pages, the current page, or a certain page range by setting the PAGES INI option. This option can also be configured from the AutoVue user interface by opening the **Print Properties** dialog and making a selection from the **Document Pages** section.
- You can control which page to start printing from by setting the FROMPAGE INI option. This option can also be configured from the AutoVue user interface by opening the **Print Properties** dialog, selecting **Range**, and then entering the starting page number in the **From** field.
- You can specify the ending page number of the print rage by setting the TOPAGE INI option. This option can also be configured from the AutoVue user interface by opening the

Print Properties dialog, selecting **Range**, and then entering the a page number in the **To** field.

9.2.1 Printing Range INI Options

All of the following options should be placed in the [PRINTOPTIONS] header of the INI file:

Table 9–2 Printing Page INI Options in [PRINTOPTIONS] section

Parameter	Description	Default
FROMPAGE = [num]	Indicates the starting page number of the print range.	
TOPAGE = [num]	Indicates the ending page number of the print range.	
PAGES = [0|1|2]	Indicates if you want to print **0** - All Pages **1** - Current Page **2** - Page Range	1

9.3 Scaling/Offset

Syntax and additional information for the options described are in Section 9.3.1, "Scaling/Offset INI Options".

- You can control how the image can be scaled by setting the SCALING INI option. You can select Fit to Page, Scale Factor or Scale Percentage. This option can also be configured from the AutoVue user interface by opening the **Print Properties** dialog and making a selected **Fit to page**, **Scale**, or **Factor** from the **Scaling** section.
- You can specify the location of the drawing on a print out with respect to the page boundary by setting the OFFSETTYPE INI option. You have the option to set a customized or predefined offset (top left, center, and so on). This option can also be configured from the AutoVue user interface by opening the **Print Properties** dialog and making a selection from the **Alignment/Offset** list.
- If the SCALING INI option is set to either Scale Factor or Scale Percentage, you can specify the offset value (in inches) along the X-axis by setting the CUSTOMOFFSETX INI option. This option can also be configured from the AutoVue user interface by opening the **Print Properties** dialog and entering the offset value in the **X** field of the **Alignment/Offset** section.
- If the SCALING INI option is set to either Scale Factor or Scale Percentage, you can specify the offset value (in inches) along the Y-axis by setting the CUSTOMOFFSETY INI option. This option can also be configured from the AutoVue user interface by opening the **Print Properties** dialog and entering the offset value in the **Y** field of the **Alignment/Offset** section.
- If the SCALING INI option is set to Scale Factor, then you can specify how many drawing units (FACTOR1) should map to how many inches (FACTOR2) in the print output. The number of drawing units for the scaling factor is set by the FACTOR1 INI option. The number of inches for the scaling factor is set by the FACTOR2 INI option. These options can also be configured from the AutoVue user interface by opening the **Print Properties** dialog, selecting **Factor** and then entering a value in the **Drawing units** per field and **Inch** field.
- When the scaling option selected in SCALING causes single page to span over several pages, you can choose to limit the output to one printer page by setting the LIMITTOONEPRINTERPAGE INI option.This option can also be configured from the

AutoVue user interface by opening the **Print Properties** dialog and selecting the **Output a single page** check box.

- If the SCALING INI option is set to scaling percentage, you can specify the percentage by setting the SCALE INI option. This option can also be configured from the AutoVue user interface by opening the **Print Properties** dialog and selecting a percentage from the **Scale** list.
- You can specify the scaling factor units by setting the UNITS INI option.
- If the scaling settings generate an output for a single page that spans multiple pages, AutoVue lets you control if you would like to limit the printing or if you would like output to fit to a single page. INI option TILELIMIT lets you set a soft limit or a hard limit. When set to a soft limit, if the number of output pages exceeds the limit, AutoVue prompts if the user wants to print all the pages. When set to a hard limit, if the number of output pages exceeds the limit, AutoVue prints the page as fit to page.

