



Release Highlights for BluePrint 5.1

Introduction

BluePrint Release 5.1 is the latest in customer driven releases. All new features and enhancements were requested by existing customers. Over the preceding year, DownStream Technologies queried our customer base for new ideas or enhancements to existing features. Each release of BluePrint contains many user requested features as well as quality enhancements.

New Functionality

The following functional enhancements are contained in BluePrint Release 5.1.

New Graphical User Interface

New Zoom and Pan Mode Options

Improved File Comparison for ECO Updates

Option to Fix Extension Length for Callout

Automatic Alignment of Via Graphics in Stackup Details

Change Coordinate Dimension to Move Objects

Last Used File Paths Preserved

Exclude Hyperlink Highlight in PDF/DXF

Exclude Dimensions in Exploded View

Pad and Via Visibility Control for Design View and PCB Views

Apply Format Applies All Font Options to BluePrint Reference Designators

Automated Expansion of Text Boxes

Highlight Text Boxes with Hidden or Truncated Content

Dimension Options Reorganized

Add Multiple Doglegs to Coordinate Dimensions

System Attributes for Component Mount Type and Mount Side

Via Graphic Management for Backdrill Stackup

BluePrint Reference Designator Options for Design View

Transparency Options in Design View

Print from Design View

Outline and Hatch Display for Pads and Traces in Design View and PCB Views

Run BluePrint Silently via Application Programming Interface (API)

Prompt for Selection Point via API

Retrieve Geometry Details from Various Objects via API

New Select PCB Command for Panel Editing

Scaled Panel Lettering Size

Expanded Document Variables for Panel Objects

New Pinning Hole Dimension for Panels

Show Chamfer Count for Panels

Panel Specific Coordinate Dimensions

Panel Milling Error Checking

Associate Pairs of Mill Tabs on a PCB Panel

Apply Parameters to All PCB Panel Images

New Functionality Details

New Graphical User Interface

Updated Ribbons Style User Interface

The user interface was updated to current Windows desktop style replacing menus and dozens of toolbars with Ribbons. This new interface has the same appearance and ease of use found in more current desktop applications. This update improves the usability of BluePrint by offering easy access to commonly used commands. In addition, context sensitive ribbons are presented for a selected object. These ribbons offer instant access to object specific commands and formatting options. Additions to the user interface include a World View pane, additional controls on the status bar, and dockable multi-purposed panes with an auto-hide feature. (v)

New Zoom and Pan Mode Options

Choose PCB CAD or Default mode of Pan and Zoom

Set the default pan and zoom mode to behave like your PCB CAD system using the middle mouse button without a keyboard accelerator or use the current default mode using middle mouse button without an accelerator.

Improved File Comparison for ECO Updates

More accurate determination of change status

Prior to this update, the ECO process relied exclusively on a file timestamp and file path to determine if the source CAD file content had changed. To reduce the incidence of false ECO update detection, the CAD source file comparison was enhanced to compare specific file contents.

Option to Fix Extension Length for Callout

New option to allow extension size changes

A new option was added to the Format Callout dialog to enable/disable the ability to change the extension length for the leader portion of the callout.

Automatic Alignment of Via Graphics in Stackup Details

Improved interleaving of via graphics in Stackup details

Via graphic alignment has been automated to enhance the appearance of via graphics in stackup details. Where possible, graphics of partial vias are aligned in the same vertical space in the detail.

Change Coordinate Dimension to Move Objects

Change the dimension value to move an associated object

Any object associated to a coordinate dimension will be moved accordingly if the value of the dimension is overridden. Edit the dimension value text directly or via the format dimension dialog and the associated object is moved to the location specified by the new value.

Last Used File Paths Preserved

Last used file paths preserved for more file types

Each of the various file import functions will independently preserve the last file path referenced.

Exclude Hyperlink Highlight in PDF/DXF

Option to display hyperlinks as highlighted in PDF/DXF output

A new option was added to the DXF and PDF export options to enable/disable the highlighting of hyperlinks in a DXF or PDF export. (55076)

Exclude Dimensions in Exploded ViewOption to exclude visible graphic elements in an Exploded View

A new option was added to the Format Exploded View dialog to enable/disable the visibility of graphic elements in the pictorial view that are visible in the callout view.(56710)

Pad and Via Visibility Control for Design View and PCB ViewsIndependent visibility and selection commands for other pads and vias in a PCB view

New visibility settings for vias and any pad not associated with a component (like a freely placed pad) are available for PCB views. The same settings are also available in the Design view. (54456) (v)

Apply Format Applies All Font Options to BluePrint Reference DesignatorsAll font options applied to all parts of the same type

The Apply Format command will apply all font options set in the Format Reference Designator dialog to all parts of the same type.(57001)

Automated Expansion of Text BoxesNew functions to control the size of text boxes automatically

New Text Box format dialog features enable text boxes to re-size automatically when the text strings exceed the box size. (57403)

Highlight Text Boxes with Hidden or Truncated ContentEasily locate text boxes with truncated or obscured text content

A new option was added to the Text options to enable/disable the highlight of text boxes with truncated or obscured text and to set the highlight color. (57404)

Dimension Options ReorganizedMultiple and repetitive dimensions combined into one multi-purpose group

All dimension options were combined into one common Dimensions option to ease the setting of options for multiple dimensions types.

