BoardModeler Lite
Version 8.1
Update Notes

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This section lists the changes made in the BoardModeler Lite 8.100 release.

Support for bending shapes in the BML 3D Library Editor

In BML 8.1 the 3D Model Library Editor now provides the ability to bend 3D models. The bending process is described below and shown in the sequence of images.

STEP 1

STEP 2

STEP 3

STEP 4

Use 'Reverse' option if required

STEP 5

STEP 1
Start the *Bend* command by selecting the icon from the 3D toolbar (on the right-hand side of the graphics window) and select the body which is to be bent.

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STEP 2

Next select the base plane (reference face) on the body to which the bending process will be applied.

Please note: *for this initial release the face selected must be a plain (i.e. 'flat' face). It is not currently possible to bend a curved surface (e.g. a cylinder). The removal of this limitation is currently being investigated.*

STEP 3

Specify two points to define the base line (bend axis) to indicate where the bend will occur. Also, specify the bend radius and the bend angle in the appropriate fields at the bottom of the graphics pane.

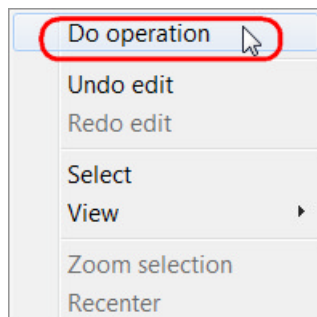| Start | -520.8 | 455.19 | 6.746 | End | -362.4 | 455.19 | 6.746 | Radius | 10.000 | Angle | 90.00 |

STEP 4

At this point BML will draw a wire-frame preview of the bend. If the reverse of the displayed bend is required (i.e. you want the other end of the base plane to move), then select the ***Reverse*** icon (next to the ***Angle*** input field).
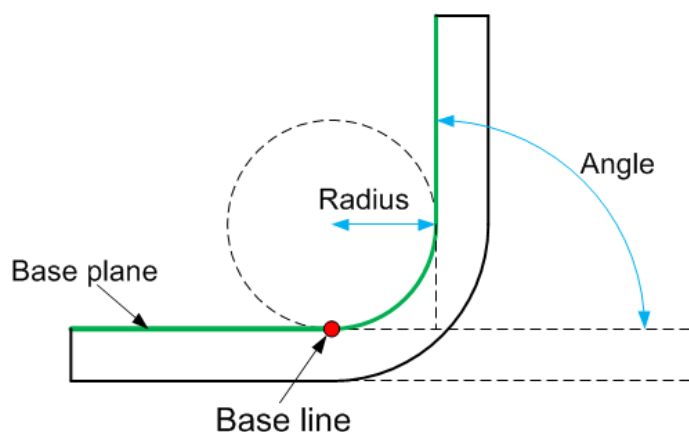
Angle 90.00

STEP 5

When you are happy with the bend generated, select ***Do operation*** from the RMB context menu or select the icon at the bottom of the graphics pane to confirm and apply the bend.
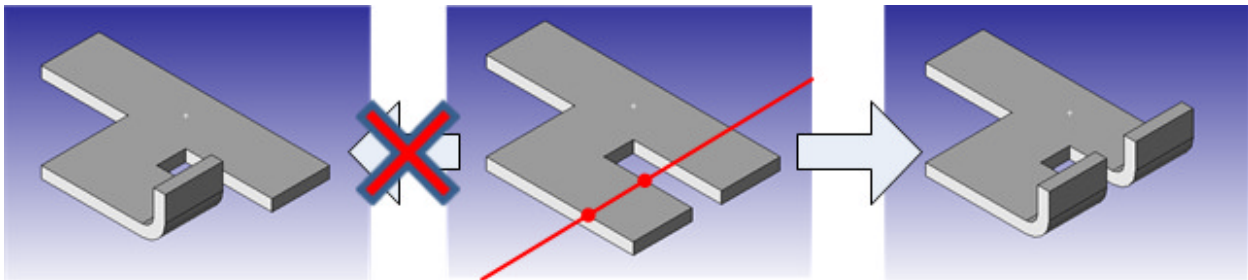
Do operation