9.3.1 Scaling/Offset INI Options

All of the following options should be placed in the [PRINTOPTIONS] header of the INI file:

Table 9–3 Scaling/Offset INI Options

Parameter	Description	Default
SCALING = [0|1|2]	Specify the scaling factor: *0* - fit *1* - scaling factor *2* - scaling percentage	0
CUSTOMOFFSETX = [num]	If SCALING is set to 1 or 2 then you can specify the offset value (in inches) along the X-axis.	0
CUSTOMOFFSETY = [num]	If SCALING is set to 1 or 2, then you can specify the offset value (in inches) along the Y-axis.	0
FACTOR1 = [num]	If SCALING =**1**, specifies the number of pixels for the scaling factor.	
FACTOR2 = [num]	If SCALING = **1**, specifies the number of units to which the specified number of pixels are scaled.	
LIMITTOONEPRINTER PAGE = [0|1]	If **1**, limits output to one printer page when the scaling options selected causes a single page to span over several pages.	0

Table 9–3 (Cont.) Scaling/Offset INI Options

Parameter	Description	Default
OFFSETTYPE = [0-9]	Specify the location of the drawing with respective to the page boundary when printing. Possible values: **0**: Custom--To set a custom offset type, you must also set the values for SCALING to 1 or 2, and then assign values for CUSTOMOFFSETX and CUSTOMOFFSETY. See the respective INI options for more information. **1**: Top Left **2**: Top Center **3**: Top Right **4**: Middle Left **5**: Center Center **6**: Middle Right **7**: Bottom Left **8**: Bottom Center **9**: Bottom Right	0
SCALE = [percentage]	If **scaling = 2** , specifies the percentage to which the image is scaled.	
UNITS = [0|1|2]	Specify the scaling factor units: **0** - pixels **1** - inches **2** - millimeters	1
TILELIMIT=[-n|n]	If a single page of a drawing generates an output that exceeds the value specified by n, AutoVue does one of following: When value is a negative number (soft limit), AutoVue prompts if the user wants to continue to print all pages of the drawing. When set to a positive number (hard limit), AutoVue prints the page as fit to page.	-32

9.4 Excel Print Settings

Syntax and additional information for the options described are in Section 9.4.1, "Excel Print INI Options".

- When printing Excel documents, AutoVue provides an option USEFILESETTINGS to specify whether or not to print the file based on the print settings saved in the file. You can also enable this from the AutoVue user interface from the Native Settings (from file) check box in AutoVue 's **Print** dialog opened from the File menu, Print command. There are some nuances to AutoVue 's support of saved Excel print settings:
- Excel calculates row and column widths based on the default font set in the file. On different printers, these calculations can differ and as a result Excel prints differently on different machines. AutoVue attempts to match Excel behavior, but may still differ slightly from Excel in terms of page breaks, line breaks, column widths or row heights. See https://support.microsoft.com/en-us/help/214394/the-column-width-is-not-the-same-when-printed-in-excel and https://social.msdn.microsoft.com/Forums/vstudio/en-US/9f3fc2ca-2ace-42

95-adc8-04a456af1f8b/standardheight-hight-of-a-cell-calculation?forum=exceldev for more information.

- When "Native Settings (from file)" is enabled in the **Print** dialog, some of AutoVue 's printing abilities are not available. These are:
  - Headers and footers
  - Scaling Settings (Fit to page, Scale, Factor)
  - Orientation settings
  - Alignment/Offset settings
  - Page area settings
  - Print Row and Column Headers
  - Paper size selection
- When Excel's print settings uses a paper size that is not supported by the printer that is installed on the AutoVue server, AutoVue defaults to Letter size.
- Excel has an option called **Scale content for A4 or 8.5x11 paper sizes**. When enabled, Excel chooses to print to A4 even if you specify Letter or vice versa. Excel also automatically scales the drawing to the paper size it chooses. AutoVue , however, always prints to the setting saved in the Excel document and ignores the Scale content for A4 or 8.5x11 paper sizes option. See https://support.microsoft.com/en-us/help/284867/printer-uses-the-wrong-tray-when-both-letter-size-and-a4-size-are-avai for additional information for this option.
- When printing Excel spreadsheets, you can control whether to print column headers and rows by setting the SSNOPRINTCOLHEADERS, and SSNOPRINTROWHEADERS INI option respectively. This option only applies to Excel files. This option can also be configured from the AutoVue user interface by opening the **Print Properties** dialog and selecting/deselecting the **Print Row Headers** and **Print Column Headers**.
- AutoVue supports only the 'Normal' view in MS Excel application. Therefore, headers and footers which are displayed in the 'Page layout' view in MS Excel will not be displayed in AutoVue. In order to enable printing of these headers and footers, select **Native Print Settings** from the **Print** Properties dialog. This will also enable several other print options such as print areas, scaling and page orientation. If you only wish to enable the headers, you can launch AutoVue 's **Print** dialog and select the **Headers/Footers** Tab. Enter %F in the headers or footers in the appropriate sections (Left or Center or Right). Images are not supported in header/footers.