Add Multiple Doglegs to Coordinate DimensionsAbility to add more than one dogleg to a coordinate dimension

A new option was added to the lines options for coordinate dimensions. Use the Doglegs feature to set the total number of doglegs permitted for a coordinate dimension. (56900)

System Attributes for Component Mount Type and Mount SideInclude and sort by component mounting type or mounting side

New PartsList.MountSide and PartsList.MountType system attributes can be used to filter parts list display and component coordinate display by mounting side, or mounting type. New system attributes include Components.MountSide and Components.MountType.(56754, 57405, 56845)

Via Graphic Management for Backdrill StackupsGraphics layout functions added to backdrill stackup

The functions available for a via stackup to manage the display and visual alignment of vias are now available for backdrill stackups.

BluePrint Reference Designator Options for Design ViewNew Design View options for BluePrint Reference Designators

The options dialog was expanded to include new Design View options for setting BluePrint reference designator minimum and maximum font size, default rotation and right reading status. (v)

Transparency Options in Design ViewNew Design View options for global and shape specific transparency

The options dialog was expanded to include new Design View options for setting transparency globally for the design view or specifically for filled shapes. (v)

Print from Design ViewPrint from the Design View

The print command is now enabled from the design view. (v)

Outline and Hatch Display for Pads and Traces in Design View and PCB ViewsSet outline and hatch display options for pads and traces

On the Layers tab of the Design View and Advanced settings for any PCB view, additional visibility options are now available for pads and traces. Choose a pad and trace color, fill or no fill option (outline) and set a hatching preference. (54456) (v)

Run BluePrint Silently via Application Programming Interface (API)Applications can run BluePrint without user interaction

New API features are available to run BluePrint silently. All dialog interactions are suppressed and logged to an external file.

Prompt for Selection Point via APIPrompt a user for a selection point in BluePrint via the application interface

Insert the new application method for prompting a user to select a point in a drawing and continue the application using the coordinates.

Retrieve Geometry Details from Various Objects via APIAccess shape geometries from objects via the application interface

Insert the new application methods to access geometries for a board outline, component pin, component outline or mill tab.

New Select PCB Command for Panel EditingNew command for selecting the PCB image with web route selected

A new Select PCB command was added to the pop-up menu present when a web route is selected. When selected, it will change the current selection from the web route to the PCB image. (56713, 57239)

Scaled Panel Lettering SizeSet panel lettering size as a percent of panel size

Set the default panel lettering size as a percentage of the board size with additional limits of minimum and maximum font sizes.

Expanded Document Variables for Panel ObjectsNew document variables for Fiducials, Board Images

Document variables were added to display fiducial inner and outer diameters, and total fiducial count. Fiducial count variables include count by size and side. Use these new variables with new panel coordinate dimension types to dimension fiducials and board images along a common axis.

New Pinning Hole Dimension for PanelsNew dimension details hole size and count for panel pinning holes

A pinning hole dimension will display pinning hole specific details including drill diameter, tolerance, and count of identical pinning holes.

Show Chamfer Count for PanelsNew option to display chamfer count on panels

Chamfer dimensions added to panels to document diagonal chamfers can be extended to include the count of chamfers. For example, "4 X .100 X 45°".

Panel Specific Coordinate DimensionsNew style of coordinate dimensions for documenting panel elements

Coordinate dimension functionality has been expanded to meet specific requirements for PCB panels. The dimension text was expanded to include a count of all pinning holes, fiducials, board zeros, or mill tabs in a vertical or horizontal axis.

Panel Milling Error CheckingNew feature for preventing milling errors for web routes and mill tabs

Milling errors can be prevented or detected by enabling the milling checking features. Select the types of milling errors to analyze including minimal spacing for mill tab to component, mill tab to copper and mill tab to drill. Create mill tab keep in and keep out areas to define preferred locations for mill tabs. Analyze minimal distance between mill tabs and the keep in or keep out areas. Error detection is modal with choices of prevent, warn or no checking. Additionally, analyze patterns across all PCB images for mismatches. When enabled, error checking is performed anytime edits are attempted to a web route or mill tab.

Associate Pairs of Mill Tabs on a PanelNew feature to associate mill tabs to maintain their alignment while editing

Mill tabs on opposing sides of a PCB image and be associated to maintain their alignment. When one member of the mill tab pair is moved, the other mill tab moves along with it. Pairs of mill tabs can also be disassociated to separate them.

Apply Parameters to All PCB Panel ImagesNew command to apply milling parameters from selected image to all images in panel

Select a PCB image having a web route and choose the Apply Parameters to all PCB Images command to have the milling pattern applied to all PCB images.

