

4 Overview of BuildPlus

BuildPlus is used to build your system's configuration, graphics and databases into a Snapshot file that can be viewed using the Hyperview browser, providing a read-only snapshot of your process control system. Once you have configured the first build for your system, you can rebuild very easily, and even run builds automatically from the command line.

4.1 Getting Started with BuildPlus

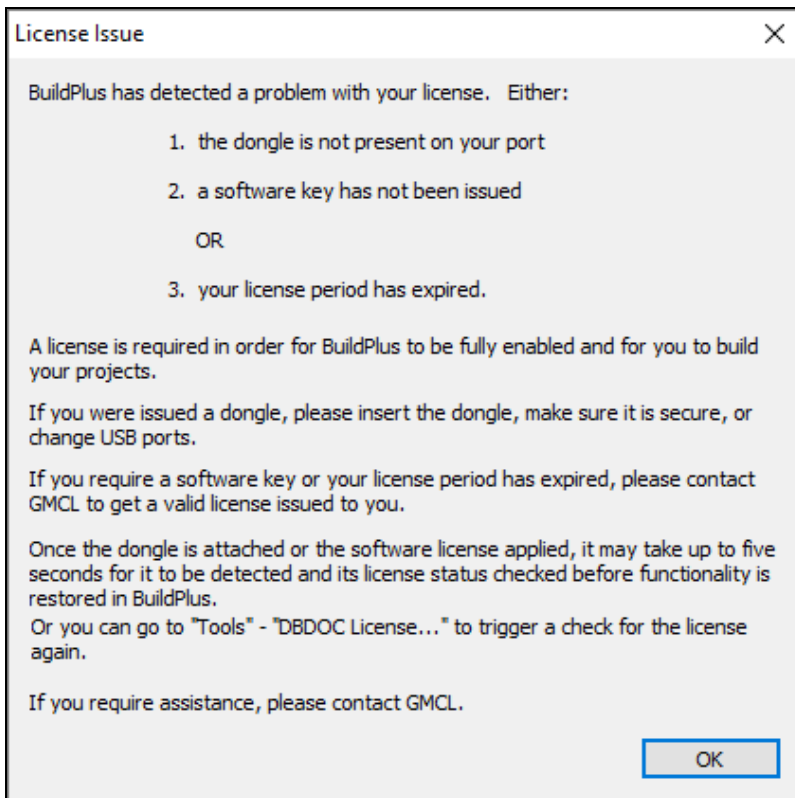
For information about installing DBDOC (including BuildPlus), see the **DBDOC Installation and Setup** section of this manual.

4.1.1 DBDOC dongle

A USB dongle (security key) is required to run a build to completion with BuildPlus. A warning will appear if the dongle is not present when you start BuildPlus, and also if you get to the Hyperlink compile stage. The build will not continue and run Hyperlink until the dongle is present.

 **Note:**

As of DBDOC 11.0, new *Sentinel* dongles are required. The old *MicroDog* dongles used with earlier versions of DBDOC will not work and BuildPlus will just give the *License Issue* warning shown here.



Please contact GMCL for assistance with dongle-related issues.

4.1.2 About your DBDOC license and computer key

On the **Help** menu, click **DBDOC License** or on the **Tools** menu, click **DBDOC License...**

DBDOC License

You have a permanent DBDOC license for unlimited documents. Please contact GMCL if you wish to change this. (Software License)

Generate a new DBDOC license:

Generate License File (.C2V)

Generate a .C2V file to update your current license or to generate a software license key in order to run DBDOC. The resulting files will be automatically zipped up; e-mail this zip file to GMCL.

Save file to:

File generated:

Update License

If you need a new or modified license, you must first "Generate License File", then "Update License" with the file that GMCL sends you in return.

Apply the .V2C file that you received from GMCL to update your current license status.

V2C file location:

Update status: N/A

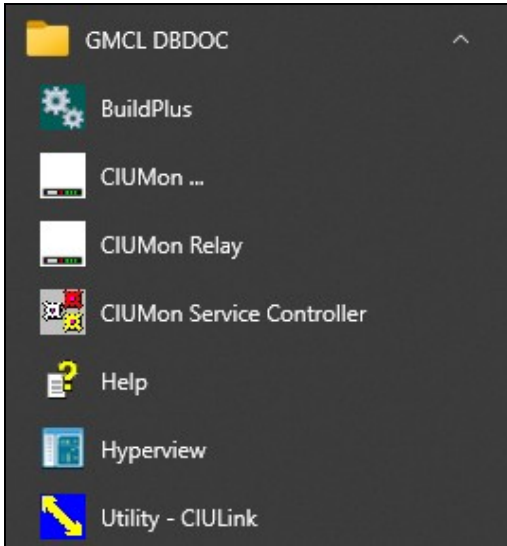
Contact us via: E-mail: key@gmdl.com
Phone: Toll free in North America - 1-866-438-2101, elsewhere - +1-780-438-2101
Fax: +1-780-437-3367

4.2 Adding or changing license information

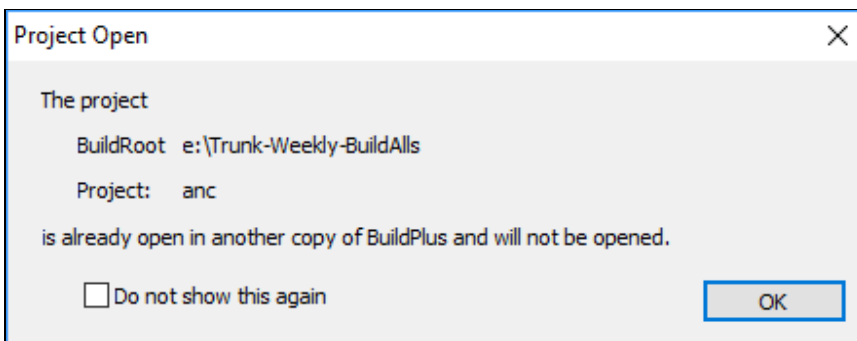
See Licensing DBDOC.

4.2.1 Opening BuildPlus

- BuildPlus can be opened using the **Start** menu - (in some versions of Windows it may be under **Programs**) look for a **GMCL DBDOC** folder and click **BuildPlus**.



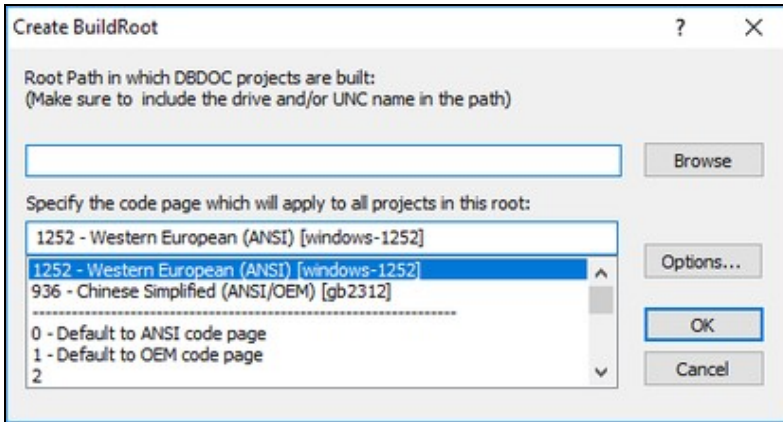
- BuildPlus can be opened from DBDOC program file, located by default at C:\Program Files (x86)\GMCL\DBDOC\Programs, with the file BuildPlus.exe.
- If the project is already open in another copy of BuildPlus, the following dialog will appear. Once you click **OK**, BuildPlus will start and allow you to open a different project.



4.2.2 About BuildRoots

Creating a BuildRoot actually creates a new working directory, where projects will be stored.

- The first time BuildPlus is run, it will automatically ask you to create a BuildRoot. BuildPlus creates several fairly large working files, so put your BuildRoot on a disk with plenty of space.
- On running BuildPlus for the first time, BuildPlus will suggest a BuildRoot for you – `X:\DBDOC_BUILDS`, where `X` is the local disk with the most free space. You may also browse to choose a different directory, or type in the directory of your choice.

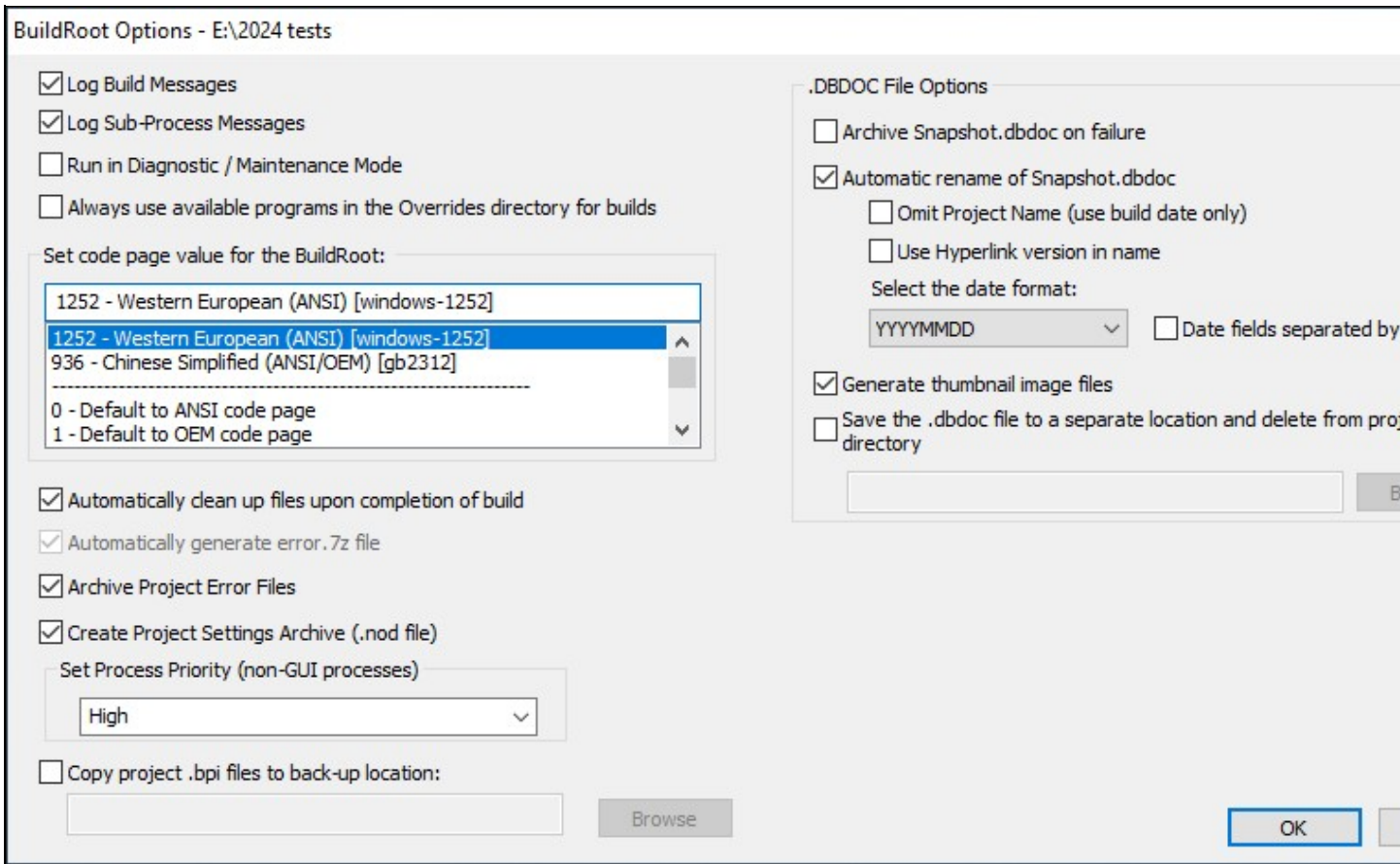


- The code page for the BuildRoot is the same encoding that is used for your INFI 90 files. The default already selected is the code page your system uses, and is usually correct.
- Clicking on the **Options** button allows you to change BuildRoot Options.

Changing BuildRoot options

BuildRoot Options apply to all projects in the BuildRoot. (Global options apply to all projects on the build computer, and Project Options apply only to the open project.)

Other than the **Create BuildRoot** dialog above, to access BuildRoot options, on the **Tools** menu click on **BuildRoot Options**.



Usually the default selections should be used. For information about each option, look in BuildPlus help documentation under BuildRoot, changing options, and select the link for that option.

If a project has not been created yet, BuildPlus will launch the **System File Specifications** dialog. See **Doing Your First Build** to continue.

4.2.3 Getting Help with BuildPlus

There are many ways to access DBDOC help from BuildPlus.

Contacting GMCL

E-mail	support@gmcl.com
Phone	866 438-2101 Toll Free in North America
Phone	(+1) 780 438-2101
Fax	(+1) 780 437-3367
Web	http://gmcl.com

We provide virtually 24x7 support coverage.

Choosing Help from the BuildPlus main menu


- On the **Help** menu, click **Contents** to go to the contents (or first) page of the help file.
- On the **Help** menu, click **Index** to go to the index page of the help file.

- On the **Help** menu, click **Search for Help on** to go to the search page of the help file.
- On the **Help** menu, click **Go to GMCL help website** to launch your default browser and go to the Help page on the GMCL website.
- On the **Help** menu, click **Display BuildPlus .nod file location...** to display the location of crucial files pertaining to projects and BuildRoots. This is also the location of DBDOC_Components.txt, when the Tool **Enumerate DBDOC Components** is applied.

Using ? button on dialog boxes

At any time it is available, contextual help can be obtained by clicking on the ? box in the top right corner of the dialog box, and then clicking on the subject you are wondering about.

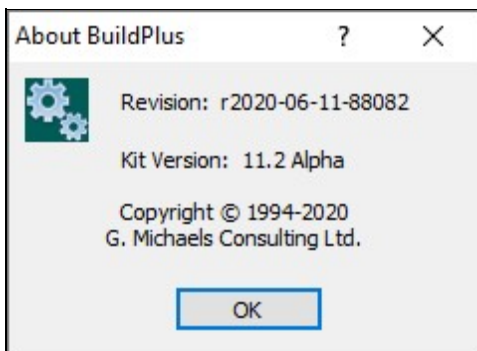
Using "What's This" from the toolbar

On the BuildPlus toolbar, click on , then click on the item you need help with.

4.2.4 About your DBDOC version

When contacting GMCL for assistance or updates, you may be asked for the versions of your DBDOC components.

- To find the BuildPlus version, on the **Help** menu, click **About BuildPlus**. This displays the current version of BuildPlus as well as the version of the currently installed kit.



- To find other DBDOC component versions in the project directory, use the **Tools** menu to **Launch Windows Explorer** to the project directory and open the file named **DBDOC_Components.txt**
- To create a file listing all DBDOC components in the Application Data folder, on the **Tools** menu, click **Enumerate DBDOC Components**. This creates text file DBDOC_Components.txt in one of the following locations:
 - ◆ C:\Documents And Settings\All Users\Application Data\GMCL\Projects, for users who have write privileges to this location, or
 - ◆ C:\Documents And Settings\\Application Data\GMCL\Projects.

or equivalent directories depending on the operating system. The file lists the versions of all DBDOC programs and any mismatches relative to the kit version of DBDOC installed.

4.3 Doing Your First Build


To configure your project in preparation for a build, the following steps will be completed:

1. Naming Your Project and Choosing Database Files to Build
2. Choosing Configuration, Graphics and Other File Locations with the Configuration Wizard
3. Changing Project Options, if desired
4. Resolving any other questions asked by BuildPlus

4.3.1 Naming Your Project and Choosing Database and 800xA Files to Build In

The **System File Specifications** dialog is launched automatically for the first build.