  Note: To print the symbol – **%** in the header/footer, you have to include the symbol twice as shown in the example below.

  Example: "25%% %p/%n" will print as "25% Current Page/Total number of pages".

9.4.1 Excel Print INI Options

All of the following options should be placed in the [PRINTOPTIONS] header of the INI file:

Table 9–4 Excel Print INI Options in [PRINTOPTIONS] section

Parameter	Description	Default
USEFILESETTINGS= [0|1]	Set to **1** so that AutoVue prints using the print settings as saved in the Excel file. Set to **0** so that native print settings are not used. You can control how the file is printed by using AutoVue 's print settings.	0
SSNOPRINTROWHEADERS = [0|1]	If **1**, row headers are printed for spreadsheet formats.	0
SSNOPRINTCOLHEADERS = [0|1]	If **1**, column headers are printed for spreadsheet formats.	0

9.5 Microstation Print Settings

Syntax and additional information for the options described are in Section 9.5.1, "Microstation Print INI Options".

- You specify the mapping of MicroStation line weights to line thickness on paper by setting the THICKNESSSCALE INI option. You can get this from the MicroStation configuration file, attribute weight_strokes. This option only applies to MicroStation files.
- You can specify the units to use for the THICKNESSSCALE option by setting the THICKNESSSCALEUNITS INI option. This option only applies to MicroStation files and when THICKNESSSCALE is set.

9.5.1 Microstation Print INI Options

All of the following options should be placed in the [PRINTOPTIONS] header of the INI file:

Table 9–5 Microstation Print INI Options in [PRINTOPTIONS] section

Parameter	Description	Default
THICKNESSSCALE = [*thickness1, thickness2, ..., thicknessN*]	Specify the mapping of MicroStation line weights to line thickness on paper. You can get this from the MicroStation configuration file, attribute weight_strokes parameters. **Example**: ThicknessScale = 0.250, 0.375, 0.500, 0.625, 0.750, 0.875, 1.000, 1.125, 1.250, 1.375, 1.500, 1.625, 1.750, 1.875, 2.000, 2.125, 2.250, 2.375, 2.500, 2.625, 2.750, 2.875, 3.000, 3.125, 3.250, 3.375, 3.500, 3.625, 3.750, 3.875, 4.000, 4.125	
THICKNESSSCALEUNITS = [mm|inch|dot]	Specify the unit to use for the thickness scale. Option only applies to MicroStation files when ThicknessScale is set.	

9.6 Printing Resolution

Syntax and additional information for the options described are in Section 9.6.1, "Printing Resolution INI Options".

- MAXPRINTERDPI is used to limit the DPI used for printing and prevent too large printouts (specially if you have images) or memory situations. It defaults to 600.
- You can specify the size of one printing band in megabytes (MB) to request from the server by setting the PRINTBANDSIZE INI option. If there is insufficient memory when printing, this can be set to a smaller value. It is not recommended to modify this option.

- You can specify the DPI for printing by setting the PRINTINGDPI INI option. Setting this value affects the size of the image that is sent to the printer graphics. If output quality is not good, this setting can be set to a higher DPI. Setting this option to a higher value may result in large output file sizes and will not exceed the MAXPRINTERDPI.

  Note: For the PRINTINGDPI INI option, AutoVue will use the printer resolution if you do not specify a value or if you enter an invalid value. If AutoVue fails to get the printer resolution, then it will use the value defined for the INI Option – MAXPRINTERDPI.

- You can control whether or not to enable bi-cubic interpolation rendering of the image, when printing 3D models, by setting the PRINTWITHBICUBICINTERPOLATION INI option. This option can be used to increase the perceived quality of the print output by applying interpolation.

9.6.1 Printing Resolution INI Options

All of the following options should be placed in the [OPTIONS] header of the INI file:

Table 9–6 Printing Resolution INI Options in [OPTIONS] section

Parameter	Description	Default
MAXPRINTERDPI = [*DPI value*]	Specify the maximum printer DPI to prevent too large printouts.	600
PRINTBANDSIZE = [*Band size value in MB*]	Specify the size of one printing band for requesting from AutoVue in megabytes (MB). If an image sent to the printer is estimated to be too large, then the generated images are banded. It is not recommended to modify this option.	5.0
PRINTINGDPI = [*DPI*]	Specify the DPI to use. This value affects the size of the image that is sent to the printer graphics. **Note**: AutoVue will use the printer resolution if you do not specify a value or if you enter an invalid value. If AutoVue fails to get the printer resolution, then it will use the value defined for the MAXPRINTERDPI INI option.	-1
PRINTWITHBICUBICINTERPOLATION = <0|1>	Specify whether to enable bi-cubic interpolation rendering of the image when printing 3D models. Set to **1** to enable bi-cubic interpolation rendering. Print quality is improved but performance might be reduced. Set to **0** to disable bi-cubic interpolation rendering.	1

9.7 Watermarks

Syntax and additional information for the options described are in Section 9.7.2, "Watermarks INI Options".

