PULSONIX

Pulsonix Version 10.0 Update

3D STEP Viewer

New 3D Engine

The 3D STEP engine in Pulsonix 10 has been significantly improved with the addition of major features. Features such as the ability to add enclosures and other STEP model structures, Enclosure and Component clash detection, the ability to move Components in the 3D environment and much enhanced graphics reality and generation.

Enclosures

Enclosures and other additional design items defined as STEP models can be added to the design. These can viewed and moved within the 3D environment. The Colour and Transparency setting for enclosures can be defined enabling clearer differentiation between housings and Components.

Clash Detection

Clash definition and detection within the 3D environment provides real time feedback on STEP design items such as enclosures and Components. Enclosure spacing rules are defined and passed through from the PCB design editor. All clashes for spacings and areas are highlighted visually, making errors obvious.
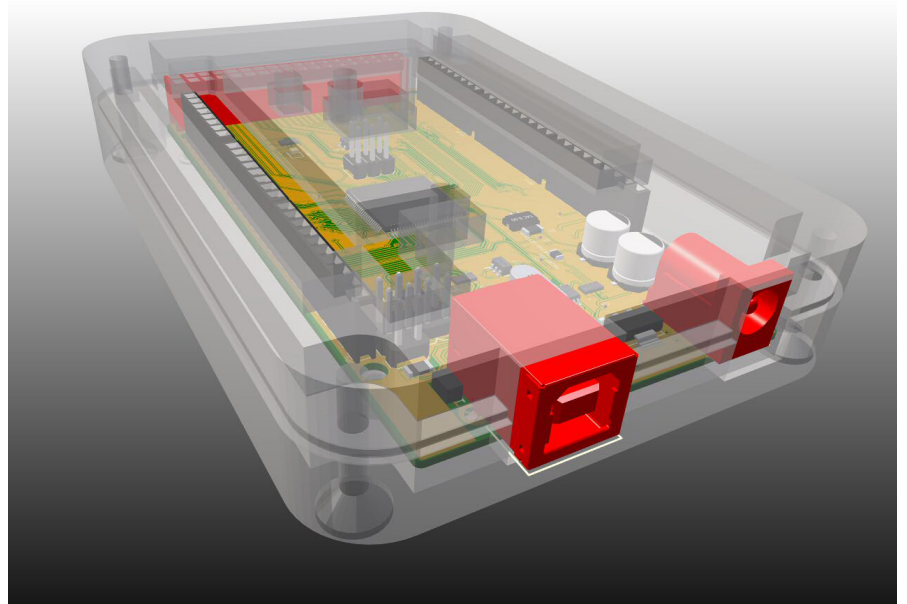
Move Components in 3D Editor

Version 10 introduces the ability to select and move Components in the 3D environment and automatically back annotate these positional changes to the PCB design. This allows fine tuning of their positions in relation to the enclosure and other Components, thus avoiding any clashes.

A powerful new 3D editor engine ensures a close integration between electronic and mechanical designs

Graphics Reality and Visualisation

The overall realism has been improved of the STEP Preview with the introduction of anti-alias rendering and an improved lighting view along with shadowing improvements. You now also have a gradient background which is switchable between solid and gradient to further improve the visualisation.

3D Interface

General improvements have been made to the 3D editor with the introduction of a new 3D toolbar with icons for pre-defined 3D Views. For selected enclosures and Components, the Properties are shown on the Status Bar providing you with instant feedback of their identity.

Interactive Copper Pour Healing

Pulsonix 10 introduces dynamic copper pour healing. As you edit your design with copper areas already defined and poured, if you then move items across the copper, it automatically heals itself obeying Copper Pour and Thermal Rules. This new option can be toggled on and off as required but because it is zonal, it only heals the region affected. That means a small edit, like a pad or via move has a minimal impact on the copper repair and saves time.

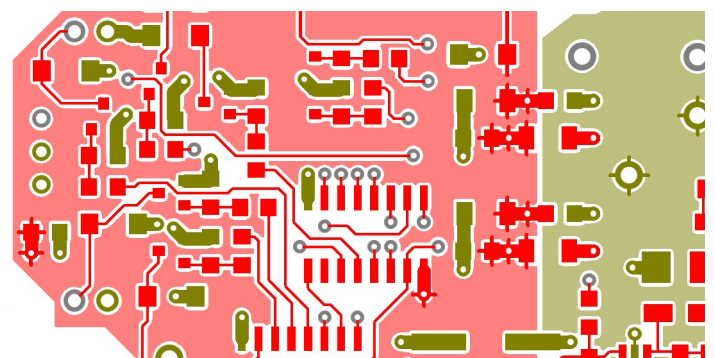*Save time and effort with the powerful interactive copper pour healing*

Enhanced Technology Files

Self-contained Technology Files

Technology files within Pulsonix 10 are now self-contained with the inclusion of Colours, Grids, Units, Design Settings, Variant Manager, Router and Auto-placement settings.

Auto-Naming Rules

Auto-naming Style Rules have been added to allow you to nominate how new styled items, such as Tracks, Pads, Lines etc. are named. This will include the IPC naming convention style for Pads.
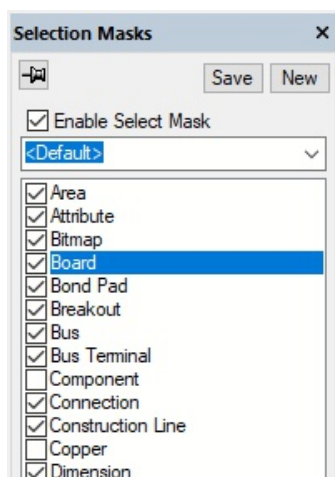
Adjacent Net Rules

A new rule has been added to provide Adjacent Net Rules – when checked through DRC, this will provide a report of nets that are within a user defined tolerance with the 'closest' item being reported for certification purposes.