At other times, it can be retrieved from the **Build** menu, by selecting **System File Specifications**, or by

clicking the  button on the BuildPlus toolbar, to change the databases and/or 800xA graphics included in the build.

At any time, contextual help can be obtained by clicking on the ? box in the top right corner of the dialog box, and then clicking on the subject you are wondering about.

Naming your project

In the **System File Specifications** dialog, enter a unique and meaningful name for your project (e.g. a few words that identify the function, location, plant or company).



System File Specifications

Enter name of the project:

Choose the type of system and the paths to search in for the respective databases (you can specify either a general path or a path and a database name):

<input type="checkbox"/> SPE 2.x/Composer (TOC.DAT dir,EBP files)	<input type="text"/>	Browse
<input type="checkbox"/> Scripted		
<input type="checkbox"/> Access Tags, HGS, HPG, GPI (MDB files)	<input type="text"/>	Browse
<input type="checkbox"/> Process Portal (XML files)	<input type="text"/>	Browse
<input type="checkbox"/> WinTools (PTT files)	<input type="text"/>	Browse
<input type="checkbox"/> Generic (DBF,TTG,TTR,CSV,PTT,UCF files)	<input type="text"/>	Browse
<input type="checkbox"/> S+, PI, generic (XLS,XLSX files)	<input type="text"/>	Browse
<input type="checkbox"/> 800xA V5.0 AFW Backup (AFW dir)	<input type="text"/>	Browse
<input type="checkbox"/> 800xA BBA/ASSYST Files Folders (PNG dir)	<input type="text"/>	Browse
<input type="checkbox"/> AC 800M Documentation (DOC/DOCX dir)	<input type="text"/>	Browse
<input type="checkbox"/> ABB Function Code PDF Files (any form)	<input type="text" value="C:\Program Files (x86)\ABB Symphony Plus\Engineering\Composer Harmony\Documentation\F"/>	Browse

Finish Cancel

Choosing database (and 800xA graphics) types

Check the boxes that apply to database (and 800xA graphics) types in your project:

- Composer systems – **.EBP** databases
- Access **.MDB** databases – Process Portal B / Operate IT / Conductor NT systems / 800xA. (See also instructions to extract an Operate IT Database for 800xA and for PPB)
- Process Portal **.XML** Databases – for some Process Portal B systems
- WinCAD/WinTools systems – **.PTT** Relational databases
- Generic tag and trend databases: **.DBF**, **.TTG**, **.TTR** and **.UCF**, also **OPC-90 .CSV**, **Citect Console Databases**, plus any other database types that you can export into **.DBF** format.
- S+, PI, generic - **.XLS** and **.XLSX** Excel Workbooks - This reads in data stored in spreadsheets, including OSISoft PI configuration documents and Symphony Plus graphics databases
- 800xA **.AFW** Backup Folders (non-ASSYST **.AFW** dir) - **.AFW** directories (VB Version 5 graphics have file names starting with 0_) Contact GMCL for information about ASSYST extraction of your graphics. (See also instructions to extract 800xA VB graphics.)
- 800xA BBA/ASSYST Files Folders (PNG dir) - (directory that contains .png graphics files in folder BBA_Snapshot or Assyst_Snapshot) (See also Extracting 800xA graphics using the Assyst tools.)
- **ABB Function Code PDF Files** (any form) can be built in checking this box.

Specifying where to search for your database, 800xA graphics and Function Code files

(Note that the databases, graphics and function code files do not have to be located on the same computer, or on the build computer, and DBDOC access is read-only. But if you don't have access through a network to the computer that contains the source files, you may have to copy them to your local computer. In this case, leave the directory structure the same. Use UNC naming convention when possible.)

Either: Enter the folder name in which the file(s) reside, and BuildPlus will find the files, or you may include the name of the file.

Or: Click on **Browse** to select a directory or file. (This choice will be appended to the end of any search paths already entered.) You can **Browse** for the directory in which the database file(s) reside and BuildPlus will find the files, or you may include the name of the database file.

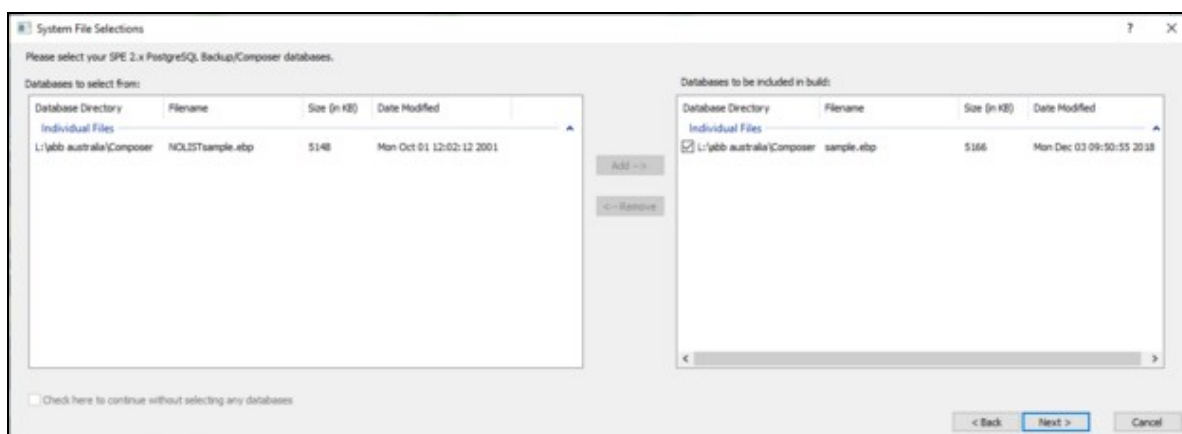
- Once a path has been entered, the drop-down arrow can be used to select the same location for other database types, or you can copy and paste from one box to another.
- More than one path will be searched if multiple paths are listed for a database type, separated with a "|" character

After specifying the locations of your files, click **Next** so BuildPlus can find your files.

Selecting specific databases and 800xA graphics locations

- The left panel displays "databases to select from"; all databases of the specified type found by BuildPlus in the specified search paths. If you wish to change the search path to find additional databases, use the **Back** button.
- The right panel displays "databases to be included in the build", including any database names entered previously (provided they were located in the search). If only one database was found during the search, it will be automatically moved into the final list.

- Move a database from one list to another by selecting it from the initial list and clicking the enabled **Add** or **Remove** button as required. Using the **CTRL** or **SHIFT** key in combination with the mouse can make multiple database selections.
- If a database has "Unimplemented Type" listed for the file size, BuildPlus has identified that it cannot process the file, and that file cannot be selected.
- The **Next/Finish** button will be enabled when there is at least one database in the final list
- To proceed with the build without selecting any databases of a given type, use the checkbox **Check here to continue without selecting any databases**. You may also use the **Back** button to omit that type of database from the build.




- Composer EBP databases are each shown with a checkbox in the final selection list. Unchecking the box means that databases extracted from EBP file will not be used or included in your final Snapshot. Generally, you would only uncheck the EBP database if it is unused, obsolete or in some other way invalid, and a better database can be built in.
- Locations of Function Code .pdf files are listed for information, and BuildPlus will select the appropriate files. To change which locations of Function Code .pdf files are included, use the **Back** button to the **System File Specifications** box, find your preferred file location and check the **Redo** box, then click **Next** to proceed.

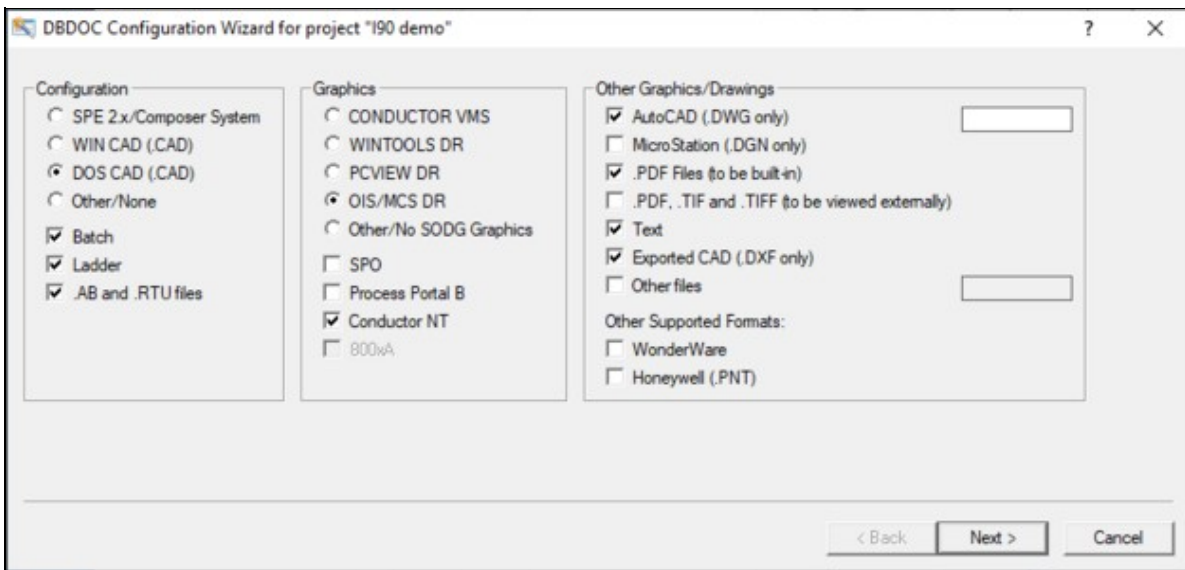
System File(s) Chosen lists all your selections so far. If corrections need to be made, press the **Back** button to review the system file selection panels. Otherwise, press the **Finish** button to continue. After some database processing, the Configuration Wizard dialog will appear.

4.3.2 Specifying Configuration, Graphics and Other Files with Configuration Wizard

- For a new project, the Wizard is only accessible after the project name and databases have been selected in the System File Specifications dialog.
- Some Wizard selections may be made automatically based on Database types already chosen.
- The Wizard only needs to be run once unless file selections need to be changed. To access Wizard

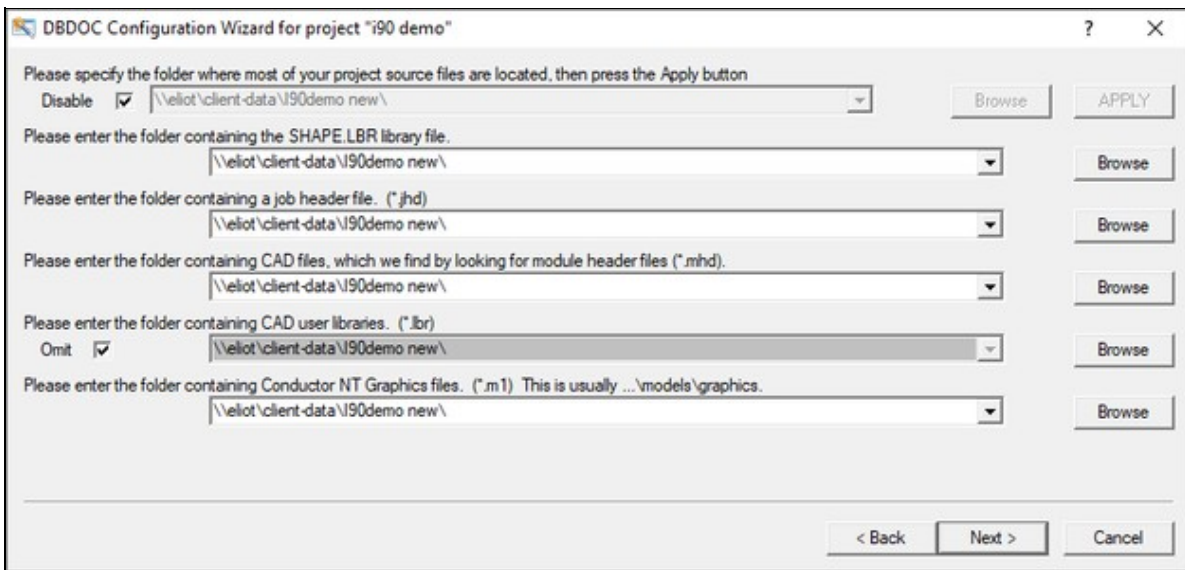
later to make changes, on the **Build** menu of BuildPlus, click **Project Wizard**, or click the  button on the toolbar.

- At any time, contextual help can be obtained by clicking on the ? box in the top right corner of the dialog box, and then clicking on the subject you are wondering about.



Within the Wizard,

- Choose one configuration type with a round checkbox, or choose Other/None and select other types of configuration documents: Batch (.b90), Ladder (.lad) or .AB and .RTU files.
- Choose one type of SODG graphics with a round checkbox, or choose Other/No SODG Graphics and specify S+/PGP, 800xA (ASSYST Files), 800xA PG2, 800xA VB, Process Portal B and/or Conductor NT graphics as appropriate. (To ensure 800xA PG2 files are processed completely, they should be included in **System File Specifications**. (You may also choose a type of SODG graphics plus 800xA, Conductor NT and/or Process Portal B graphics in the same build.)
- As of DBDOC 10.7, you may specify a location for .jpg, .jpeg, .png, or .gif images to be included in S+ or PGP graphics. If your project already included S+/PGP graphics, a **S+/PGP Graphics Detected** dialog may appear, allowing you to specify the location of these images. These selections can also be modified when rebuilding from Wizard.
- Specify other file types to be included in the build by checking appropriate optional square checkboxes.
- As of DBDOC 10.7, it is possible to have pdf files built-in for display within the Snapshot file. If your project previously included externally-linked pdf files, a **PDF Documents Detected** dialog may appear, allowing you to build-in any or all of your folders of pdf files. These selections can also be modified when rebuilding from Wizard.
- If you have AutoCAD **.PRO** format files, check the box for **AutoCAD (.DWG)**. The text box to the right of this will open, allowing you to enter **.PRO**.
- ORCAD files saved with extension .dxf can be built in by selecting Exported CAD (.DXF only)
- C-programs with a .txt extension can be included by selecting Text
- Click **Next** to continue once all selections have been made.



"Please specify the directory where most of your project source files are located, then press the Apply button"

- When most directory paths are empty, specifying one directory where most files are located, then pressing **Apply** fills in all directory search paths with that one choice as a starting point
- Otherwise, the **Disable** box should be checked.

Entering paths to files

- Enter the folder name in which the file(s) reside, and the wizard will find the files
- Once a path has been entered, the drop-down arrow can be used to select the same location for other files **OR** you can copy and paste from one box to another.

Browsing to choose paths

- Clicking on Browse will bring up the Windows "Browse for Folder" dialog, where a directory can be selected, or a folder name can be copied in. This choice will be appended to the end of any search paths already entered.

Adding more than one path

- More than one path will be searched if multiple paths are listed, separated with a "|" character
- Multiple paths can be quickly added by clicking the **Browse** button and selecting additional paths.

Red arrow alert

When you see a red arrow there may be invalid path information, which must be corrected to proceed.