- You can specify the font used for the printed watermark text by setting the FONTNAME INI option. This option can also be configured from the AutoVue user interface. To do so, open the **Print Properties** dialog, select the **Watermark** tab, click **Set Font**, and then select a font from the **Font** dialog.
- You can specify the font size for the watermark text by setting the FONTSIZE INI option. This option can also be configured from the AutoVue user interface. To do so, open the

Print Properties dialog, select the **Watermark** tab, click **Set Font**, and then select a font size from the **Font** dialog.

- You can select the font style to use for the watermark text by setting the FONTSTYLE INI option. This option can also be configured from the AutoVue user interface. To do so, open the **Print Properties** dialog, select the **Watermark** tab, click **Set Font**, and select either **Bold** or **Italic**.
- You can specify the text to be printed as a watermark with the TEXT INI option.This option can also be configured from the AutoVue user interface. To do so, open the **Print Properties** dialog, select the **Watermark** tab, and then enter the text to be printed in the **Watermark Text** field.
- You can select the orientation of the watermark (diagonal, horizontal, or vertical) by setting the ORIENTATION INI option. This option can also be configured from the AutoVue user interface. To do so, open the **Print Properties** dialog, select the **Watermark** tab, and then select the orientation.
- You can control whether or not the user is able to edit entries for the watermark in the **Print Properties** dialog by setting the DISABLEWATERMARK INI option.

Note: The color of a watermark in printing mode cannot be changed in AutoVue.

9.7.1 Watermarks Codes and Predefined Values

The Table 9–7 provides a list of pre-defined codes that are available with AutoVue that can be inserted for Watermarks. Additional variables that are retrieved from the Java Virtual Machine (JVM) are available to insert as Watermarks.

Table 9–7 Watermarks Codes and Predefined Values

Codes	Description
%f	Displays the full path of document.
%v	Displays the document drive.
%d	Displays the document directory.
%b	Displays the base document's name.
%e	Displays the document file extension.
%n	Displays the total document pages.
%p	Displays the current page number.
%N	Displays the total tiled-pages.
%P	Displays the current tile number.
%Y	Displays the current year (date).
%M	Displays the current month (date).
%D	Displays the current day (date).
%W	Displays the current day of the week (date).
%H	Displays the current hour (time).
%U	Displays the current minute (time).
%S	Displays the current seconds (time).
%r	New line.

Table 9–7 (Cont.) Watermarks Codes and Predefined Values

Codes	Description
%F	Headers/footers defined in excel files.

9.7.2 Watermarks INI Options

All of the following options should be placed in the **[PRINTWATERMARK]** header of the INI file:

Table 9–8 Watermarks INI Options in [PRINTWATERMARK] section

Parameter	Description	Default
FONTNAME	Specify the font used for the printed Watermark text	
FONTSIZE	Specify the font size for Watermark text	
FONTSTYLE = [2|1|0]	Specify the font style used for Watermark text. **0** - Regular **1** - Bold **2** - Italic	2
TEXT	Specify the text to be printed as a watermark. For carriage returns enter %r.	
ORIENTATION = [0|1|2]	Specify if the watermark should be: **0** - Diagonal **1** - Horizontal **2** - Vertical	

The following option should be placed in the [**PRINTOPTIONS**] header of the INI file:

Table 9–9 Watermarks INI Option in [PRINTOPTIONS] section

Parameter	Description	Default
DISABLEWATERMARK= [0|1]	When set to **1**, user will not be able to edit entries for watermark in the **Print Properties** dialog box (for both print and print preview).	0

9.8 Headers/Footers

Syntax and additional information for the options described are in section Section 9.8.2, "Headers/Footers INI Options".