Undo edit
Redo edit

Select
View   ▶

Zoom selection
Recenter

Angle 90.00

The following diagram shows how the different bend parameters are defined.
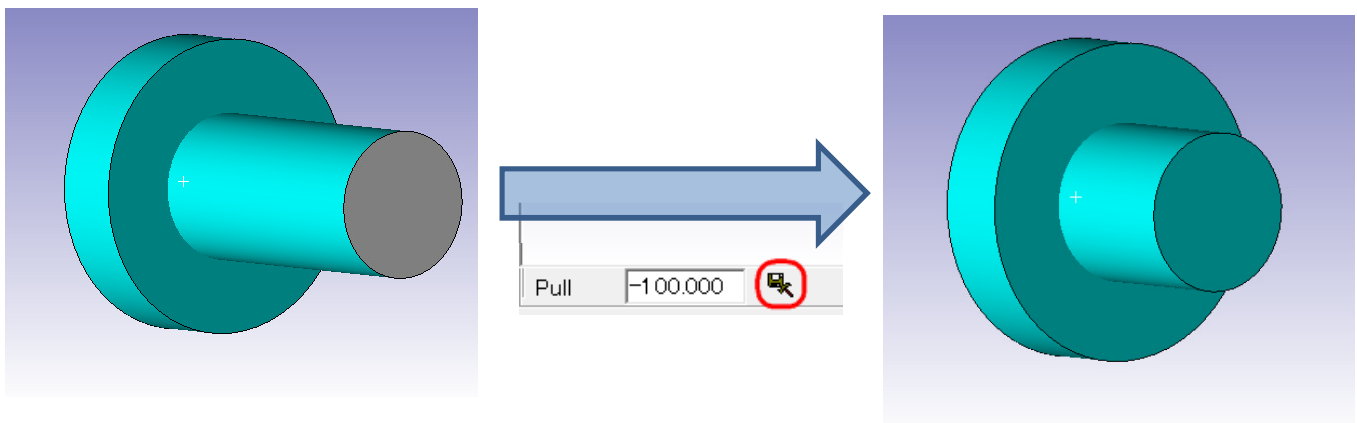

Angle

Radius

Base plane

Base line

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Note that the base line defined is treated as an infinitely long line – it is not just limited to the segment between the two reference points which are originally used to position the base line. This means that any part of the 3D model that intersects with the base line will also be affected by the bend operation.

So, for the example 3D model and base line shown in the middle image below, the resultant bend will be as shown in the right-hand image – not as shown in the left-hand one.
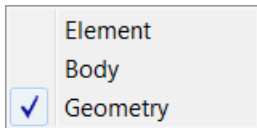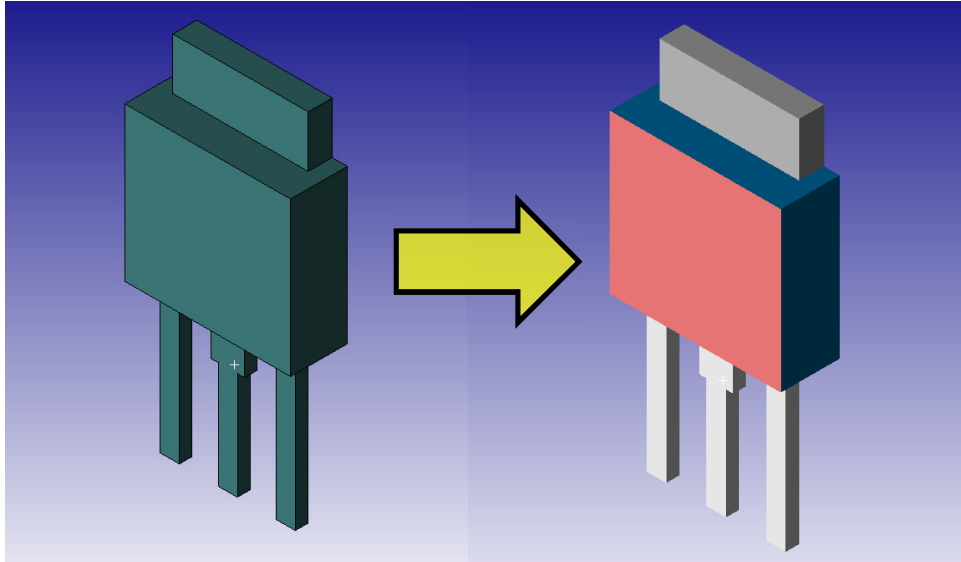