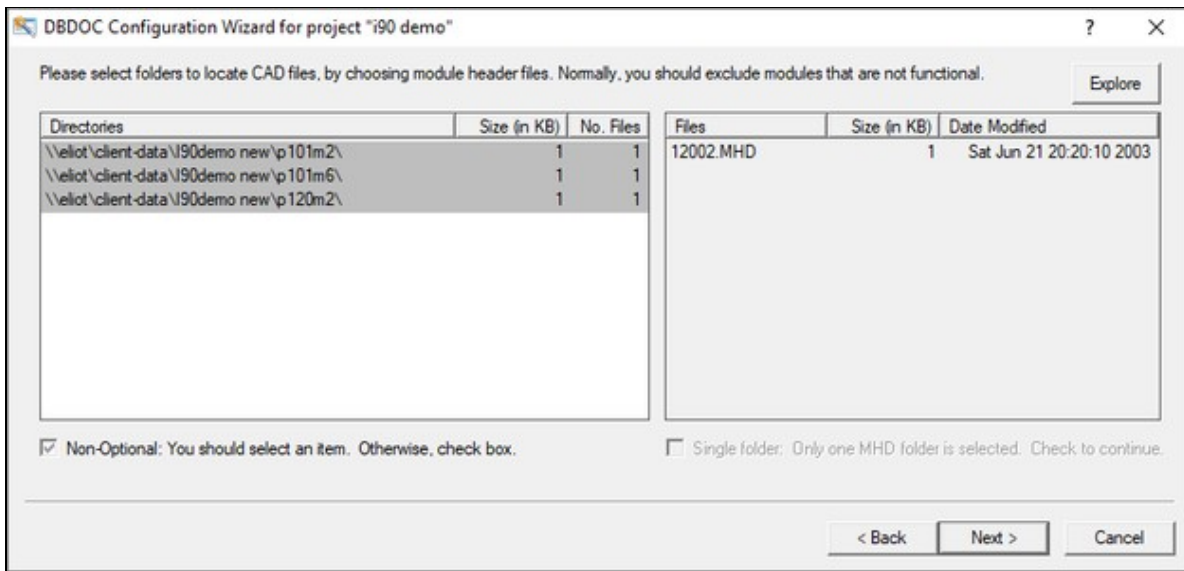
(If files are located on a remote machine you can't access, it may be necessary to copy them to your local computer. If you do, don't change the directory structure as it helps BuildPlus make some automatic associations.)

- When DECOMPOSER folders within the DBDOC_BUILDS directory are listed, they contain files

created by DBDOC and should usually be left as the directory for Wizard to search.

- The CAD user libraries are usually omitted. For Composer projects, BuildPlus extracts a MACROS.LBR file. To specify a different user library, uncheck this Omit checkbox. This allows you to build with what you consider to be the master copy. (WinCAD systems often have multiple copies that must eventually be consolidated and united.)

After specifying the locations of files on each page, click **Next** to have Wizard find your files.



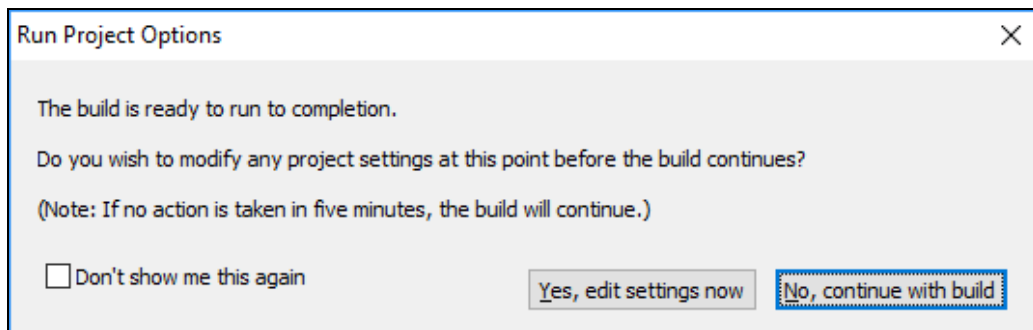
Confirming File Selections

- The left panel lists folders identified within the specified directory which contain each file type, with the currently selected folders highlighted. The right panel lists files contained in the last selected folder.
- To assist with choosing files, the lists can be sorted alphabetically or numerically by directory name, size or date modified by clicking on each heading.
- Using the **CTRL** or **SHIFT** key in combination with the mouse can make multiple file selections.
- The **Explore** button opens the specified directory to view the folders and files within.
- If the expected files aren't listed in the left panel, use **Back** to change where the Wizard should look for files, and ensure the **Redo** box is checked for a new Wizard search.
- Checkbox **Non-Optional: You should select an item. Otherwise, check box** can be checked to skip certain files or groups. This is not a recommended practice since your build results may not be valid.
- **Single MHD: Only one MHD has been selected, check to continue** should be checked if you wish to proceed with only one module in the build.
- To see which .ebp database file was used for extraction into each **DECOMPOSER** folder, move the mouse over the name of the folder and a datatype will be displayed.
- For unit console graphics, to see which console is involved with each **EBYxxx.TMP** folder, move the mouse over the name of the folder and a datatype will be displayed.

After selections have been made, click **Finish** to proceed with the build.

- The **Run Project Options** dialog may appear next, giving you an opportunity to change project

options. Click **Yes, edit settings now** if you wish to build error files into your Snapshot and/or build in settings for live data. (See below.) For information about other project options, see BuildPlus Help:project options, changing. Click **No** to continue with the build using default project options.



The dialog box titled "Run Project Options" contains the following text and controls:

The build is ready to run to completion.

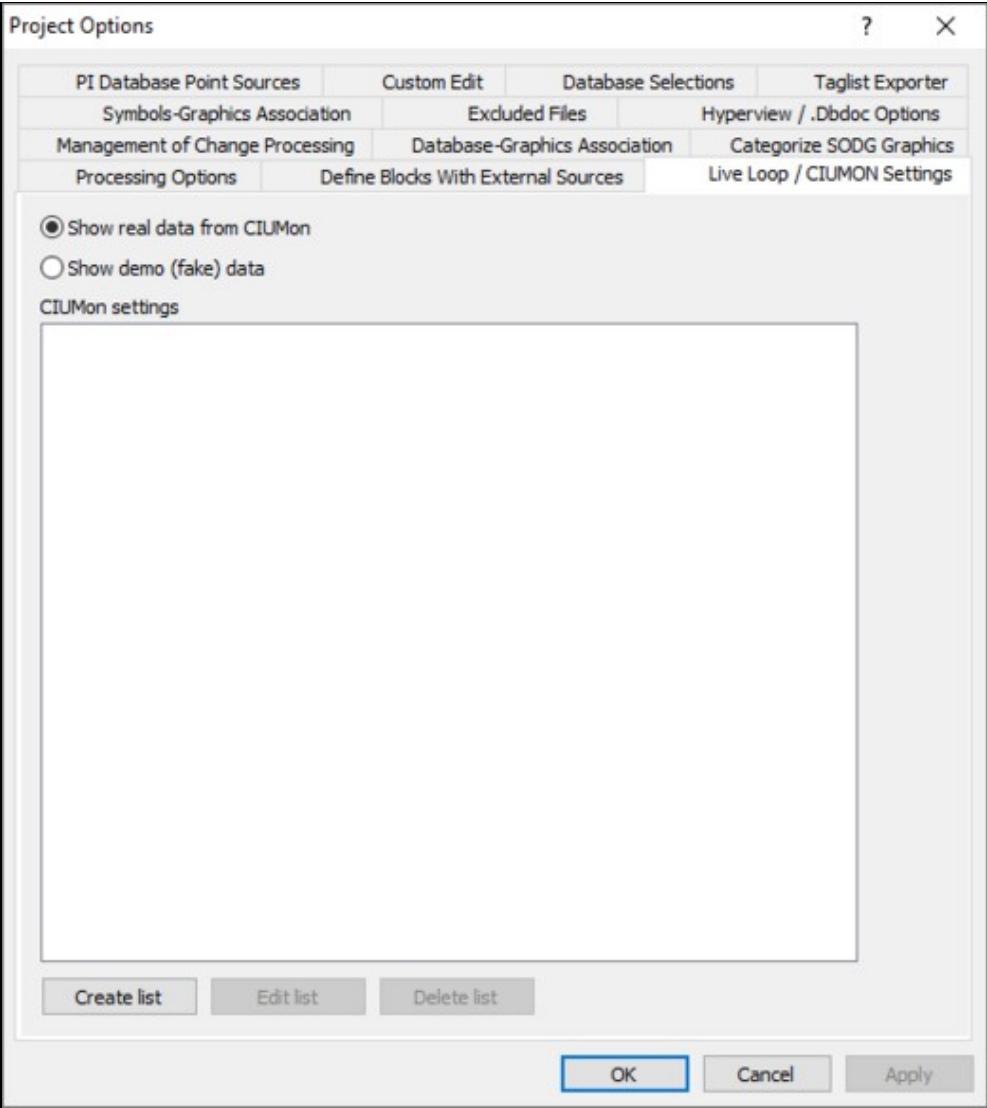
Do you wish to modify any project settings at this point before the build continues?

(Note: If no action is taken in five minutes, the build will continue.)

Don't show me this again

4.3.3 Building in Settings for Live Data

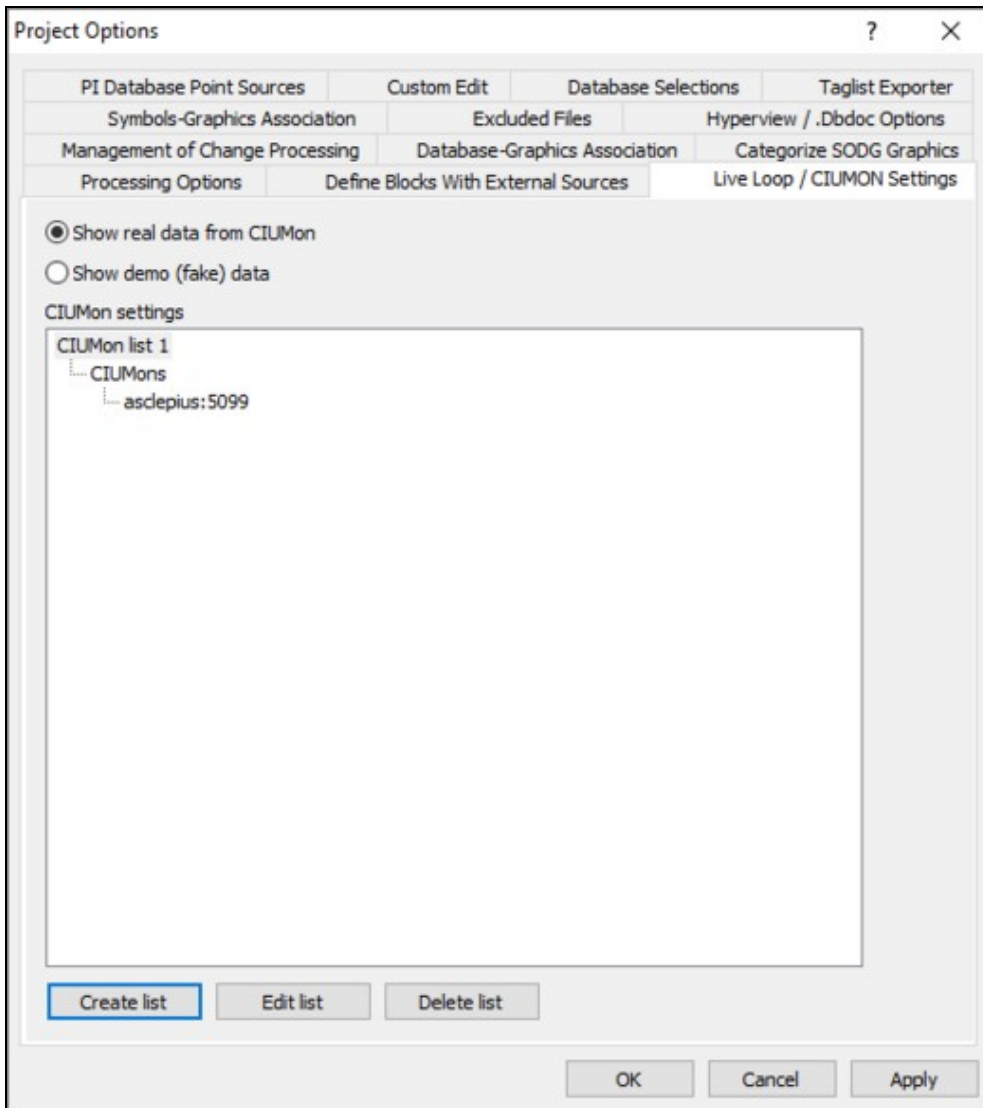
You may choose to **Run Project Options** after Wizard, or on the BuildPlus **Tools** menu, click **Project Options** and navigate to the **Live Loop/CIUMON Settings** tab.



1. Choose to either **Show real data from CIUMon** (default) or **Show demo (fake) data**
2. To add CIUMon settings, click on **Create list**

1. Change the **Name** for the list if you wish (this is helpful when multiple lists may be created)
2. To enter CIUMon information, click on **Add** under the CIUMon box. Enter the **Hostname or IP** address of the CIUMon, and the **Port**, if not 5099 (default). Click **OK** to continue.

1. To edit or delete a CIUMon from the list, first select the location to be edited or deleted, then click **Edit** or **Delete**
2. It is occasionally necessary to enter **Routing preferences**, for example to identify a specific CIU for an individual's testing. To enter routing preferences, click on **Add** under the Routing preferences box and select the Loop for which the preferred server will be requesting data, or uncheck the **All** button and enter the specific PCU. Click **OK** to continue.
3. To change the Hyperview local port autobind range from the default (5100 to 5200), choose **Use custom port range** and enter your preferred settings.
4. When finished adding and editing CIUMon lists, click **OK** to see your selected CIUMon settings lists

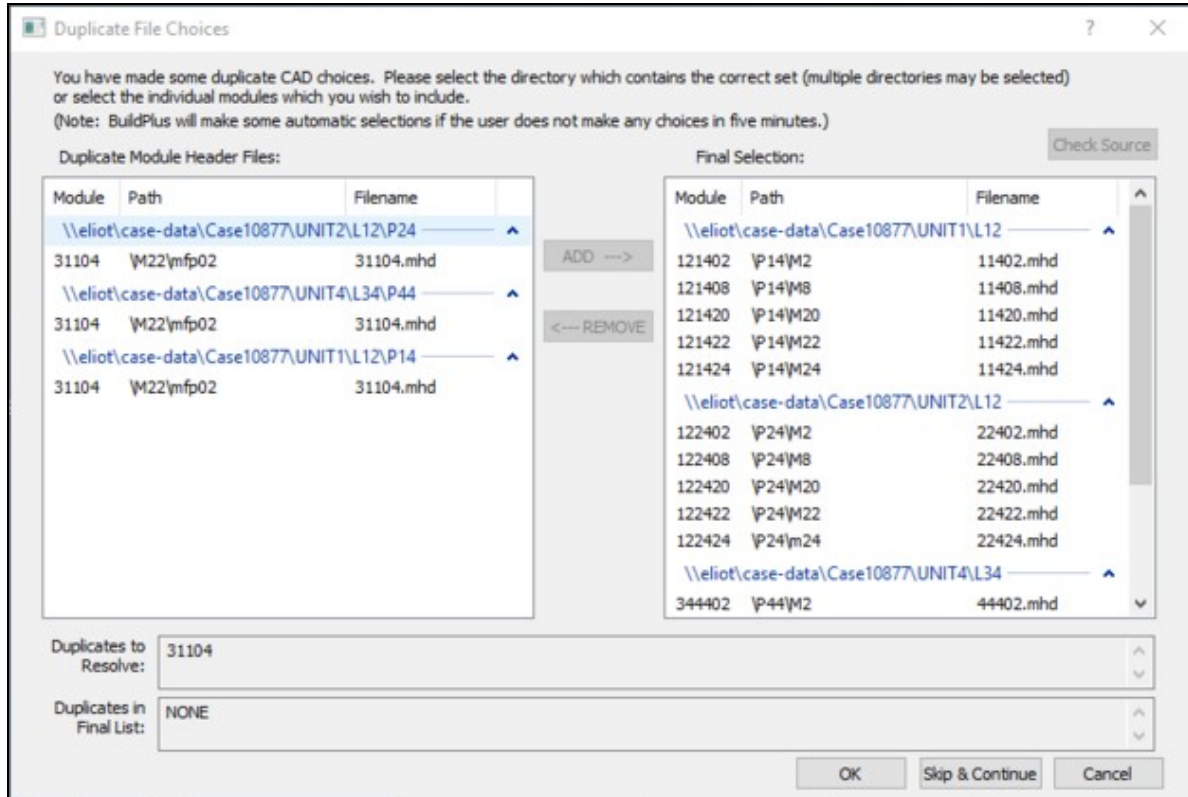


1. To create another list, click on **Create list**. To edit or delete a list, select the list, then **Edit list** or **Delete list**.
2. Click on **Apply** if you wish to save your lists and change other project options. Click on **OK** to continue.
3. If you are adding CIUMon settings after a build is complete, choose **OK** in the CIUMon settings changed dialog.

