

How do I create, setup and use a blueprint in WinSPC?

Introduction

A Blueprint is a pictorial way to relay information to the operator. Blueprints can make data collection more intuitive to operators collecting data in WinSPC. The most common uses for Blueprints are to graphically define a variable's location(s) or specification(s) for the data readings. A Blueprint can be a photograph, picture or drawing contained within a supported digital file format. Parts/Processes can contain multiple Blueprints, and Blueprints can contain multiple defined locations, known as zoom areas. This article will walk you through the process of creating, configuring, and using Blueprints in Data Collection.

Supported Blueprint File Formats

The following are the image file formats currently supported in WinSPC:

BMP WMF CLP JPG
PNG PSD TIF PCT
PCX DCX TGA

Blueprint Creation

A Blueprint object must be created inside a WinSPC Part/Process first. To do this, use the following steps:

- 1) In the Tree pane of the Administrator window, under Parts/Processes, left-click on the part for which you want to create a Blueprint.
- 2) To create a Blueprint for the selected part, use one of the following methods:

Left-click on the New Blueprint Icon in the toolbar. Select File → New → Blueprint from the menu bar.
Right-click on the target Part and select New → Blueprint from the popup menu.

- 3) Name the Blueprint and press the Enter key. If a mistake made after naming, press the F2 key to rename the Blueprint.

Blueprint Setup

Setting up a Blueprint entails selecting a preexisting image, defining a zoom area, and selecting a magnification percentage. To do this, use the following steps:

- 1) Open the Blueprint Setup dialog box. This can be done in one of 2 ways:

Double left-click on the Blueprint icon. Right-click on the Blueprint icon and selecting Properties from the popup menu.

- 2) Left-click the Browse... button in the Blueprint Setup dialog box.
- 3) Select the image for the Blueprint by using one of the following methods:

Navigate to image location and left-click to highlight the Blueprint image file. Left-click on the Open button. Type in the location and name in the File name: box, and left-click on the Open button.
The image will be displayed in the Blueprint Setup dialog box. The following are currently supported in

WinSPC:

BMP, WMF, CLP, JPG, PND, PSD, TIF, PCT, PCX, DCX, & TGA.

4) Select either Embedded or Linked, located to the right of the Browse... button. To determine which option to use, reference the following:

Embedded - Copies the image into the WinSPC database. This is preferred for those images that are not likely not be updated or changed, or the network share is not accessible to the user. Linked – Copies the address of the image into the WinSPC database. This is preferred for those images that that may be updated from time to time. If the image is updated, then the changes will be reflected in all blueprints that use the image. NOTE: The Linked option requires that the location (or network share) in which the image is stored at, to be at least read accessible by those WinSPC users who work with the image. Otherwise, those users will not be able to see the image.

5) Define a view area by adding, moving, and resizing a zoom rectangle. The default zoom rectangle setting encompasses the entire image and at a zoom of 100%. Note: The default zoom rectangle cannot be moved, resized or removed. You can create and modify multiple zoom rectangles for the Blueprint image. To do this:

Add – Left-click the “Add zoom rectangle to image” button (box with green plus sign [+]). This will add a zoom rectangle to the center of the image. Move – Left-click and hold within the zoom rectangle to move the zoom rectangle to the desired location on the Blueprint. Release mouse button when done. Left-click on the magnifying glass icon with the plus sign (+) to view the zoom rectangle as it would appear in the collection plan. To return to the normal view, left-click on the magnifying glass icon with the minus sign [-]. Resize – Left-click and hold on one of the eight black squares and move the mouse to resize the zoom rectangle. Release mouse button when done. Left-click on the magnifying glass icon with the plus sign [+] to view the zoom rectangle as it would appear in the collection plan. To return to the normal view, left-click on the magnifying glass icon with the minus sign [-]. Remove – Select the zoom rectangle by a single left-click within the rectangle. Left-click the “Remove zoom rectangle from image” button (box with red minus sign [-]).

6) To increase or decrease the zoom percentage use the following:

Select the zoom rectangle by single left-click within the zoom rectangle. Select the desired zoom percentage by left-clicking on the down arrow on the drop-down list box. Left-click on the magnifying glass icon with the plus sign [+] to view the zoom rectangle as it would appear in the collection plan. To return to the normal view, left-click on the magnifying glass icon with the minus sign [-].

Increase zoom - Percentages greater than 100% will increase magnify of the image from normal. Decrease zoom - Percentages less than 100% will reduce magnification of the image from normal.