Enhanced 'Move Face' command

The **Move face** command has been in enhanced in BML 7.1 to allow negative values to be entered for the 'Pull' distance, in order to reduce the size of a model. In previous releases it was only possible to move a face in order to make the model bigger.
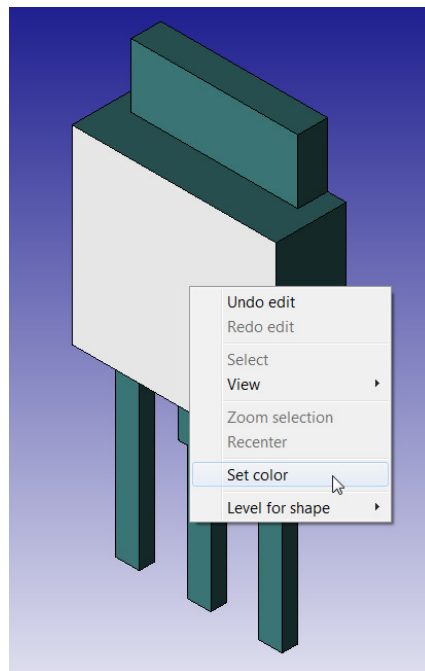
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Change the colour of an individual face of a 3D model

In previous versions of BML, it was only possible to change the colour of an entire body in a 3D model. In BML 8.1 it is now possible to set a different colour for each face. This change only applies to the 3D Model Editor.

To change the colour of a single face, ensure that the **Level for shape** is set to **Geometry**, select the desired face to change and from the RMB context menu select the **Set color** command.
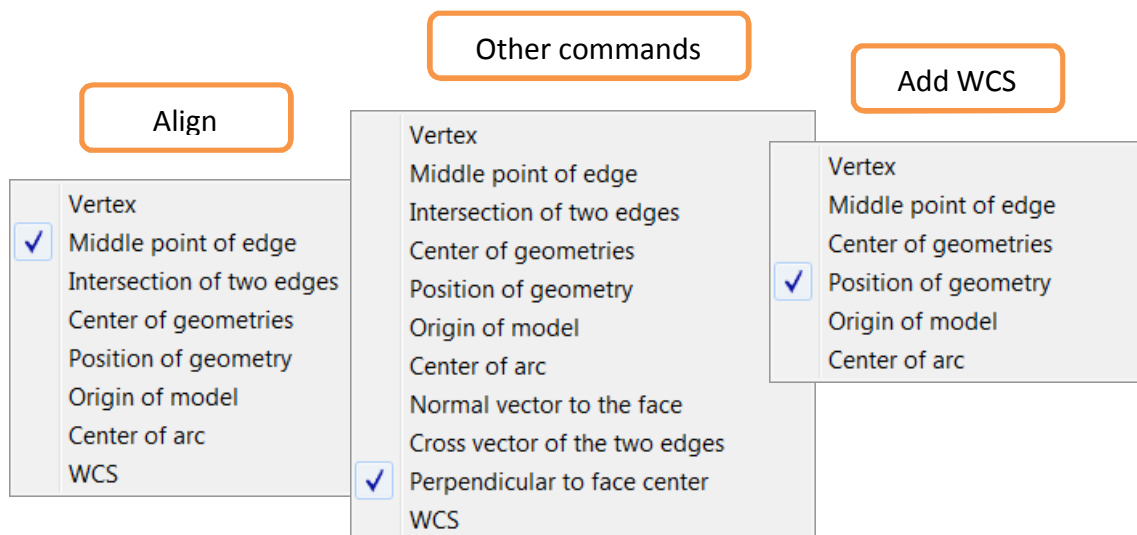
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Unification of options for specifying a target point

To improve consistency and make all appropriate options for specifying a target point in BML available in all relevant commands, the option menu layout has been unified in BML 8.1.

The names of the options have been made consistent (i.e. same names used in each case) and additional options to specify the target point have been provided to extend the capability and ease of use of the tools.