- You can specify the font to use for the printed Header/Footer strings by setting the FONTNAME INI option. This option can also be configured from the AutoVue user interface. To do so, open the **Print Properties** dialog, select the **Headers/Footers** tab, and then select a font from the **Font** list.
- You can specify the text for the center header by specifying the TOPCENTERTEXT INI option. This option can also be configured from the AutoVue user interface. To do so, open the **Print Properties** dialog, select the **Headers/Footers** tab, and then enter the text in the **Center** field of the **Headers** section.
- You can specify the text for the left header by specifying the TOPLEFTTEXT INI option. This option can also be configured from the AutoVue user interface. To do so, open the **Print Properties** dialog, select the **Headers/Footers** tab, and then enter the text in the **Left** field of the **Headers** section.

- You can specify the text for the right header by specifying the TOPRIGHTTEXT INI option. This option can also be configured from the AutoVue user interface. To do so, open the **Print Properties** dialog, select the **Headers/Footers** tab, and then enter the text in the **Right** field of the **Headers** section.
- You can specify the text for the center footer by specifying the BOTTOMCENTERTEXT INI option. This option can also be configured from the AutoVue user interface. To do so, open the **Print Properties** dialog, select the **Headers/Footers** tab, and then enter the text in the **Center** field of the **Footers** section.
- You can specify the text for the left footer by specifying the BOTTOMLEFTTEXT INI option. This option can also be configured from the AutoVue user interface. To do so, open the **Print Properties** dialog, select the **Headers/Footers** tab, and then enter the text in the **Left field** of the **Footers** section.
- You can specify the text for the right footer by specifying the BOTTOMRIGHTTEXT INI option. This option can also be configured from the AutoVue user interface. To do so, open the **Print Properties** dialog, select the **Headers/Footers** tab, and then enter the text in the **Right** field of the **Footers** section.
- You can control whether or not the user is able to edit entries for the headers/footers in the **Print Properties** dialog by setting the DISABLEHEADERS INI option.

9.8.1 Headers/Footers Codes and Predefined Values

The following is a list of pre-defined codes that are available with AutoVue that can be inserted for headers/footers.

Table 9–10 Headers/Footer Codes and Predefined Values

Codes	Description
%f	Displays the full path of document.
%v	Displays the document drive.
%d	Displays the document directory.
%b	Displays the base document's name.
%e	Displays the document file extension.
%n	Displays the total document pages.
%p	Displays the current page number.
%N	Displays the total tiled-pages.
%P	Displays the current tile number.
%Y	Displays the current year (date).
%M	Displays the current month (date).
%D	Displays the current day (date).
%W	Displays the current day of the week (date).
%H	Displays the current hour (time).
%U	Displays the current minute (time).
%S	Displays the current seconds (time).
%r	New line.
%F	Headers/footers as saved in Excel files.

Additional variables that are retrieved from the JVM are available to insert into headers/footers.

9.8.2 Headers/Footers INI Options

All of the following options should be placed in the [**PRINTHEADERS**] header of the INI file.

Table 9–11 Headers/Footers INI Options in [PRINTHEADERS] section

Parameter	Description	Default
FONTNAME	Specify the font used for the printed Header/Footer strings.	
TOPCENTERTEXT	Specify the text for the center header. For carriage returns, enter %r.	
TOPLEFTTEXT	Specify the text for the left header. For carriage returns, enter %r.	
TOPRIGHTTEXT	Specify the text for the right header. For carriage returns, enter %r.	
BOTTOMCENTERTEXT	Specify the text for the center footer. For carriage returns, enter %r.	
BOTTOMLEFTTEXT	Specify the text for the left footer. For carriage returns, enter %r.	
BOTTOMRIGHTTEXT	Specify the text for the right footer. For carriage returns, enter %r.	

The following option should be placed in the [**PRINTOPTIONS**] header of the INI file:

Table 9–12 Headers/Footers INI Option in [PRINTOPTIONS] section

Parameter	Description	Default
DISABLEHEADERS=[0|1]	When set to *1*, user will not be able to edit entries for headers or footers in the **Print Properties** dialog box (for both print and print preview).	0

9.9 Print Margins

Syntax and additional information for the options described are in Section 9.9.1, "Print Margins INI Options".

- You can specify the bottom print margin by setting the BOTTOM INI option. This option can also be configured from the AutoVue user interface. To do so, open the **Print Properties** dialog from the File menu, Print command. Then, select the **Margins** tab, and then specify the bottom margin in the **Bottom** field.
- You can specify the left print margin by setting the LEFT INI option. This option can also be configured from the AutoVue user interface. To do so, open the **Print Properties** dialog, select the **Margins** tab, and then specify the left margin in the **Left** field.
- You can specify the right print margin by setting the RIGHT INI option. This option can also be configured from the AutoVue user interface. To do so, open the **Print Properties** dialog, select the **Margins** tab, and then specify the right margin in the **Right** field.
- You can specify the top print margin by setting the TOP INI option. This option can also be configured from the AutoVue user interface. To do so, open the **Print Properties** dialog, select the **Margins** tab, and then specify the top margin in the **Top** field.