New DFM Rules

The DFM Rules have been expanded with the definition of Acid Trap angles and gaps. These are detected using the DRC option to provide more detailed DFM analysis of your design before committing to manufacture.

Selection Mask in PCB

A powerful Selection Mask browser window has been added to Pulsonix 10. Using design item choices within the browser, fast accurate selections within the design can be made. Refinement in the browser also ensures only items required are selected.
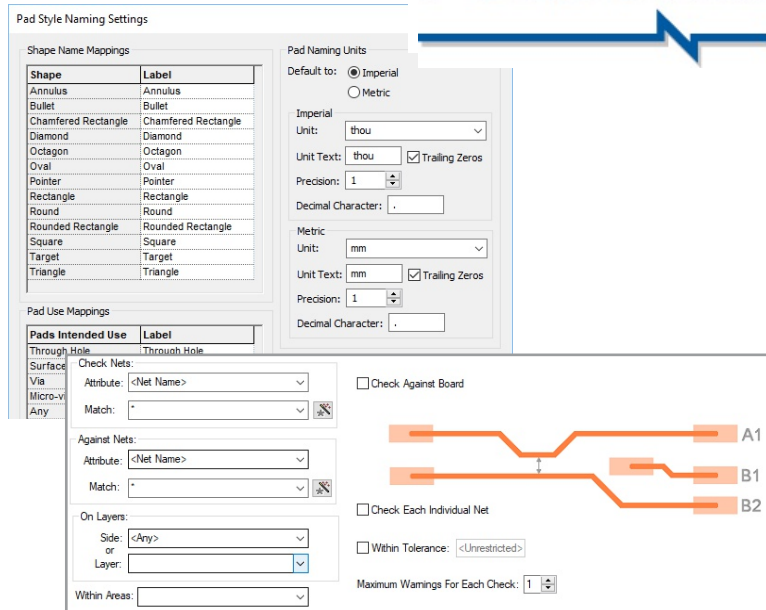
High Speed Option – Differential Pair Improvements

The accuracy of Differential Pair creation has been significantly improved. Where layer changes are made, a more uniform pattern is now present. Following on from the enhanced accuracy, the use of the new Acid Trap rule to remove potential acid traps of tracks against vias during layer change patterns has also been made.

A new Fillet routing mode has been introduced for Differential Pair routing. This enables paired tracking to be easily created in a smooth flowing pattern across your design. Where angled Components and pads require Differential Pair routing, a new mode enables precise routing pairs to be created and edited.

Where Differential Pair routing requires length matching between the tracks within the pair, there are new Serpentine modes to facilitate Pair Skew lengthening. Three new modes enable precise serpentine positioning above, below and in-line to enable space and requirements to be maximised.
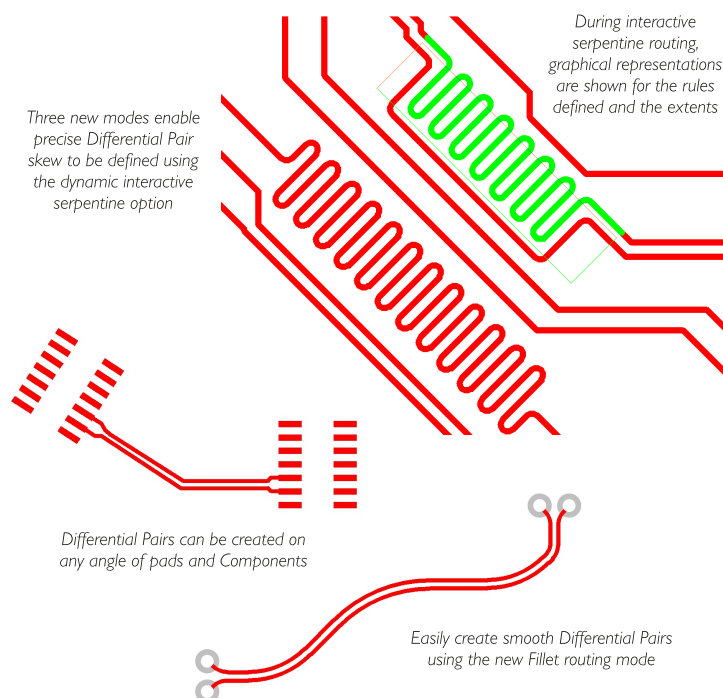

Enhanced technology files mean further data accuracy and productivity benefits

New Spacing Rule Items

Additional spacing rules for SMD pads and Micro-vias against all other spacing items has been added to extend the Spacing rules capability and to provide greater refinement of depth for the more demanding designs.

Create PCB Groups for SCM Blocks

A new option within the Schematic editor enables individual Schematic hierarchical blocks to automatically be converted into Groups when transferred to the PCB design editor. Quite often, blocks are defined using identical functionality but require grouping for ongoing processes, like Apply Layout Pattern or pasting of golden circuit blocks.

During interactive serpentine routing, graphical representations are shown for the rules defined and the extents

Three new modes enable precise Differential Pair skew to be defined using the dynamic interactive serpentine option

Differential Pairs can be created on any angle of pads and Components

Easily create smooth Differential Pairs using the new Fillet routing mode