The commands which are affected are: *Align*, *Add WCS*, *Move origin*, *Move base plane* and *Move cutting plane*. The changes apply equally to the PCB Editor and the 3D Model Library Editor.

The specific options for the *Align* command and *Add WCS* command are shown below (left and right). The remaining commands use the options as shown on the centre menu.

Ability to change the 'fixed' status of components

BML now allows you to change the 'Fixed' status of components within the BML application.

When the design is first transferred from CADSTAR, the 'Fixed' status of all components will match that defined in the CADSTAR PCB design. However, it is now possible to modify those settings on the *Parts* tab of the *Control Panel* grid. To do so, locate the 'Fixed' column (on the far right-hand side of the grid) and check or un-check the tick-boxes for the required components.

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Please note that any changes made here are local to the current BML design session only – they will not be back-annotated to CADSTAR. If you wish to make permanent change to the 'Fixed' status of components, that must still be done inside CADSTAR.
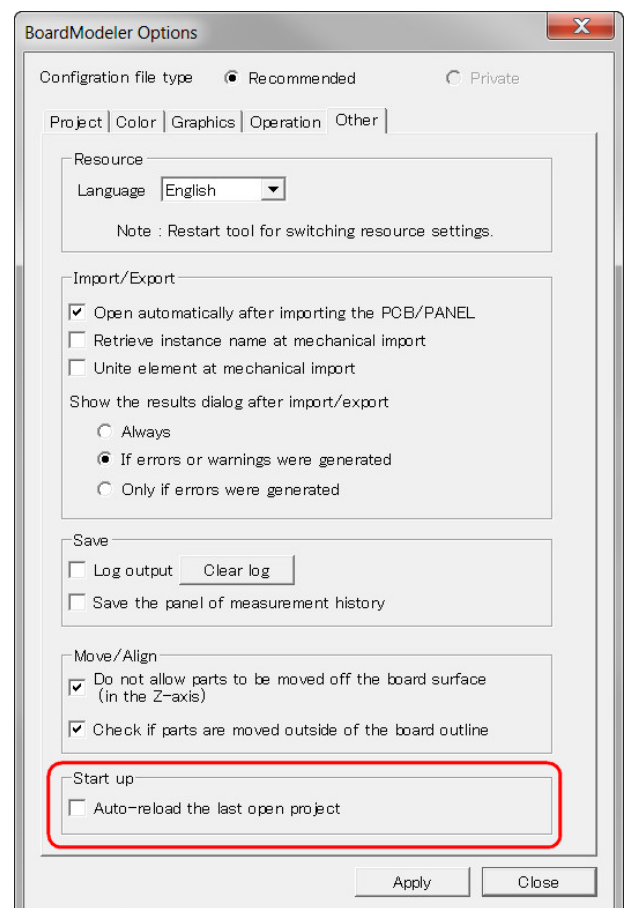

Configure project open on start-up behaviour

In previous versions of BML, the project data loaded into the application at the time it was last closed down would be automatically re-opened the next time BML was started (if BML was started outside CADSTAR, via the Windows **Start** menu).

This operation could cause an additional delay – especially for large projects – before BML was ready to be used for the desired task.

To overcome this disadvantage, a new option has been added to the **Other** tab of the **Options** dialog to allow you to control whether the last open project should be reloaded or not.
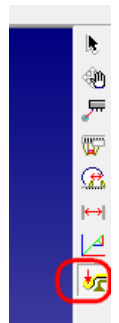
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Transfer of alpha-numeric pin names

Since BML 8.1 will read the latest version of the CADSTAR CPA format (i.e. Revision 17, used by CADSTAR 14 and 15), it will also be possible to transfer the necessary information when alpha-numeric identifiers are used for pins in components/footprints. This was not previously possible, since the CADSTAR 13 version of CPA, as used by BML 7.1, did not contain this data.
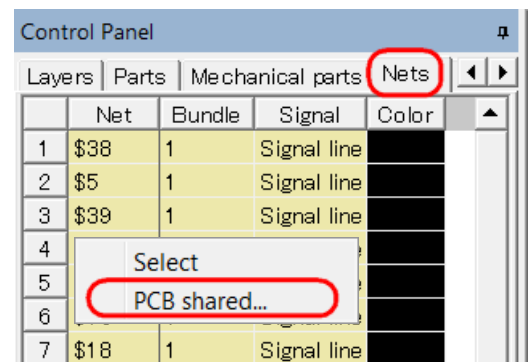
In order to view the alpha-numeric pin names when in BML, proceed as follows:

Turn on the **Select net** mode by selecting the icon at the bottom of the 3D Toolbar (on the right-hand side of the BML graphics window).
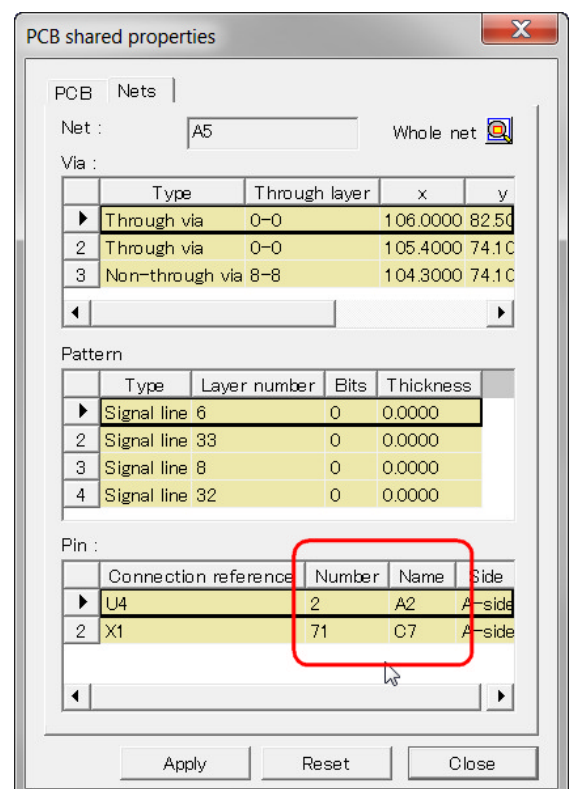
Switch to the **Nets** tab of the **Control Panel**,

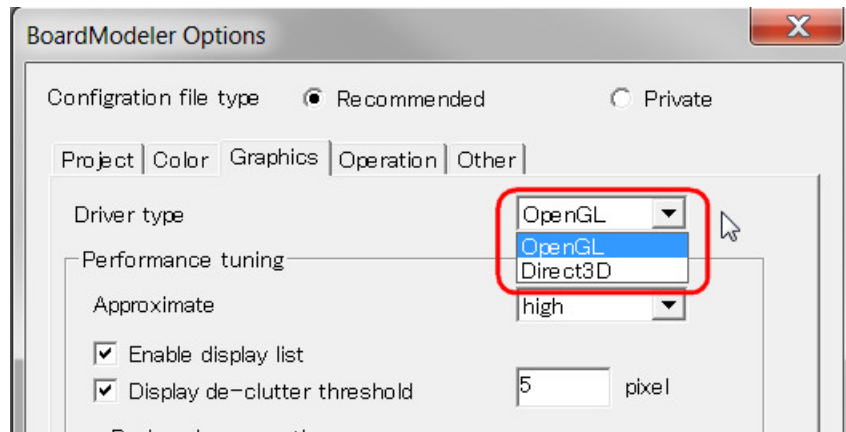Select the required net in the displayed grid and from the RMB context menu choose **PCB shared…**

The **PCB shared properties** dialog will be displayed and the alpha-numeric pin names will be displayed in the table of **Pin** information.

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Direct3D Driver

In previous releases of BoardModeler Lite the Direct3D driver was included as part of the HOOPS technology (used by BML as the graphics engine to represent the 3D models). For the latest release, this is no longer the case. Consequently, if you wish to use the Direct3D display option, it is necessary to download and install the Direct3D driver separately. The version of the driver which has been tested with BML 8.1 and which is therefore supported, is included as an additional download on the BoardModeler Lite ZGS download page.

Only after installing the driver will be you be able to set the 'Direct3D' option for **Driver type** on the **Graphics** tab of the **Options** dialog in BML. If the Direct3D driver is not installed on your system, BML will automatically set the driver type to 'OpenGL'.

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