- You can specify the units for the margin (inches, or millimeters) by setting the UNITS INI option. This option can also be configured from the AutoVue user interface. To do so, open the **Print Properties** dialog, select the **Margins** tab, and then make a selection from the **Units** list.

9.9.1 Print Margins INI Options

All of the following options should be placed in the [*PRINTMARGINS*] header of the INI file:

Table 9–13 Print Margins INI Options in [PRINTMARGINS] section

Parameter	Description	Default
BOTTOM= <*value*>	Specify the bottom margin.	0.25
LEFT=<*value*>	Specify the left margin.	0.25
RIGHT=<*value*>	Specify the right margin.	0.25
TOP=<*value*>	Specify the top margin.	0.25
UNITS=[1|2]	Specify units for the margin: **1** - inches **2** - millimeters	1

9.10 Pen Settings

Syntax and additional information for the options described are in Section 9.10.1, "Pen Settings INI Options".

- You can specify the units (inches or millimeters) for the pen settings in the UNITS INI option. This option can also be configured from the AutoVue user interface. To do so, open the **Print Properties** dialog, select the **Pen Settings** tab, and then make a selection from the **Units** list.
- You can define different pen settings (PEN*[n]* , where n>=0) in the SELECTEDPEN INI option. These define pen setting are then used in the PEN*[n]* INI option.
- You can specify the pen name and mapping of the pen index and thickness by setting the PEN[n] INI option, where PEN[n] are the pen settings defined in SELECTEDPEN.

9.10.1 Pen Settings INI Options

All of the following options should be placed in the [**PENSETTINGS**] header of the INI file:

Table 9–14 Pen Settings INI Options in [PENSETTINGS] section

Parameter	Description	Default
UNITS=[0|1]	Specify units for the pen settings: **0** - inches **1** - millimeters	0
SELECTEDPEN=[*pen name*]	The active pen setting. Pen mappings are defined in INI options *PEN<n>* , where *n* starts from *0*. **Note**: You can define as many pen settings as you wish.	

Table 9–14 (Cont.) Pen Settings INI Options in [PENSETTINGS] section

Parameter	Description	Default
PEN<n>=[<penname>, n1=<*thickness*>, *n2*=<*thickness*>,.....,]	Specify the pen name and a mapping of pen index and thickness. Thickness value is in inches. **Note**: The pen color mapping is format dependent. **AutoCAD** - The pen-color mapping uses the AutoCAD color palette. You cannot modify the mapping. **HPGL** - The pen-color mapping is defined in hpglcol.tbl and can be modified by the user. **ME10** - The pen-color mapping is defined in me10col.tbl and can be modified by the user. **DWF** - The pen-color mapping is defined in dwfcol.tbl and can be modified by the user. **Microstation Drawings** - The pen-color mapping is shipped in a binary file, color.tbl. This mapping file can be modified using Microstation. The mapping files are located at <AutoVue Installation Directory>\bin.	

10

Configuration for Conversion

AutoVue provides several configuration options for conversion. Many of these options can be configured from the AutoVue user interface.

10.1 General Conversion Attributes

AutoVue provides you options to configure the convert area (extents/display), pen color, and output size. The converted output primarily consists of the file display. As a result, hyperlinks, bookmarks and other such entities are not expected to work in the converted output. Syntax and additional information for the options described are in Section 10.1.1, "General Conversion INI Options".

- You can choose which format to convert to using the CONVERTTO INI option. If an output format supports sub-formats, you can choose the sub-format using the CONVERTTOSUB INI option. These can also be controlled from the AutoVue user interface from the **Convert** dialog, section **Convert to format**.
  - Supported output formats are TIFF, Windows Bitmap, and PDF for 2D formats.
  - Conversion to PDF format requires that the AutoVue Document Converter is installed with AutoVue server. This is normally installed as part of the AutoVue server installation.

    Note: Conversion to PDF is not applicable for Linux operating system. It is supported on Windows only.