4.3.4 Resolving Other BuildPlus Dialogs

4.3.4.1 Duplicate File Choices

BuildPlus reports any duplicate module headers for CAD or CLD files so the correct entries may be selected for the build:



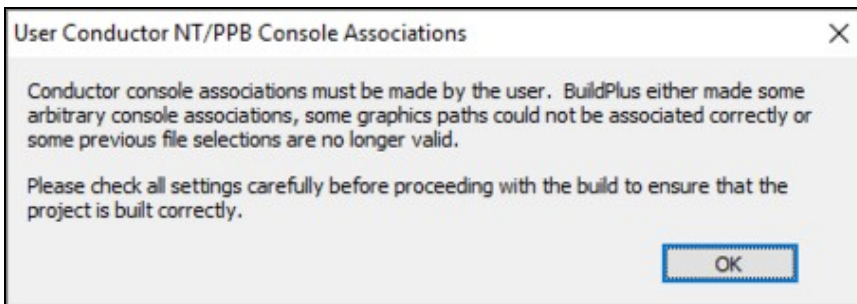
Modules that are unique have been placed in the final selection list on the right-hand pane. The duplicate modules that need to be resolved are listed at the bottom of the dialog box, with the choices listed in the left-hand pane. (Files are grouped together based on a common root directory and are displayed in a treeview.)

- Clicking the **Check Source** button lists which Composer database (.ebp) file was used to create each Decomposer directory
- Select individual modules or the full root path to move into the final list; check the box beside the appropriate files and/or roots and click the **Add** button (or use **ALT+A**).
- To remove from the final list, select the appropriate files and/or roots and click the **Remove** button (or use **ALT+R**).

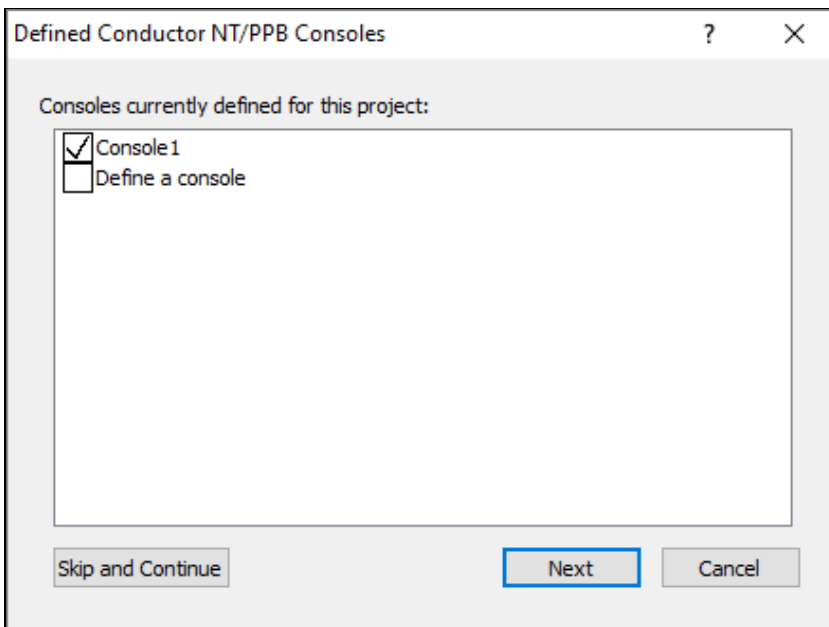
Once the correct selections are made, this dialog will no longer appear, and the final selections can be viewed within the Wizard.

4.3.4.2 Conductor NT or PPB Console associations

When multiple consoles are present, you may see:



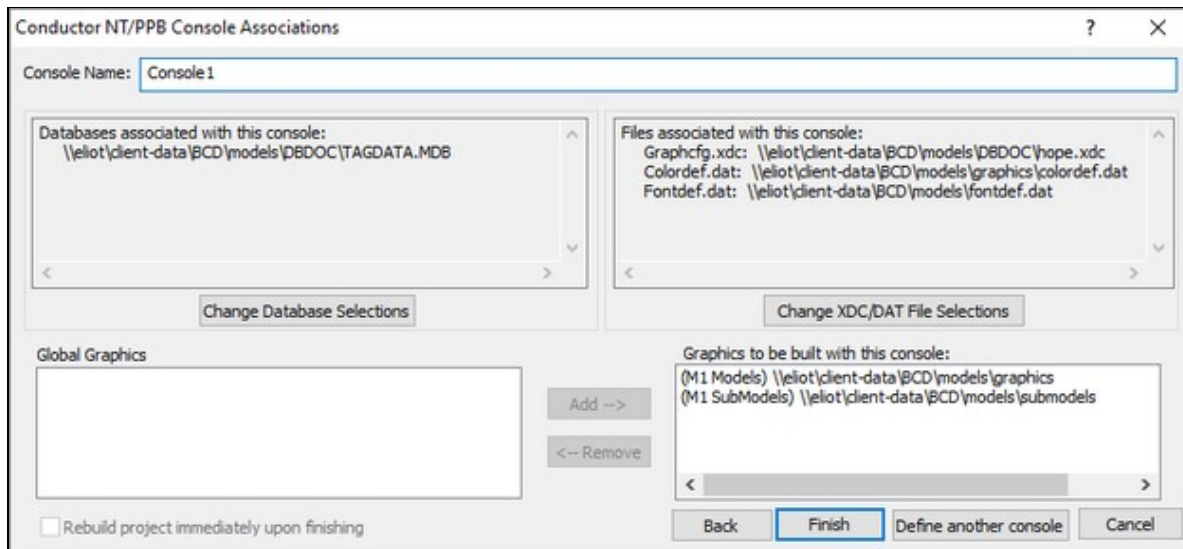
When you click OK you will have the chance to review and change associations made by BuildPlus. To check associations at other times, on the **Tools** menu, click **Conductor NT/PPB Console Associations**.



In this dialog, BuildPlus presents a list of the consoles that were created for the project.

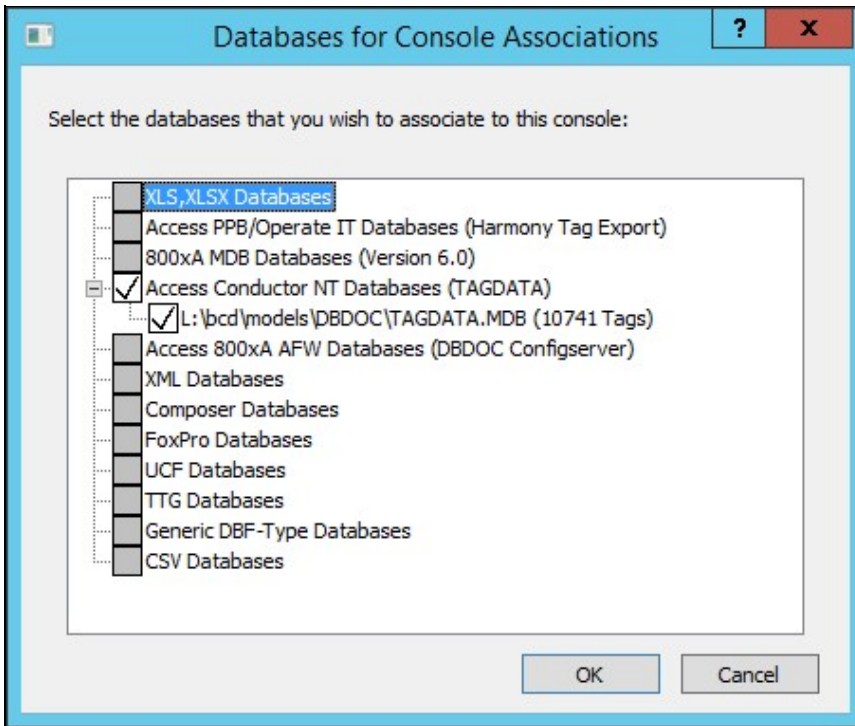
- Check the boxes to choose which consoles to include in the build
- Check the box to define an additional console if required.
- If you click **Skip and Continue**, the build will continue without saving any of the changes so far.
- Pressing the **Cancel** button will cause BuildPlus to exit out of the associations and stop the build.
- Click **Next** to continue, to change a console name or change associations for a console.

The Conductor NT/PPB Console Associations window will appear for the first console:



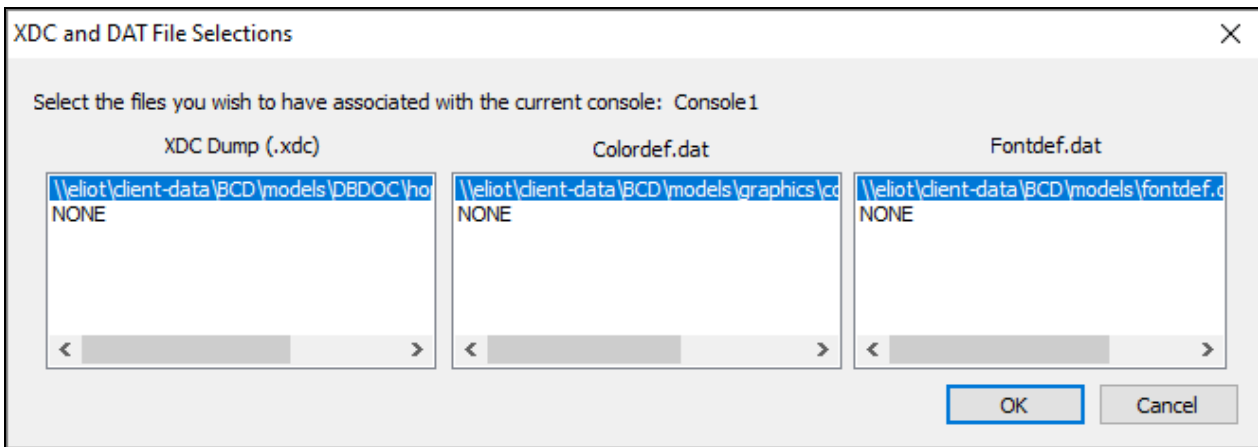
To change the console name from the default Console1, select the console name and enter a more meaningful one. (Each console must have a unique name.)

To change Databases associated with this console, click **Change Database Selections**, and the database selection window will appear:



In this window, BuildPlus presents all of the databases that are included in the project, along with databases that may have been extracted from the original choices (e.g. Relational .PTT, Composer .EBP). BuildPlus will also show the number of records contained within each database. Select all databases required for the console; you may also select no databases if that is applicable for your case. Press **OK** when you are satisfied with the selections.

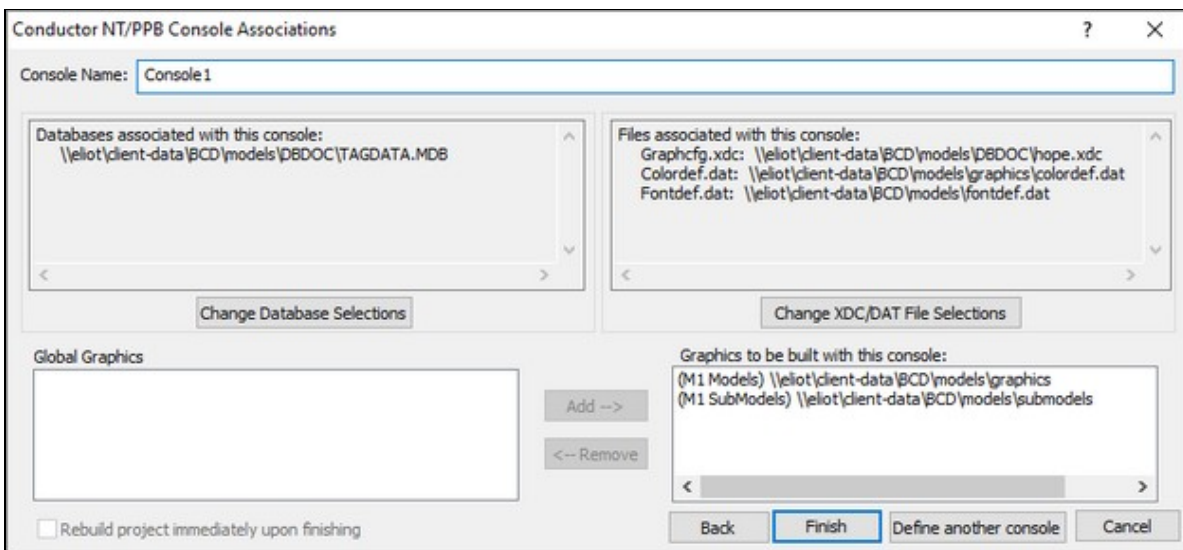
To change XDC, colordef.dat or fontdef.dat selections, in the Conductor NT/PPB Console Associations dialog, click **Change XDC/DAT File Selections**, and the following dialog will appear:



Shown in each list are the files selected through the project wizard. Select the correct entry for the current console in each list. (Note that .xdc files are only required for Conductor NT graphics. See also About .XDC files).

To change graphics selections, look at the bottom of the Conductor NT/PPB Console Associations dialog.

- **Global Graphics** lists all graphics paths not currently associated with a console. Any graphics left in this list after all console associations are completed will be available to all consoles. Each path is described as a model or submodel path, and only M1 paths are listed (not M2).
- **Graphics to be built with this console:** lists graphics associated with the currently displayed console.
- to remove graphics or submodels selected for this console, select any graphics listed on the right side under **Graphics to be built with this console:**, and click on **Remove**
- to add graphics or submodels for this console, select them from the list on the left **Global Graphics**, and click on **Add**



Once the correct database, graphics, and other files are selected for the current console, click **Next** to move onto the next console. Clicking on **Back** at any time allows you to check selections for a previous console.

On the last console to be defined, the button **Define another console** at the bottom of the association panel will become available. Click this to create another console.