Defect Fixes for BluePrint 5.1

Software corrections and enhancements have been made to previously existing functionality, further improving upon BluePrint's quality and reliability:

Build 1136

Functional Area	ID	Description
Common Elements	58078	Document Variables do not always populate automatically placed nomenclature.
Common Elements	58210	In-line text editing of Coordinate Dimension values randomly fails to edit the text or move the associated object.
Common Elements	58213	PCB View has incorrect display after Duplicate Sheet command.
Options	58223	Import profile command does not correctly convert old version CAD Object display order for external profiles.
Assembly Elements	58232	Import Parts List CSV command does not import the quantity field for User Parts.
Assembly Elements	58231	User Parts are not displayed in a Parts List Table when the table is filtered by a variant.
Assembly Elements	58198	An erroneous "Alternate Parts" message occurs when there are invalid paths for default template files for Command Pallet icons.
Assembly Elements	58245	Parts List table template for a design with many attributes may not expand when filtered by variant.
Panel Drawing Elements	58218	Panel Coordinate Dimension should not output quantity text for count that is less than or equal to 1.
Import	58244	Import PDF with convert option corrupts text that is contained in a PDF compound group.
Import	58247	Import PDF incorrectly sets color to CYAN instead of BLACK for PDF compound group.
Macro Scripting	58207	The legacy API for Perforated Break mill tabs does not work in BluePrint 5.1.
Macro Scripting	58214	The API method ImportFiles.Delete() fails to complete.
Macro Scripting	58222	The API return values for Mill Tab error coordinates are not relative to the Panel Origin.

Build 1131

Functional Area	ID	Description
Common Elements	57467	Default nomenclature continuation block is added on first sheet of new drawing
Common Elements	58087	Document variables do not populate for automatically placed nomenclature
Fabrication Elements	58092	Custom drill symbol table creation fails to complete
Assembly Elements	58077	Substituted parts are not assigned Mount Side and Mount Type from original part definition
Pack and Release	58147	Pack and Release executable does not install VC++ 2012 redistributable on destination PC
Panel Drawing Elements	58076	Panel drawing outline incorrectly resizes after ECO import of updated CAD data
Panel Drawing Elements	58080	System variables for Board X-out fiducials are not populated correctly in smart callouts
Panel Drawing Elements	58088	Panel component coordinate chart output has inverted Y coordinate values
Macro Scripting	58093	Macro execution does not keep the previous ribbon active after execution

Build 1126

Functional Area	ID	Description
Import IPC-2581	58007	Refresh of IPC-2581 CAD data after File Open of BPD file fails to complete.
Dimensioning	58014	Additional dimension text cannot be added to Radius Dimension for Panel Drawing

Build 1125

Functional Area	ID	Description
Import PADS ASCII	57883	Copper shapes are shrunken after PADS ASCII import
Import PADS ASCII	57903	PADS ASCII import fails to load file
Import ODB++	57910	ODB++ import fails to complete
Import ODB++	57869	ODB++ import locks folder after command execution
Export PDF	57915	PDF Export drops polygon voids
Export DXF	57894	DXF Export hangs on sample BPD file
Assembly Elements	57902	Board outline clipping for overhanging components does not work for sample BPD file
Fabrication Elements	57889	Convert to Via Stackup command fails to complete
Dimensions	57896	Coordinate dimensions shift after changing type from Actual to Reference
Common Elements	57927	Text margins are incorrect after loading version 4.0 element gallery items into version 5.1
Common Elements	57939	Loading version 4.0 Note Block sample into version 5.1 fails to complete
Customization	57959	Custom ribbons are disabled after execution a custom command from the custom ribbon
Options	57983	Adding a document variable in Options dialog does not work

Build 1122

Functional Area	ID	Description
File Open	57868	PCB View shifts unexpectedly
File Open	57872	The Bullet Callout with leader line from flat side is incorrectly replaced
Import Gerber	57831	Expedition Gerber extension (*.GDO) added
Dimensions	57887	Smart Call out should support dynamic updating
Part List Manager	57888	Parts List Item Numbers are not generated for Display Order preference
Customization	57751	Enhancement for ribbons customization

Build 1119

Functional Area	ID	Description
Dimensions	56918	Bullet style leader should always exit from point
IPC-2581	56960	IPC-2581 Import – Pads not assigned to pins leads to incorrect pad display
PDF Export	57243	Backdrill hatch fill does not output to PDF
Exploded View	57240	Snapping to mill tab center not possible in exploded view
Part List Manager	57459	Cannot delete more than one user data item at a time in Part Lists Manager
File Open	56727	ODB++ files not found when sourced from mapped network drives

Patents, Copyrights, and Trademarks

Patents

“AUTOMATED PCB MANUFACTURING DOCUMENTATION RELEASE PACKAGE SYSTEM AND METHOD”, United States Patent No. 7,409,666 B2

“ADAPTIVE TEMPLATE SYSTEM FOR AN AUTOMATED PCB MANUFACTURING RELEASE PACKAGE SYSTEM”, United States Patent No. 8,875,072 B2

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