  - Conversion to PDF formats is not supported when the AutoVue server is running on Linux.
  - Conversion is not supported for 3D models.
  - When converting to TIFF and PDF, AutoVue provides the option to convert all pages. For other formats, AutoVue only converts the current page.
  - When converting to PDF, AutoVue does not provide any scaling or size options.
  - AutoVue allows you to search for text in Adobe PDF files that were converted from vector 2D formats, which had text in them.
- You can control whether to convert all pages, the current page, or a certain page range by setting the PAGES INI option. When you want to convert a range, you can set the FROMPAGE and TOPAGE INI options to specify the range of pages to convert. These can also be configured from the AutoVue user interface by opening the **Convert** dialog and making a selection from the **Document Pages** section.

- You can specify whether or not to convert the extents of a page, the region currently displayed in the view window, or the selected entities in the workspace. To do so, you can set the CONVERTAREA INI option. This option can also be configured from the AutoVue user interface by opening the Convert dialog and selecting either **Extents**, or Displayed from the **Page Area** section.
- You can control how to scale the output image by setting the SCALING INI option. You can select Fit to Page, Scale Factor or Scale Percentage. This option can also be configured from the AutoVue user interface by opening the **Convert** dialog and selecting **Fit to page**, **Scale**, or **Factor** from the **Scaling** section.
  - If you want to scale the output drawing, you can specify the scaling percentage by setting the SCALINGFACTOR INI option. This option can also be configured from the AutoVue user interface by opening the **Convert** dialog and selecting a percentage from the **Scale** list.
  - When converting to raster formats, you can specify the size of the output size by setting the RASTEROUTSIZE INI option. You can specify the dpi for the output image by setting the RASTERDPI INI option. These can also be configured from the AutoVue user interface by opening the **Convert** dialog and specifying the size in the X and Y fields and the dpi in the **DPI** field.
- Specify where the output file should be saved using the OUTPUTDIR INI option. This can also be configured from the AutoVue user interface from the **Convert** dialog.

10.1.1 General Conversion INI Options

All of the following options should be placed in the **[OUTPUT OPTIONS]** header of the INI file:

Table 10–1 General Conversion INI Options

Parameter	Description	Default
CONVERTTO=[PCRS_BMP|PCRS_TIF|PCVC_PDF]	Specify the output format. **Raster Output Formats** PCRS_BMP - Windows Bitmap format PCRS_TIF - TIFF format PCVC_PDF - PDF format	PDF
CONVERTTOSUB=	Specify the sub-format of the output format. When converting to TIFF, possible values are: **0** - Uncompressed **1** - Packbits **2** - Fax III **3** - Fax IV	
CONVERTAREA	Indicates if you are converting: **0** - File Extents **1** - Displayed	0
PAGES = [0|1|2]	Indicates if you want to convert **0** - All Pages **1** - Current Page **2** - Page Range	1
FROMPAGE = [num]	Indicates the starting page number of the convert range.	

Table 10–1 (Cont.) General Conversion INI Options

Parameter	Description	Default
TOPAGE = [num]	Indicates the ending page number of the convert range.	
SCALING = [0|1|2]	Specify the scaling factor: **0** - Fit **1** - Scaling Factor 2 - Scaling Percentage	0
SCALINGFACTOR = [percentage]	If **scaling = 1**, specifies the percentage to which the image is scaled.	
RASTEROUTSIZE=<x-valueXy-value>	Specify the size for the output raster image (in pixels). **Example**: RASTEROUTSIZE=640X480	
RASTERDPI=<dpi-value>	Specify the dpi for the output raster image.	
OUTPUTDIR=<path>	Specify where the converted outputs should be saved.	

10.2 Pen Settings

You can map a color index (or a pen) to a thickness in Pixels when doing a conversion using AutoVue . Syntax and additional information for the options described are in Section 10.2.1, "Pen Settings INI Options".

Note: The pen color mapping is format dependent.

- Using the PEN<n> option, you define different pen settings and map a pen to a color index. This option can also be configured from the AutoVue user interface. To do so, open the Convert dialog, select the Pen Settings button, and then define the pen settings.
- Using the SELECTEDPEN INI option, you can specify which pen PEN<n> setting to use for the conversion.

10.2.1 Pen Settings INI Options

All of the following options should be placed in the **[CONVERTPENSETTINGS]** header of the INI file:

Table 10–2 Pen Settings INI Options

Parameter	Description	Default
PEN<n>=[<penname>, n1=<*thickness*>, *n2=<thickness>,.....,*]	Using the PEN<n> option, specify a pen name and a mapping of pen index and thickness (in inches), where **n** starts from **0**. **Note**: You can define as many pen settings as you wish.	
SELECTEDPEN=[*pen name*]	The active pen setting. Pen mappings are defined in INI options PEN<n>.	