2. Repeat above steps to add more zoom rectangles and zoom percentages.

3. Left-click the OK button to close and save the Blueprint Setup dialog box. The blueprint is now ready to be assigned to a collection plan.

Collection Plan Configuration for Blueprints

Once the Blueprint has been configured, next is to define which views of the Blueprint will go with which characteristic in the Collection Plan. Additionally this is where you will set the characteristics label location and arrow head location for the operator to use a reference.

1) Login to WinSPC as the Admin user or a user that has Administration permissions to edit Collection Plans.

- 2) In the Tree pane of the Administrator window, under Collection Plans, left-click on the Collection Plan for which you want to configure to use the blueprint.
- 3) Open up the Collection Plan properties by using one of the following methods:

Right-click on the Collection Plan and selecting Properties from the popup menu. Double left-click on the Collection Plan.
- 4) Left-click to highlight the Characteristic that will use the Blueprint. Multiple characteristic sections are not allowed.
- 5) Left-click the Blueprint tab while still on the Step Options tab.
- 6) Left-click the down arrow on the Blueprint dropdown box, and Select the desired Blueprint from the list. This will display the blueprint image in the viewing area of the screen.
- 7) Left click the zoom rectangle, on the blueprint image that is intended to be displayed for that characteristic, to make it active.
- 8) Left click the Zoom in button which is the magnifying glass icon with the plus sign [+]. This will display the view with the specified magnification and cropping. Also the characteristic label and arrow head will be displayed with the Blueprint view.
- 9) Position mouse pointer in front of the characteristic name. Left-click and hold then move the characteristic label to a location that will be meaningful and uncluttered for the user.
- 10) Position mouse pointer at the tip of the red arrow head. Left-click and hold then move the arrow head to point to the section of the Blueprint that pertains to that characteristic.
- 11) Repeat the above steps for each characteristic that requires a Blueprint.
- 12) Left click on the General tab while still on the Step Options tab.
- 13) Highlight the characteristic(s) that use Blueprints.
- 14) Left-click the down arrow on the User Interface Type dropdown box and select the Blueprint option from the list. This will set the default data collection to use the Blueprint (as opposed to Spreadsheet or Standard).
- 15) Repeat the above step for each characteristic that requires the Blueprint in Data Collection.

Manual Data Collection with Blueprints

Now that the Blueprint has been created, setup, and added to a Collection Plan, next is to learn how to use the Blueprint screen to collect data. Below is a brief description on how to use the Blueprint in Data Collection.

- 1) Open the Navigator window by left-clicking on the Navigator icon in the toolbar.
- 2) Left-click to highlight the collection plan that contains the Blueprint.
- 3) Left-click on the SPC button to launch the collection plan.

4) If necessary, on the data collection screen, resize the Blueprint pane by left-clicking and holding down while dragging the divider line just to the right or left as needed. The divider line is located just left of the word Charts at the top of the Charts pane.

5) Locate the characteristic containing the active cell. The active cell is the light blue cell and this will be the location (characteristic) for which the next sample will be entered. WinSPC determines the active cell from the sequence of collection plan steps defined by the administrator for the collection plan. If you want to collect data for a characteristic other than the characteristic containing the active cell, do one of the following:

Single left-click the first empty cell in the desired Characteristic, if visible on the screen. This makes that cell the active cell. Press <Tab> to advance the active cell to the next characteristic in the collection plan step sequence. Left-click on the Next characteristic or Previous characteristic icon(s) in the toolbar to move to the next or previous characteristic.

An inability to select a cell other than the active cell determined by WinSPC indicates that the administrator who set up the collection plan has defined a mandatory sequence for the collection of data. In this case, you must collect data into the active cell determined by WinSPC.

6) Using the keyboard, input the appropriate value, and press the Enter key. This causes one of the five following events:

The next empty cell for the same characteristic turns light blue, indicating it is now the active cell. The first empty cell of another characteristic turns light blue, indicating it is now the active cell. Depending on the setup of the collection plan, this may be preceded by the scrolling of the ribbon. Again, WinSPC determines the new active cell from the sequence of the collection plan steps defined by the administrator. In some cases, ribbon scrolling is disabled by an administrator. The ribbon scrolls and a new characteristic are displayed in the Blueprint pane. The ribbon scrolls and a new characteristic are displayed in the Spreadsheet pane. The ribbon scrolls and a new characteristic displayed in the Standard pane.

7) If any of the first three events in the preceding step occur, repeat this procedure until all desired values have been entered.

8) If either of the last two events occurs, complete the Collecting Data Manually using the Spreadsheet Pane or the Standard Pane as appropriate.

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