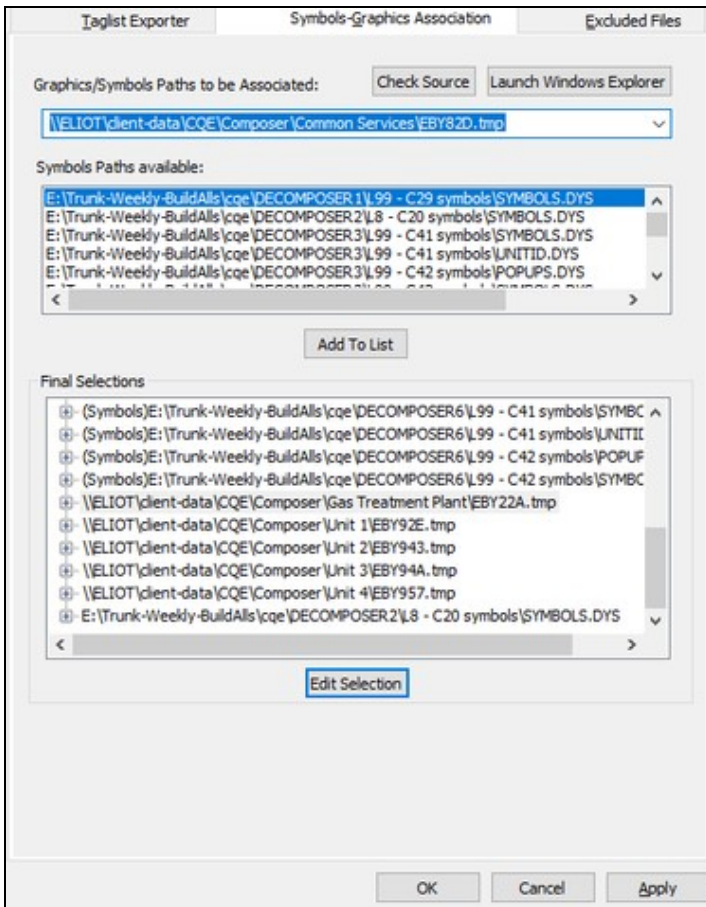
When these associations are done in-line with a build, the build will automatically continue until completion. If the console associations were triggered from the **Tools** menu option then on the last panel, the **Rebuild project immediately upon finishing** checkbox will become enabled. If this is checked when you click **Finish**, BuildPlus will immediately start the build of the project again to incorporate any changes that may have been made in the associations. If this option is left unchecked, any changes made will not be seen in the Snapshot until the next time you build the project.

4.3.4.3 Symbols-Graphics Association

This dialog may appear during the build if automatic associations cannot be made, or

On the **Tools** menu, click **Project Options** and navigate to the **Symbols-Graphics Association** tab.

- When a build contains multiple SODG graphics and symbols directories, it may be necessary to specify which set(s) of symbols to use for each graphics directory. This tool allows you to check and change any automatic associations that BuildPlus has made or to make manual associations.



Launch Windows Explorer button: If you want to check out what graphics are contained in a particular folder, select the path from the list and click the button. A Windows Explorer window will be launched, automatically opened to the folder in question.

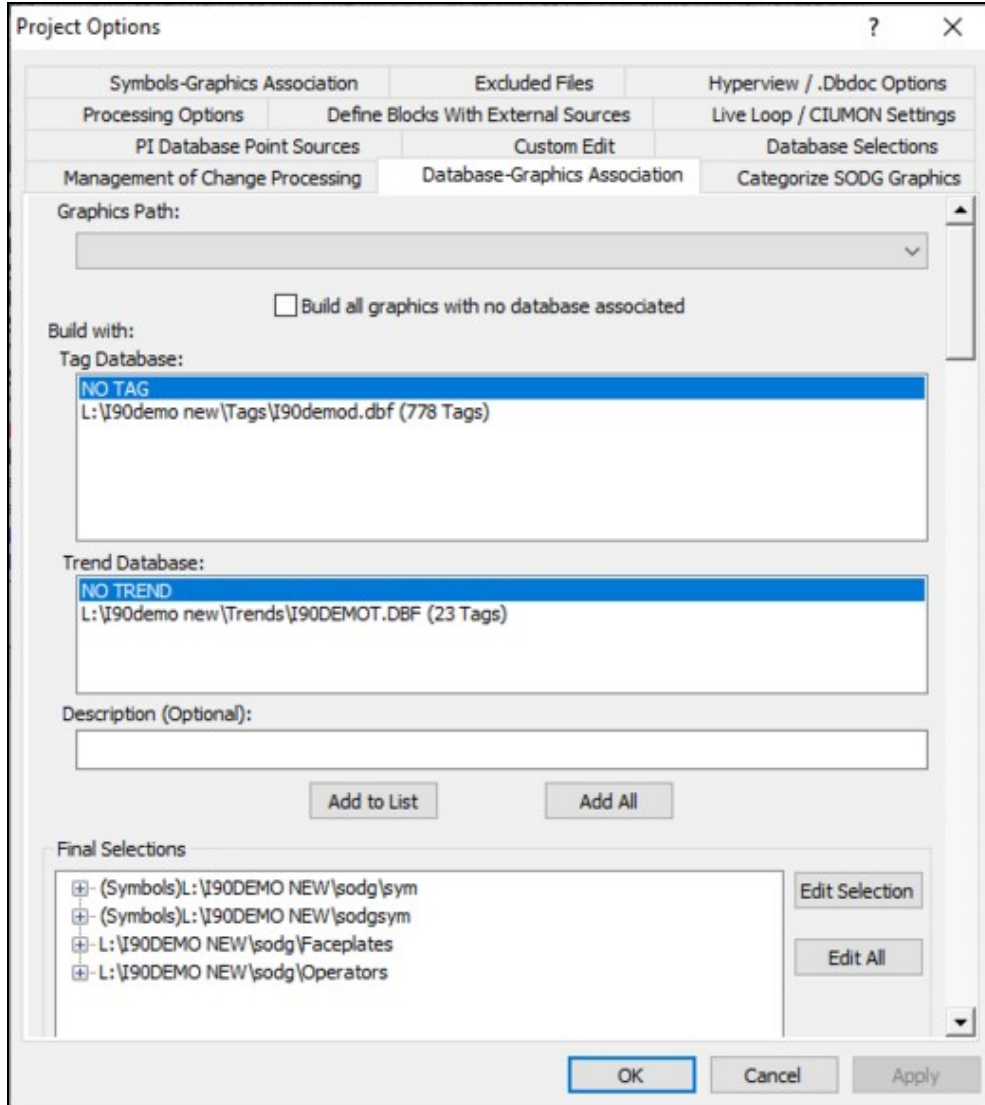
The **Skip and Continue** button will only appear if this option was launched during an in-line build. Pressing this button will tell BuildPlus to discard any changes the user has made and continue on with the build. The **Cancel** button will exit the dialog and stop the build.

To see all of the manual user associations and automatic BuildPlus associations, select **Tools | Project Options** from the menu and click on the **Symbols-Graphics Associations** tab. If you make changes to the associations, rebuild the project after closing the **Project Options** to see your changes in the Snapshot. The associations are stored in the registry for future builds.

4.3.4.4 Database-Graphics Association

This dialog may appear during the build if associations cannot be made using console.cfg files, or

On the **Tools** menu, click **Project Options** and navigate to the **Database-Graphics Association** tab, by clicking on the tab or using **Alt D**.



Any graphics or symbol paths that require association appear in the **Graphics Path** list at the top of the dialog. Symbols paths will be prefaced by "(Symbols)".

To associate databases with a graphics path:

1. Click on a graphics path in the **Graphics Path** list to select it.
2. Select the correct tag and trend databases in the **Tag Database** and **Trend Database** lists. Multiple tag database selections can be made (click-and-drag, CTRL or SHIFT with mouse click) but only one trend database selection.
3. Modify the "Description" (optional) for the Table of Contents entry in the finished Snapshot.
4. Click **Add to List**.

To associate the same databases(s) with multiple graphics paths:

1. Select the correct tag and trend databases in the **Tag Database** and **Trend Database** lists. Multiple tag database selections can be made (click-and-drag, CTRL or SHIFT with mouse click) but only one trend database selection.
2. Click **Add All**.

To view an existing association:

- Expand the entry for the graphics path in the **Final Selections** list.

To edit an existing association:

1. Select the graphics path in the **Final Selections** list.
2. Click **Edit Selection**.
3. Make the changes.
4. Click **Add to List**.

To edit all associations:

1. Click **Edit all**
2. Make the changes.
3. Click **Add All**.

Note that if this dialog was automatically launched during a build, it will time-out after 5 minutes of inactivity and

1. Any user made associations in the final list will be retrieved and stored to the registry.
2. Any graphics paths left unassociated at the timeout will have some automatic associations made:
 1. If a path was originally matched up with a console.cfg file, then the databases listed in the file will be used.
 2. If it is a symbols path, BuildPlus will look for a graphics path that uses that symbols path and use the databases specified for the graphics path.
 3. If it is a GLOBAL graphics path, BuildPlus will use databases in a console.cfg file that is in the same directory path as the global graphics.
 4. Use the first valid pair of tag and/or trend databases listed in the console.cfg files or the user made associations.
 5. Use the largest tag and/or trend databases that have been built.
3. A message will displayed in the main message window stating that default associations have been made and the associations will be shown for the graphics paths that were done automatically.

4.3.4.5 Database Selections - Changing included databases

This dialog may appear during the build if there are multiple tag and/or trend lists, or

On the **Tools** menu, click **Project Options** and navigate to the **Database Selections** tab.

We have extracted the following databases from .MDB,.EBP,.PTT,.XLS,.XLSX databases.
Please select those that you wish to include in your build:

- XLS,XLSX Databases
- Access PPB/Operate IT Databases (Harmony Tag Export)
- 800xA MDB Databases (Version 6.0)
- Access Conductor NT Databases (TAGDATA)
- Access 800xA V5.0 AFW Databases (DBDOC Configserver)
- SPE 2.x PostgreSQL Backup Databases
- XML Databases
- Composer Databases
- WinCAD Relational Databases
- UCF Databases
- TTG Databases
- Generic DBF-Type Databases
 - L:\I90demo new\Tags\I90demod.dbf -- extracted db: I90demod (Tag - 778 Tags)
 - L:\I90demo new\Trends\I90DEMOT.DBF -- extracted db: I90DEMOT (Trend - 23 Tags)
- CSV Databases

Do not include any databases in the build

Don't show this during the build again

Check those databases that you wish to have included in your build and deselect those that are not relevant to your build.

Check the **Don't show this during the build again** box to prevent the appearance of this dialog.

4.4 After Your First Build

Each time a project is successfully built, you will have

- A DBDOC file, which will open automatically using the Hyperview browser
- Build reports or error files
- Other project files

4.4.1 About Your DBDOC File

A project file is created from each successful build, and can be opened with DBDOC Hyperview.

To open a Snapshot file from BuildPlus, on the **Build** menu, click **View .DBDOC Document**, or click the



button on the Toolbar.

- If there is only one Snapshot, Hyperview is launched to display it, or
- A list of Snapshot files is displayed for the current project. When one Snapshot file is selected, Hyperview is launched to display it.
- If you do not have a project open in BuildPlus, this option will be unavailable.

Alternatively, on the **Tools** menu, select **Launch Hyperview**

- Hyperview will open the most recent Snapshot file, whether or not a project is open.

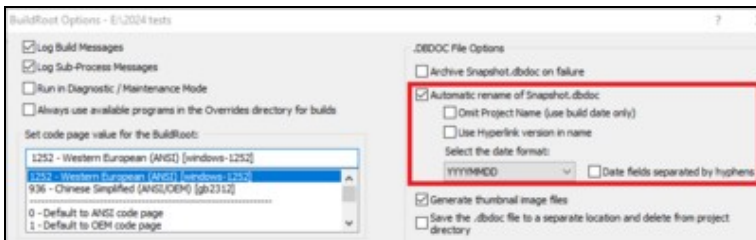
For more information, please refer to the Hyperview Browser section of this manual.

To share Hyperview and the project file over a network refer to the DBDOC Installation and Setup section of this manual.

A number of options are available within BuildPlus related to Snapshot files, as listed below:

4.4.1.1 Changing how the Snapshot file will be named (BuildRoot option)

On the **Tools** menu, click **Build Root Options**.



Automatic rename of SNAPSHOT.DBDOC

When unchecked, the file will be named SNAPSHOT.DBDOC. When checked, the Snapshot file will be automatically renamed at the end of the build so that it will not be overwritten by future builds. The default is to rename it <Project_name>_<Build_date>.DBDOC.

Omit Project Name (use build date only): With the main renaming option checked, you can choose to leave off the <project_name> and use the date for the *.DBDOC name.

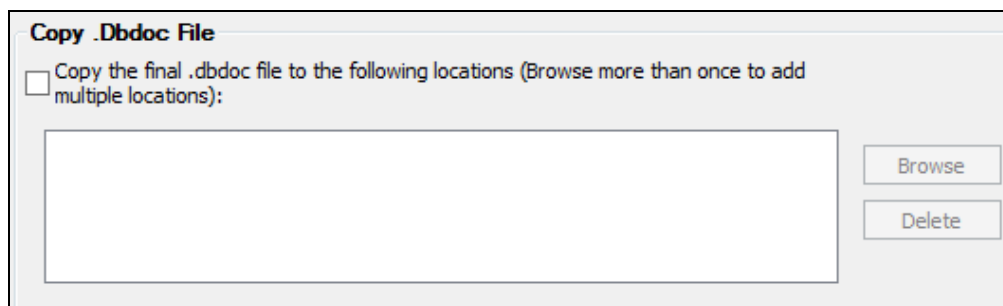
Use Hyperlink version in name: If you are building with different versions of the DBDOC programs, you may want to indicate in the Snapshot filename which version of Hyperlink was used to build it. This will help to clarify which features/fixes were built into that Snapshot when switching between different Hyperlink versions.

Select the date format: This option changes the date format used when creating Snapshot file names.

Default: automatic rename on, with project name and build date but no Hyperlink version

4.4.1.2 Choosing locations for copying the Snapshot after the build

On the **Tools** menu, click **Project Options** and navigate to the **Processing Options** tab.

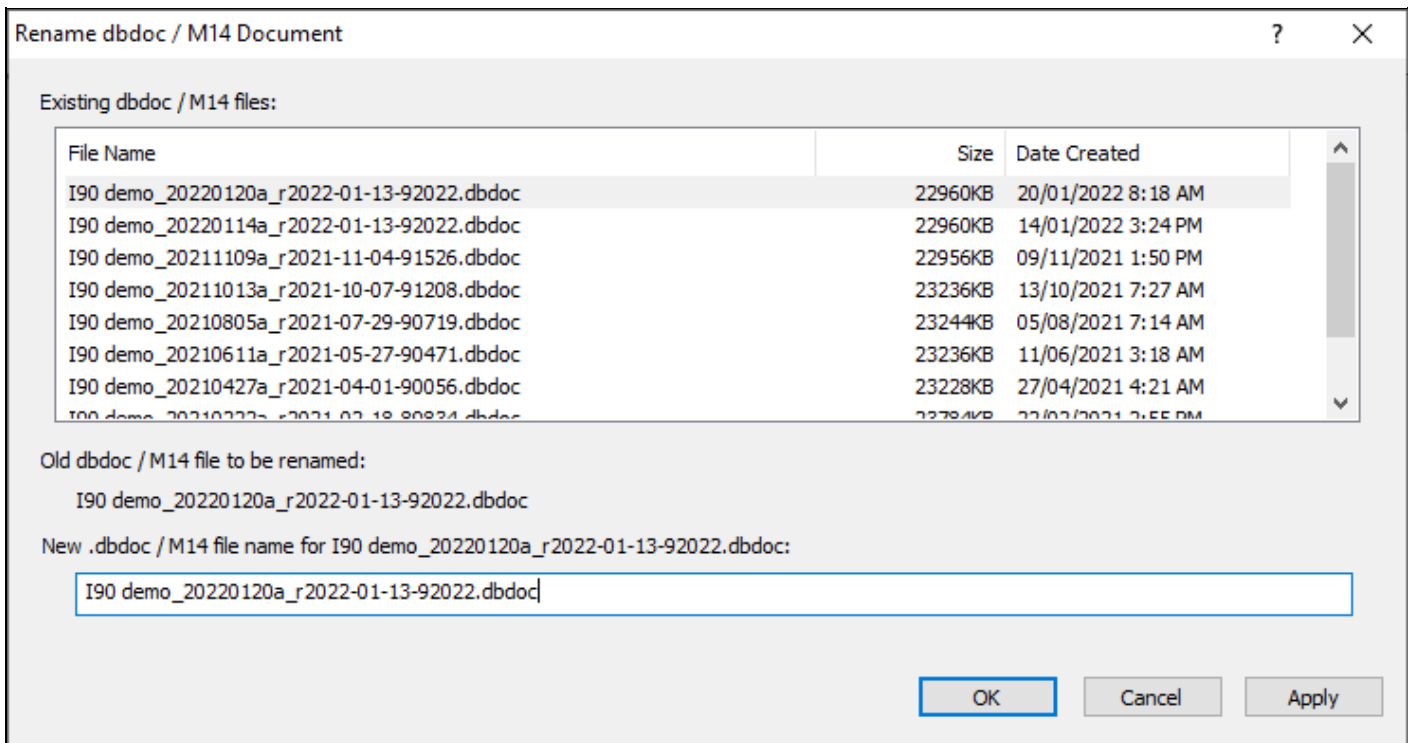


Copy the final Snapshot to the following location

At the completion of a successful build, BuildPlus can automatically transfer a copy of the newly built Snapshot to locations of your choice. Click **Browse** to add each destination directory. To remove a destination, select it from the list, then click **Delete**.