11

Configuration for Overlays

When working with 2D files, you can overlay other files over the current active file. AutoVue provides configuration options for overlays.

11.1 General Overlay Attributes

AutoVue provides you options to configure how to display and scale overlays. Syntax and additional information for the options described are in Section 11.1.1, "General Overlay INI Option".

- You can specify whether the overlay should be scaled based on its file units or based on the extents of the file on which the overlay is added using the INI option MATCHEXTENTS.
- When loading files containing WMF overlays, you can specify if the WMF overlay should be converted to EMF or should be rendered as is using INI option CONVERTWMFTOEMF.

11.1.1 General Overlay INI Option

The following option should be placed in the **[OVERLAY OPTIONS]** header of the INI file:

Table 11–1 General Overlay INI Option

Parameter	Description	Default
MATCHEXTENTS = [0|1]	Specify how to scale the overlay. Set to **1** so that the overlay is scaled based on the current file extent. Set to **0** so that the overlay is scaled based on its file units.	1

The following option should be placed in the **[OPTIONS]** header of the INI file:

Table 11–2 General Overlay INI options in the [OPTIONS] header

Parameter	Description	Default
CONVERTWMFTOEMF = [0|1|2]	Specify if the WMF should be converted to EMF. This option is useful when troubleshooting display issues with WMF. Set to **0** to not convert WMF overlays to EMF. Set this value when progressive loading is desired. Set to **1** to convert WMF overlays to EMF. Set this value if enhanced functionality such as rotate and mirroring is required. Set to **2** to use the default behavior of the format handler. When AutoVue server is running on Linux, this option is set to a default of 0.	2 0 (on Linux)

12

Configuration for Hotspots

When working with 2D, EDA, PDF and graphic documents, through the use of the Augmented Business Visualization (ABV) integration framework, you can add AutoVue 's hotspot capabilities to create links between objects in AutoVue 's data model and objects in an external system. Refer to the *Oracle API and ABV Developer's Guide* for more information.

12.1 PDF Text Hotspot

AutoVue provides you options to configure how to identify text as a hotspot in a PDF document. Syntax and additional information for the option described is in Section 12.1.1, "PDF Text Hotspot INI Option".

- AutoVue provides ADVANCEGAP INI option to recognize PDF text with large spacing between characters as a single hotspot. The value of the option should be less than the maximum number of spaces between consecutive strings. That is, if the number of spaces between two consecutive strings is less than the ADVANCEGAP value, then the strings are recognized as a single hotspot. However, if the number of spaces between two consecutive strings is larger than the value specified, they are not recognized as a single hotspot.

12.1.1 PDF Text Hotspot INI Option

The following option should be placed in the **[HOTSPOTS]** header of the INI file:

Table 12–1 PDF Text Hotpsot INI Option

Parameter	Description	Default
ADVANCEGAP =[*integer*]	Specify the maximum number of spaces between consecutive text strings. When there is large spacing between characters, you can increase the value assigned to the INI option.	3

12.2 Text Hotspot

AutoVue provides options for scaling bounds for text hotspots.

- AutoVue provides DEFINITION_SCALE parameter to increase the scaling bounds for text hotspots. Set the value to greater than or equal to 1. If less than 1 then AutoVue will default to 1. AutoVue provides the following configuration for PDF hotspots:

12.2.1 Text Hotspot INI Option

The following option is definition parameters for text hotspots.

Table 12–2 Text Hotspot INI Option

Parameter	Description	Default
DEFINITION_SCALE	Specify the scaling bounds for text hotspots. The real value is greater than 1.0. The possible values could be as follows: ▫ 1 - No effect ▫ 1.1 - The text hotspot bounds increases by 10% ▫ 2 - The text hotspot bounds is 2 times larger ▫ x - The text hotspot bounds is x times larger.	1

A

Feedback

If you have any questions or require support for AutoVue, please contact your system administrator. If the administrator is unable to resolve your issue, please contact us using the links below.

A.1 General AutoVue Information

Web Site	https://www.oracle.com/applications/autovue/

A.2 Oracle Customer Support

Web Site	https://community.oracle.com/hub/

A.3 My Oracle Support AutoVue Community

Web Site	https://www.oracle.com/support/

A.4 Sales Inquiries

E-mail	https://www.oracle.com/corporate/contact/global.html