4.4.1.3 Renaming a Snapshot from BuildPlus

On the **Tools** menu, click **Rename .DBDOC/.M14 Document**.



Existing Snapshot files are listed at the top. Choose the file you wish to rename by clicking it, and make changes to the name in the bottom box.

It is recommended that you use this tool when you rename Snapshot files, so that the associated files (including Management of Change and error files) will be updated to refer to the new name.

4.4.2 Launching Windows Explorer to Your Project Files

To access these files from BuildPlus:

- On the **Tools** menu, click **Launch Windows Explorer**.

This will launch Windows Explorer in your project directory, if you have a project open. If no project is open, the directory containing DBDOC_Builds will be opened.

- To find the most recent **.ERR** files, open the **ERROR_Files** folder, then the **MOST RECENT** folder.

4.4.3 Help with Error Files

After a build, open your **ERROR_FILES** folder, then **MOST RECENT**.

For assistance understanding your build reports, please email the **error.7z** file to GMCL for analysis.

If you have any questions, please don't hesitate to contact us!

Email: support@gmcl.com Toll Free: 1-866-438-2101 in U.S. and Canada Phone: +1 780 438 2101 outside U.S. and Canada

4.4.4 Sending an Error.7z File to GMCL

After completing a new build, you can email us your zipped files - we'll interpret the files and let you know if DBDOC has identified any potential problems in your system. Since we are constantly refining and expanding DBDOC's error checking capabilities, we strongly encourage our clients to send us a file at least once a year. The latest DBDOC can detect system issues undetectable with earlier versions, and not checked by ABB tools.

After a build, launch BuildPlus, and follow the following steps:

- On the **Tools** menu, choose **Launch Windows Explorer**.
- In the ERROR_FILES folder, find "error.7z".
- Attach the file to an email and send it to support@gmcl.com

4.4.5 Exiting BuildPlus

On the **File** menu, click **Exit**. You can also click the Close button (**X**) in the upper right-hand corner of the window.

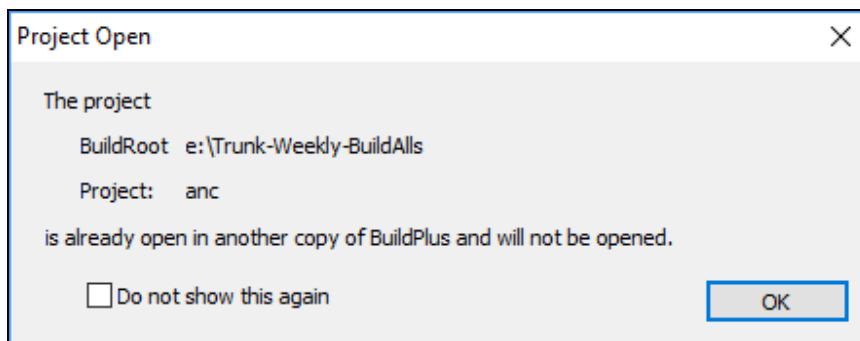
If a build is underway, an Exit Query will appear, and you can choose if you wish to exit or let the build finish.

4.5 Rebuilding

You may choose to rebuild your project

- when you know your files have been modified
- to change the data files you build in
- after a DBDOC update, or with new versions of some DBDOC components
- with different BuildPlus options
- regularly, using scheduled builds

To prevent multiple simultaneous builds of the same project, you may see the following dialog when you open BuildPlus to rebuild. Click **OK**, then find the original BuildPlus window or open a new project.

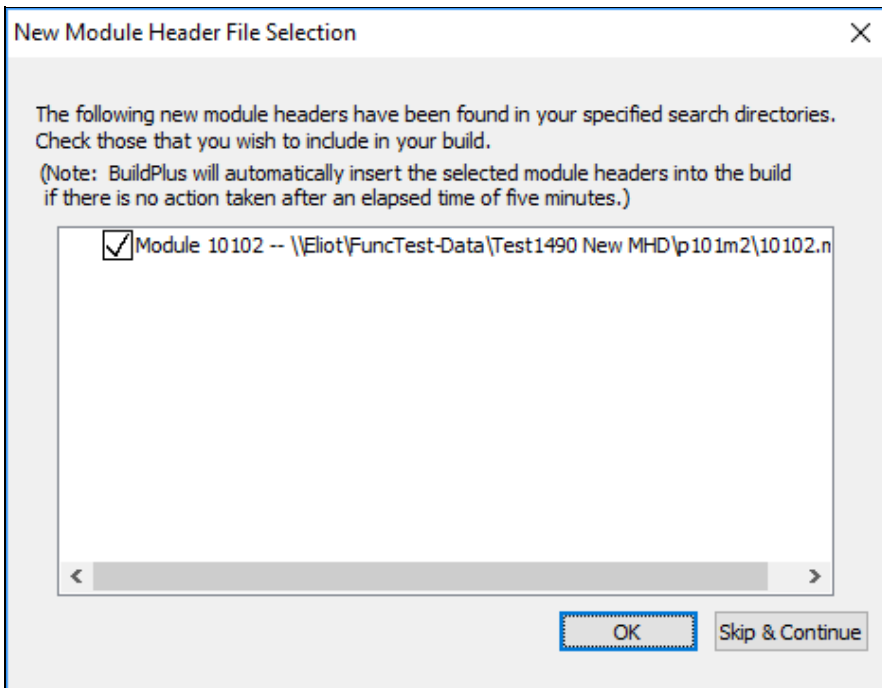


After rebuilding, you may want to compare builds to see the effects of the changes. This can be done using Winmerge, as described below.

4.5.1 When your files have been modified

When you want to rebuild your project just click the **Build**  button and BuildPlus will detect any changes in your databases and find any new files in your existing search directories.

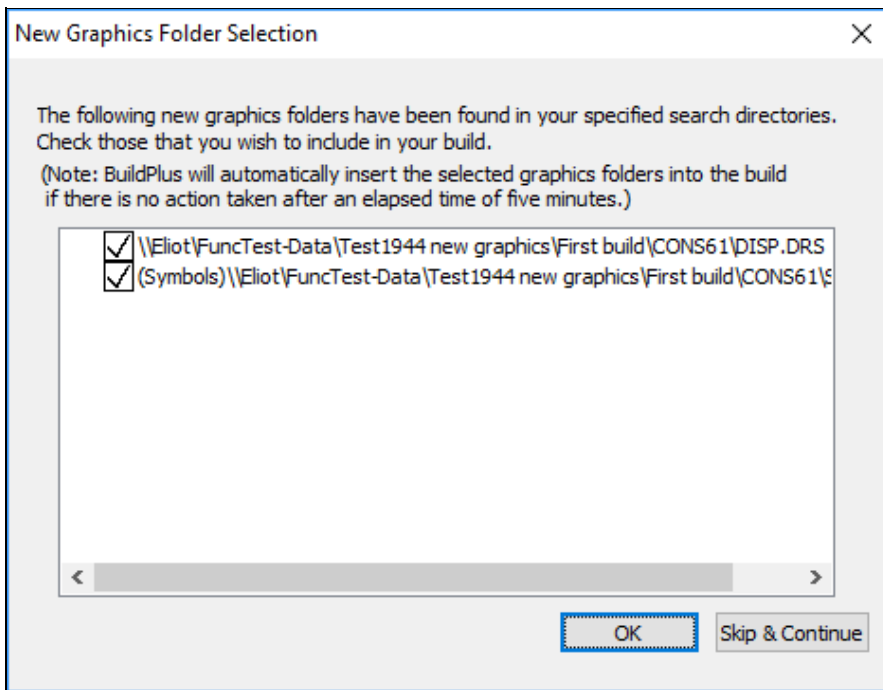
If new module header files and CAD or CLD files are detected, they will be listed for you and you will be asked if you wish to include them in your present build.



All new files/folders will be automatically checked for inclusion in the build. Uncheck the box to the left of the selection to exclude them from the build.

If no action is taken within five minutes, all newly found modules folders will be automatically included in the build. For new CAD or CLD modules, BuildPlus will again check for any duplicate module headers that may conflict with previous module choices and ask that they be resolved before the build continues.

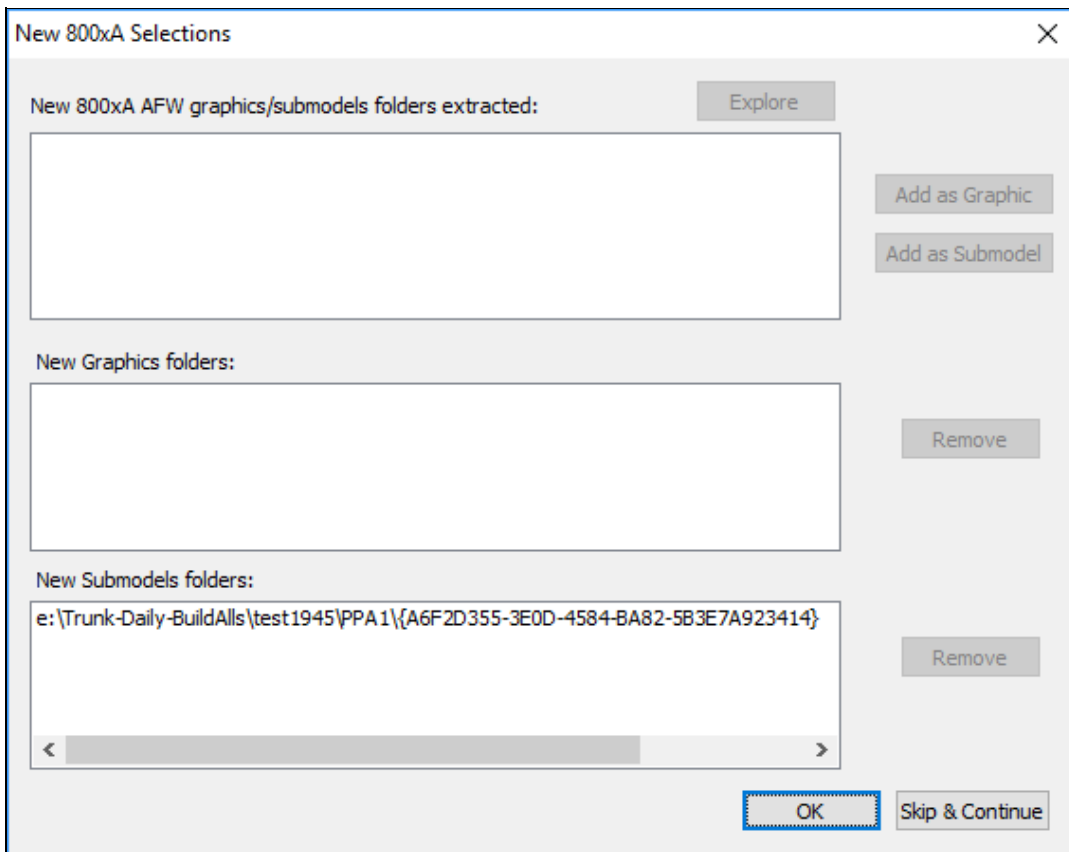
BuildPlus will also check for new graphics folders. If new files or folders are detected, they will be listed for you and you will be asked if you wish to include them in your present build.



All new files/folders will be automatically checked for inclusion in the build. Uncheck the box to the left of the selection to exclude it from the build.

If no action is taken within five minutes, all newly found graphics folders will be automatically included in the build. If you wish to make changes to your MHD or SODG graphics selections after finishing the Auto-Detection process, you will need to restart the build from the Wizard stage.

When new 800xA folders have been extracted, you may choose to include them in the build and whether they are graphics or submodels:



The top window lists any 800xA folders found, that need to be categorized as graphics or submodels. The bottom two windows list BuildPlus automatic choices about graphics and submodels folders.

- To modify the choices in the lower two boxes, select a folder by clicking on it, and click **Remove** to move it temporarily to the top box.
- To move a folder from the top box, select it, then you may **Explore** to the source of the folder, or **Add as a Graphic** or **Add as a Submodel**.


This box will time out after 5 minutes of inactivity, and proceed with the build. 800xA folders may be selected or deselected later using Project Wizard.

4.5.2 Changing Your Data File Sources

To modify your database selections or the location of database or 800xA graphics files, use the **GO** button

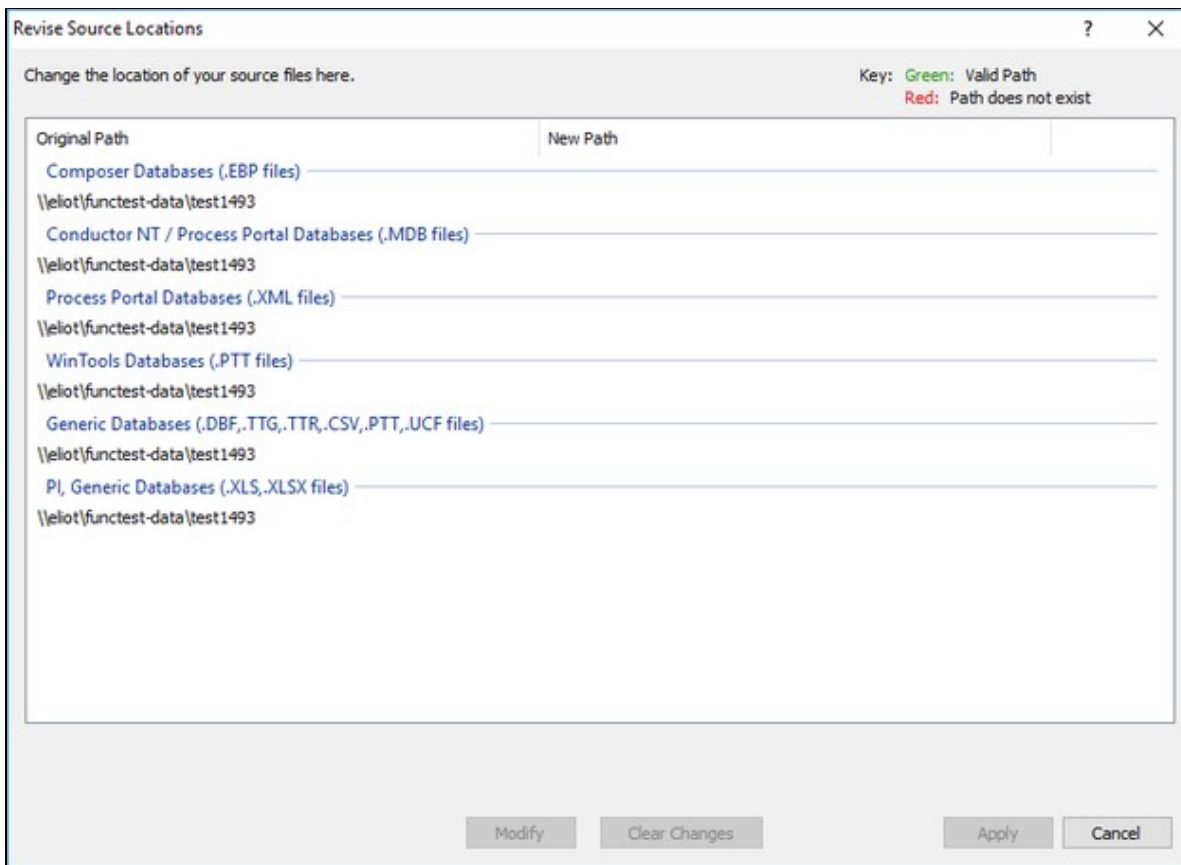


on the toolbar or **System File Specification** under the **Build** menu.

To change or add other files that you have chosen to include in your build, use the **Wizard**  button on the toolbar or **Project Wizard** under the **Build** menu.


If your data files have been moved to a new computer, go to the **Tools** menu, and choose **Revise Source Locations...**

Choosing to Revise Source Locations opens a dialog listing the current (original) paths to each of your file types.



To change the location of one file type, click on the path, then choose **Modify**. This opens the **New Source Path dialog** where you can enter the new source path, or browse to it, then choose **OK**. Once a new source path is specified, it is added to the drop-down list in case you'd like to use it for another path replacement. To change the locations of all file types, right-click on one path, and choose to Select all, and **Modify**. The New Source Path dialog will open, attempting to list the common prefix of the path to be replaced. If all paths are to be replaced with the new source path specified, you may check the box **Replace the entire path with this one**. Once some changes have been initiated, they are listed under New Path, with green text for valid paths and red for paths that do not exist. To remove entries in the New Path column, select those paths then click **Clear Changes** and to keep all new paths, click **Apply** to apply the changes.

4.5.3 After a DBDOC Update

To rebuild when you have received newer versions of DBDOC program components, on the **Build** menu, click **Build**, or click the  button on the toolbar. This starts a complete build of your project, without changing any of the files or options already selected.

4.5.4 Changing Options

Within BuildPlus, there are

- **Project options**, that are applied to the current project;
- **BuildRoot options**, that apply to all the projects in the BuildRoot, and
- **Global options**, that apply to all projects in all BuildRoots.

Each set of options can be accessed from BuildPlus under the **Tools** menu. For more information see BuildPlus help.

4.5.5 Scheduled Builds

Running scheduled builds allows builds to occur during your off hours. Automated builds on a regular basis ensure that the most recent files are included. Interactive message boxes are suppressed on scheduled builds and files are cleaned up automatically. To learn about scheduled builds, see BuildPlus Help or contact GMCL.

4.5.6 Command line builds

To learn about building from the command line, see BuildPlus Help or contact GMCL.

4.5.7 Comparing Build Results with Winmerge

WinMerge is an open-source tool that allows you to specify two files or two directories and do a byte-for-byte file comparison. The result of the comparison is displayed in a window, showing you any changes that may exist between the two files or directories. This is a useful tool to compare differences in your error files between builds.

If you have WinMerge installed on your computer, BuildPlus will enable this option for you. You are given the choice to either Compare Files or Compare Directories. In either case, a dialog will appear where you can either type in or browse for the appropriate files/directories for comparison.

Note: Earlier versions of BuildPlus use **WinDiff** instead of **WinMerge**.

- To compare files, on the **Tools** menu, select **Compare with WinMerge** and click **Compare Files**.

(The default selections are the DBDOC_SUMMARY.ERR files of the two most recent builds.) For each file you wish to compare, click **Browse**, navigate to the file, and click **OK**. Once both file paths have been entered, click **OK**. This will launch WinMerge to show differences between the files.

- To compare directories, on the **Tools** menu, select **Compare with WinMerge** and click **Compare Directories**.

(The default selections are the error file folders for the two most recent successful builds.) For each directory you wish to compare, click **Browse**, navigate to the folder, and click **OK**. Once both directory paths have been entered, click **OK**. This will launch WinMerge and show which files are different within this folder. Double-clicking on the file name will show the differences within individual files.

4.6 More About BuildPlus

4.6.1 Opening a recent project

On the **File** menu, click **Recent Projects**

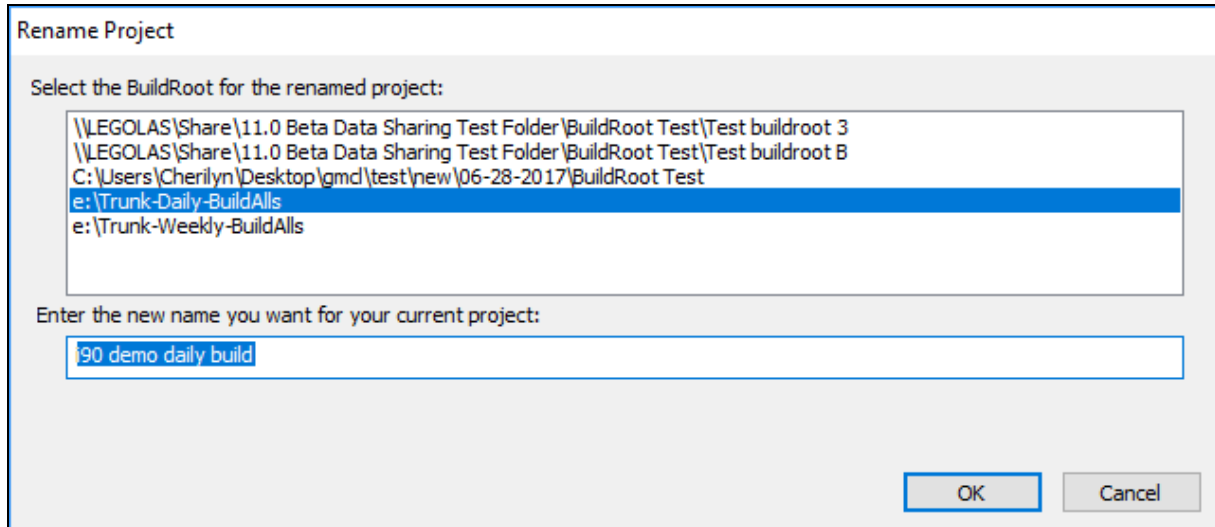
This lists your 20 most recent projects, so you can click on your project name.

Note that when BuildPlus starts, it opens the last project you had open. If you only have one project, it will always be opened automatically.

4.6.2 Renaming a project

On the **Tools** menu, click **Rename Current Project**.

This allows you to rename the current project, and move it to a different build root if you choose.



Rename Project

Select the BuildRoot for the renamed project:

- \\LEGOLAS\Share\11.0 Beta Data Sharing Test Folder\BuildRoot Test\Test buildroot 3
- \\LEGOLAS\Share\11.0 Beta Data Sharing Test Folder\BuildRoot Test\Test buildroot B
- C:\Users\Cherilyn\Desktop\gmd\test\new\06-28-2017\BuildRoot Test
- e:\Trunk-Daily-BuildAlls**
- e:\Trunk-Weekly-BuildAlls

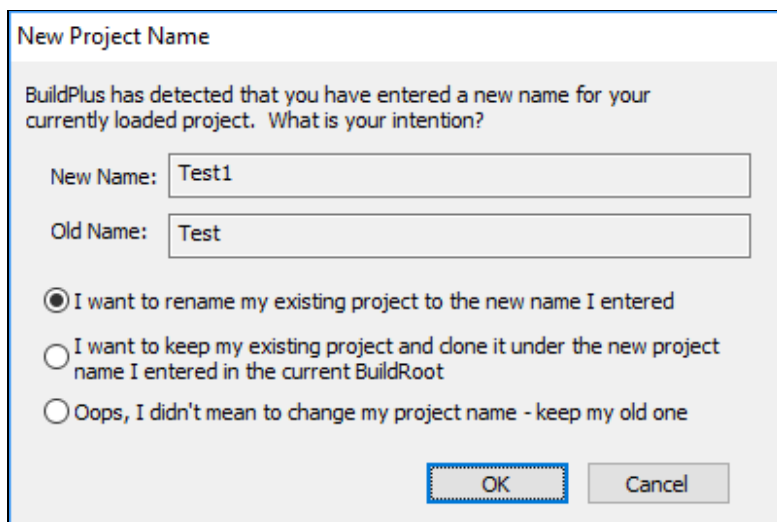
Enter the new name you want for your current project:

190 demo daily build

OK Cancel

Enter the changed name and build root (the same or different) for the project. The current build root will be selected when the window opens.

- A project can also be renamed by pressing the **GO** button and in the **System File Specification** dialog type in the new name of the project in the **Enter name of the project** edit box. Click the **Next** button (or **Finish**, if applicable) when you are satisfied with your new name. You will then see the following dialog: To rename the project, select **I want to rename my existing project to the new name I entered** and click **OK**.



New Project Name

BuildPlus has detected that you have entered a new name for your currently loaded project. What is your intention?

New Name: Test1

Old Name: Test

I want to rename my existing project to the new name I entered

I want to keep my existing project and clone it under the new project name I entered in the current BuildRoot

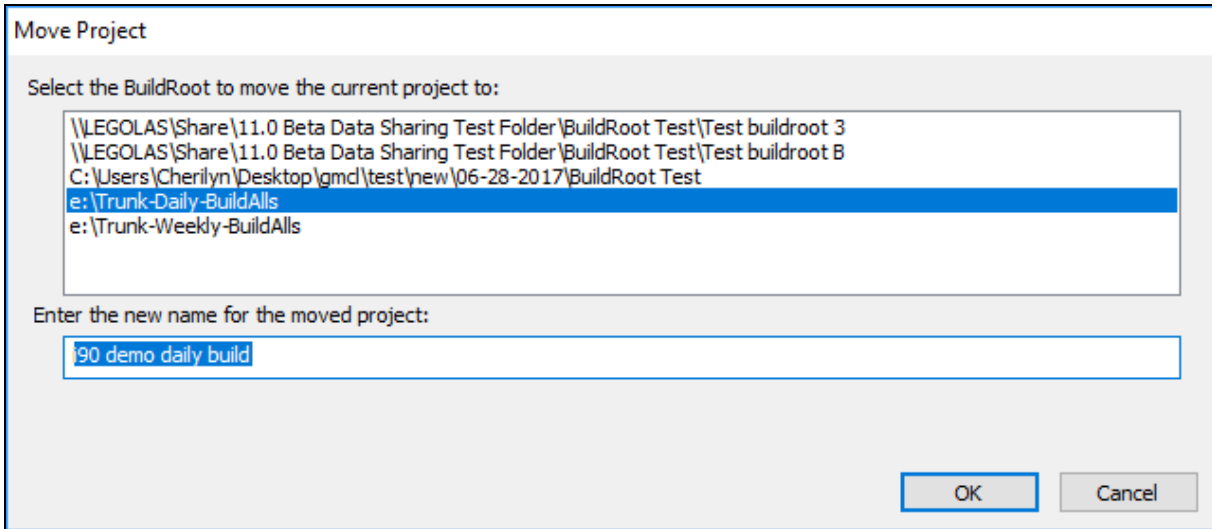
Oops, I didn't mean to change my project name - keep my old one

OK Cancel

4.6.3 Moving a project

On the **Tools** menu, click **Move Current Project**.

This allows you to move the current project to a different build root, and rename it if you choose.



The screenshot shows a dialog box titled "Move Project". It contains a list box with the following paths: \\LEGOLAS\Share\11.0 Beta Data Sharing Test Folder\BuildRoot Test\Test buildroot 3, \\LEGOLAS\Share\11.0 Beta Data Sharing Test Folder\BuildRoot Test\Test buildroot B, C:\Users\Cherilyn\Desktop\gmd\test\new\06-28-2017\BuildRoot Test, e:\Trunk-Daily-BuildAlls (highlighted), and e:\Trunk-Weekly-BuildAlls. Below the list box is a text input field with the text "190 demo daily build". At the bottom right are "OK" and "Cancel" buttons.

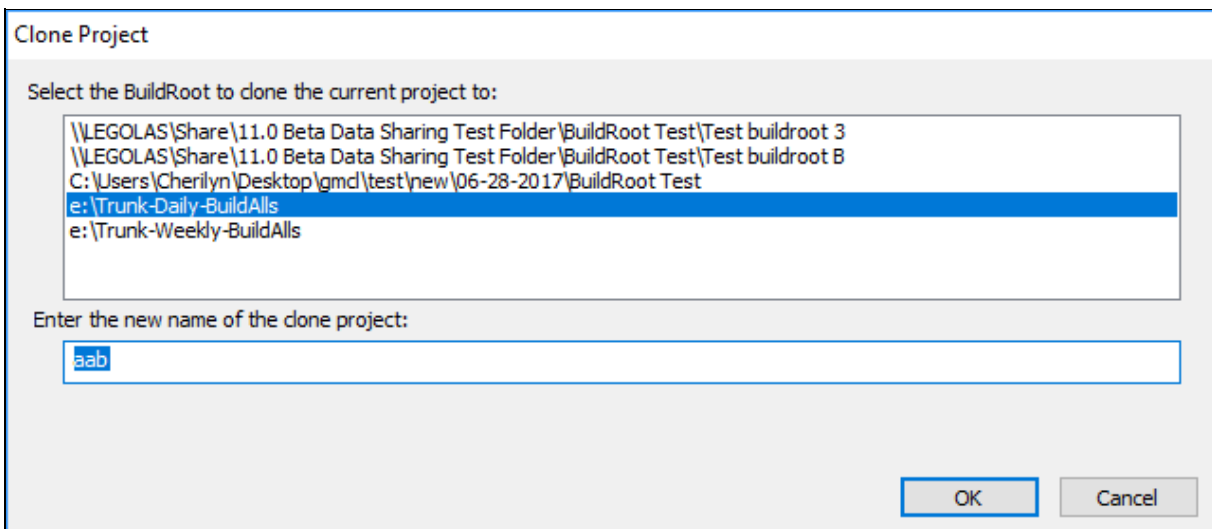
Enter the build root where the project should be moved, and the name for the project (the same or different). The current build root will be selected when the window opens.

4.6.4 Cloning a project

On the **Tools** menu, click **Clone Current Project**.

This allows you to make a copy of the current project either

- in a different build root.
- or with a different name in the same build root.



The screenshot shows a dialog box titled "Clone Project". It contains a list box with the following paths: \\LEGOLAS\Share\11.0 Beta Data Sharing Test Folder\BuildRoot Test\Test buildroot 3, \\LEGOLAS\Share\11.0 Beta Data Sharing Test Folder\BuildRoot Test\Test buildroot B, C:\Users\Cherilyn\Desktop\gmd\test\new\06-28-2017\BuildRoot Test, e:\Trunk-Daily-BuildAlls (highlighted), and e:\Trunk-Weekly-BuildAlls. Below the list box is a text input field with the text "aab". At the bottom right are "OK" and "Cancel" buttons.

Enter the build root and name for the copy. The copy must have a different name, different build root, or both.

4.6.5 Deleting a project

On the **File** menu, move to **Delete Project**. Select the build root and project you wish to delete.

When asked "Are you sure?" if you click **Yes**, the project will be deleted.

Most of the files created by BuildPlus will be deleted, and the project will be removed from the BuildPlus menu. A message will appear in BuildPlus advising you to manually delete the project folder and remaining files.

4.6.6 Exporting a project

On the **Tools** menu, click **Export Project**.

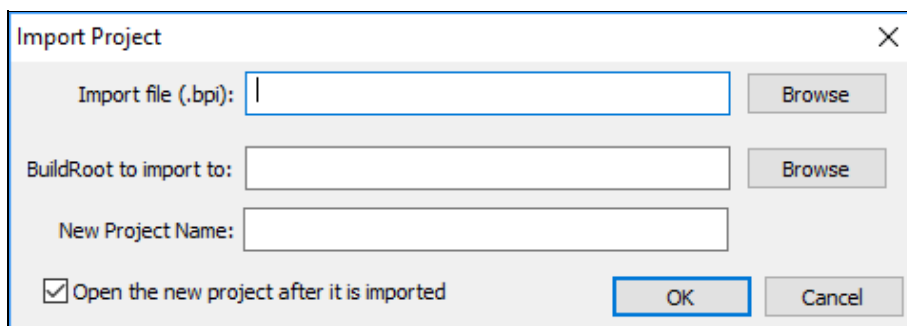
This option allows you to export the current project so it can be imported into another installation of BuildPlus, for example on another computer.

A BuildPlus import file (.bpi) is created for the current project. The import file will be named [project name].bpi and it will be created in the project's working folder.

This works best if the search paths used when creating the project were in UNC form (eg \\datacomputer\sharedfolder), so that the other installation will be able to find the files, even if you import the project on another computer. (A message will appear explaining this the first time you export a project.)

4.6.7 Importing a project

On the **Tools** menu, click **Import Project**.



The screenshot shows a dialog box titled "Import Project" with a close button (X) in the top right corner. It contains three text input fields: "Import file (.bpi):", "BuildRoot to import to:", and "New Project Name:". Each field has a "Browse" button to its right. At the bottom left, there is a checked checkbox labeled "Open the new project after it is imported". At the bottom right, there are "OK" and "Cancel" buttons.

This option creates a new project from a BuildPlus import file (.bpi), as created with **Export Project**.

You will need to enter the location of the import file, the build root to create the project in, and a name for the project.

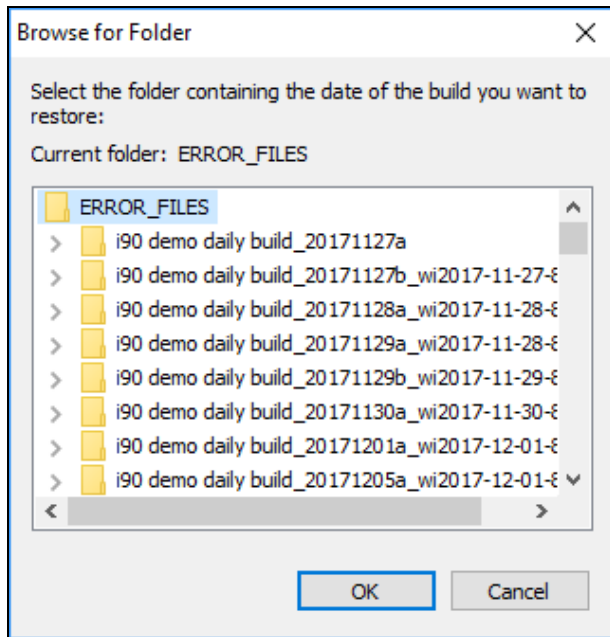
If the project that was exported used UNC paths (eg \\datacomputer\sharedfolder), then you should be able to build the new project without any problems by opening it and clicking the **Build** button.

4.6.8 Reverting to a previous build

On the **Tools** menu, click **Revert to a Previous Build**.

This allows you to load file choices and project options used in a previous build.

Choosing one of the folders named `[project name]_[date]` allows BuildPlus to find the `[project_name].nod` file within that folder, and revert the project to file choices and project options from that date.

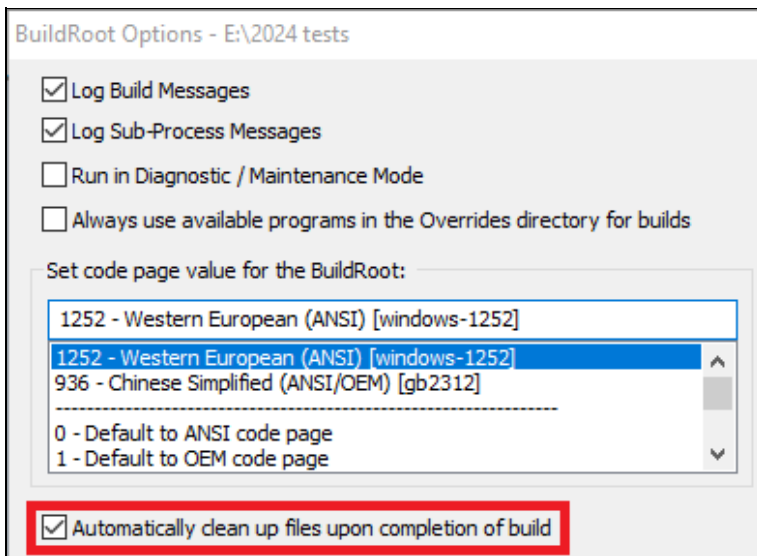



BuildPlus will find the `.nod` file within that folder (or notify you if it doesn't exist).

4.6.9 Cleaning up temporary/intermediate files

By default, BuildPlus deletes temporary, intermediate files at the completion of each build.

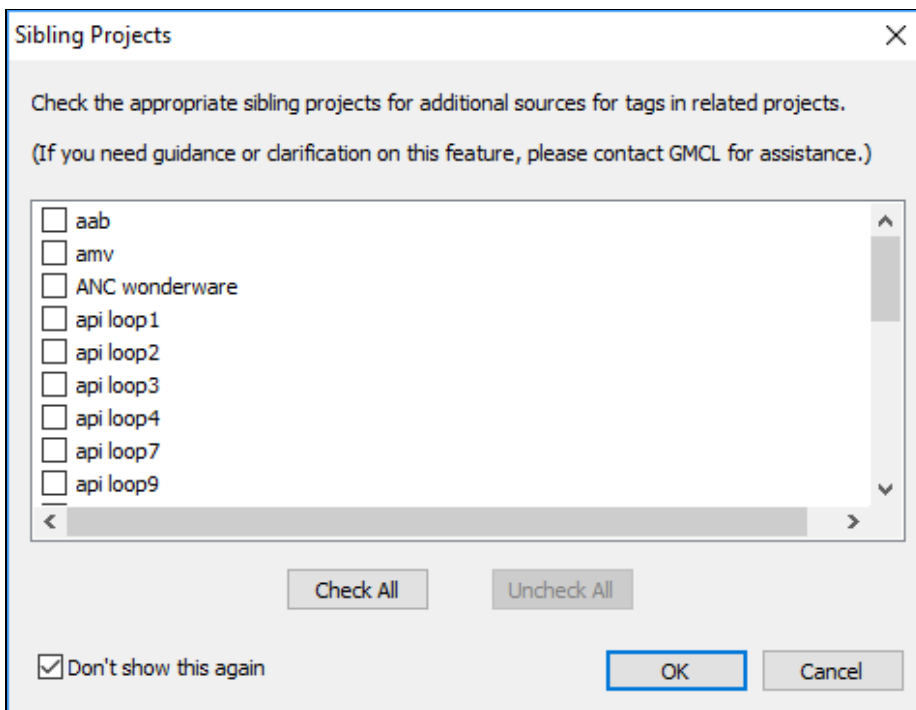
- To change this default setting, you can choose whether to automatically clean up temporary files for all projects in a build root: On the **Tools** menu, click **Build Root Options**, and select **Automatically clean up files upon completion of build**. When this option is on, BuildPlus deletes temporary files automatically when the build finishes. If this option is off, BuildPlus will ask whether to delete the files after each build.



- If files were not cleaned up by default, you can clean up temporary/intermediate files for the current project: On the **Build** menu, click **Clean Intermediate Files**, or click the  button on the toolbar. This deletes temporary files that are not needed after the DBDOC build is complete. (Typically, the temporary files will exceed the size of the Snapshot file, so this is worthwhile.)

4.6.10 Sibling Projects

If you have more than one project in a BuildRoot, the Sibling Projects dialog may appear, where you can select related projects to check their databases for additional sources for tags.



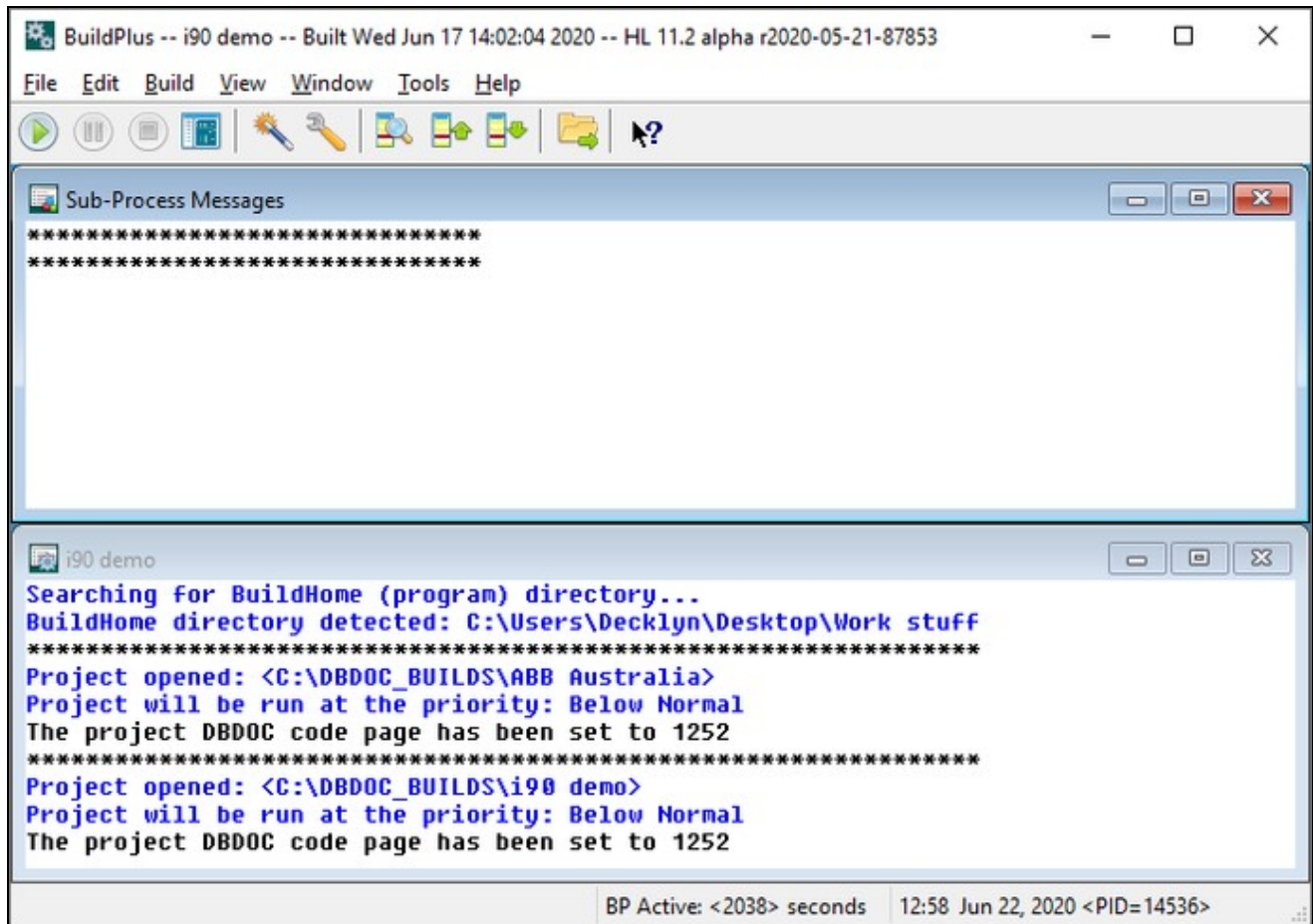
Check or uncheck the boxes beside the project names to include or exclude those projects as sibling projects for future builds of the current project.

If you prefer to no longer be asked about sibling projects during a build, check the box for **Don't show this again**. To change sibling project choices at another time, on the **Tools** menu, click **Project Options** and navigate to the **Define Blocks With External Sources** tab. More information is also available in BuildPlus help documentation at Sibling Projects (Global option).

4.6.11 BuildPlus User Interface

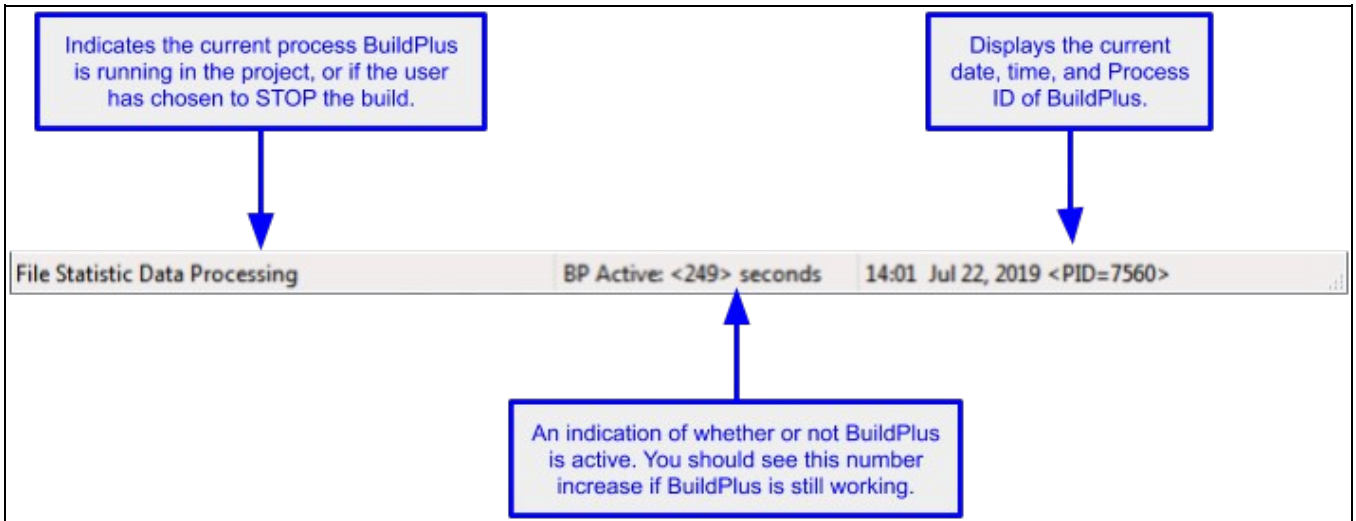
BuildPlus has two sub windows:

- **The Main Message Window** (usually on top): Displays information about processes BuildPlus is executing or has just completed and any errors that may have occurred. Text appearing in red may indicate problems with the build.
- **The Sub-Process Message Window** (usually on the bottom): Displays the messages generated by an external program that has been launched by BuildPlus.



To change how the windows are displayed, click on: **Window** on the BuildPlus main menu. To reopen a closed or minimized window, click on: **View** on the BuildPlus main menu. Your settings (viewing preference, size and position) are stored in the registry for the next time BuildPlus is opened.

The **BuildPlus status bar** shows basic information about what BuildPlus is doing:



- **BP Active:** BuildPlus is running an internal process.
- **EXT Active:** BuildPlus is running an external process.