

# Pulsonix V4.0 Release

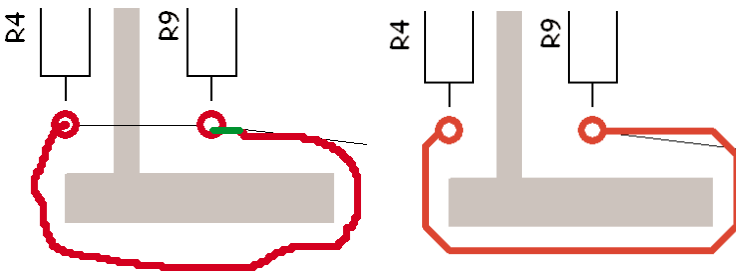


## Reverse Engineer

Take an existing PCB design and create a new Schematic from it. This time-saving feature is particularly useful where the schematic drawing is not available or where the PCB was created first. Using the Component Bin, automatic Schematic Placement and Autorouting, the design can be quickly re-created with minimal user intervention. With 95% of the work being done for you, a tidy-up of the Schematic will provide you with finished design that matches the integrity your PCB.

## Sketch Track

This manual routing mode allows you draw a rough path into the PCB design using the connections as guidance, then for the sketch tool to tidy up the path using an advanced smoothing routine and the defined track grid. An additional point-to-point mode enables a point and click option. Each mouse click causes the track path to be tied to that point, this guidance mode allows precise routing. Results can be sketched on-grid and Mitered as required.

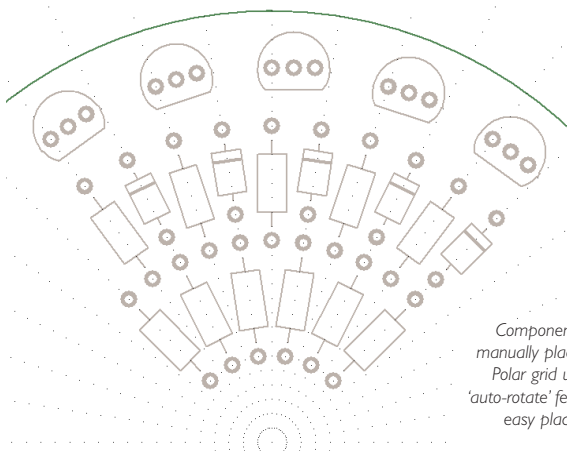


'Sketch' in the approximate path

The Sketch mode tidies the track onto grid and adds optional mitres

## Polar/Radial Coordinates

Placement in polar or radial coordinates is available in Pulsonix V4.0. Grids can be specified to allow placement on circular grids as well as conventional 'boxed' grids. Polar grids are easily defined in the Grids dialog. Once used, radial grids are displayed in the design using a selected reference point, this can be the design centre if required (for circular boards).



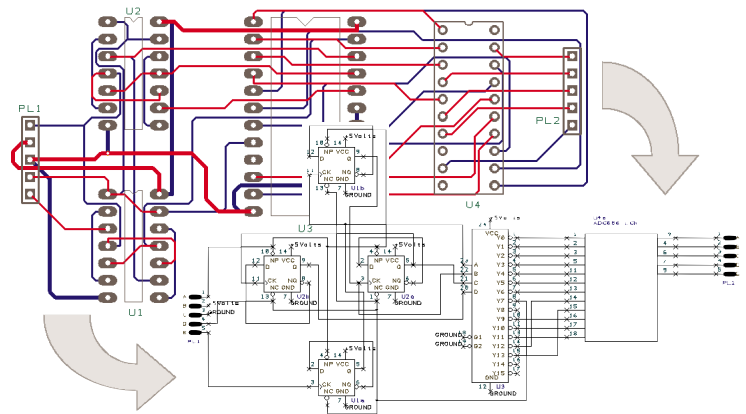
Components can be manually placed on the Polar grid using the 'auto-rotate' feature to aid easy placement

## Smooth Track

For a selected track or all tracks in the design, the smooth option tidies the track path and reduces unwanted vias whilst retaining connectivity and maintaining DRC integrity.

## Peschges Variometer GmbH

Zieglerstr. 11, 52078 Aachen  
Tel: 0241 - 56 30 23, Fax: 0241 - 56 39 13  
Email: vertrieb@peschges-eda.de

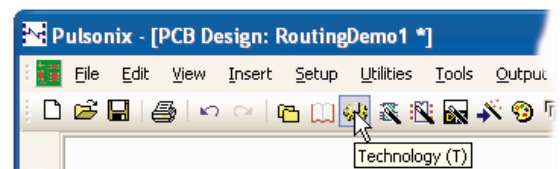


## Interactive Schematic Routing

Like the PCB Sketch Track mode, both Sketch and the point-to-point modes are available in the Schematic design as well. These modes are intelligent and will avoid obstacles like Symbols and junction points on existing connections. During routing, space is given around connections so that they don't appear cluttered and give it a more manual routing appearance.

## Windows XP Style Interface

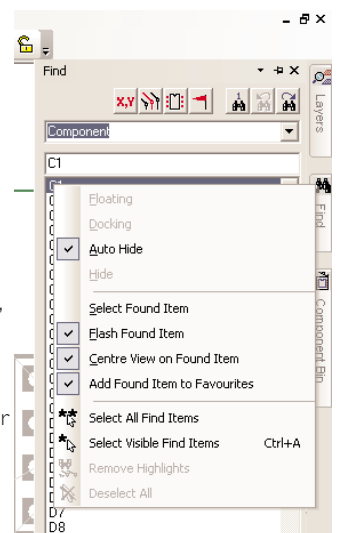
An updated GUI takes Pulsonix ahead of any other PCB CAD product available today. As part of our continued technology development, we strive to keep up-to-date with all advances made in the software industry. The Windows XP GUI style brings with it additional features found only in the latest products. Features such as the XP Style using the XP themes and appearance, auto-hide dockable windows and tabbed windows are available.



The Windows XP Style interface keeps Pulsonix right up-to-date

## Auto-hide Dockable Windows

Having used the auto-hide dockable toolbars, you'll find these so good that you won't want to switch them off! Browsers and windows such as the Component Bin, Find item bar, Layers bar, Errors bar etc. can be docked on the side of Pulsonix and when you hover the mouse over them, they appear. When the window goes out of focus, they 'slide' back onto the framework as a tab ready for use next time. No mouse clicking, just hover and view!

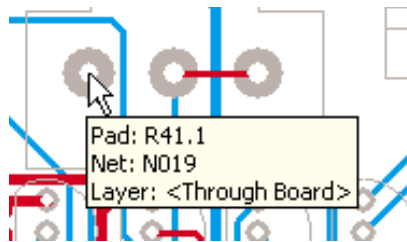


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[www.pulsonix.de](http://www.pulsonix.de)

# Pulsonix V4.0 Release cont'd

## Design Item Tooltips

A new switchable option allows you to show the design item tooltips when the cursor is hovered over an item. This gives you instant feedback of essential item properties without having to select a dialog.

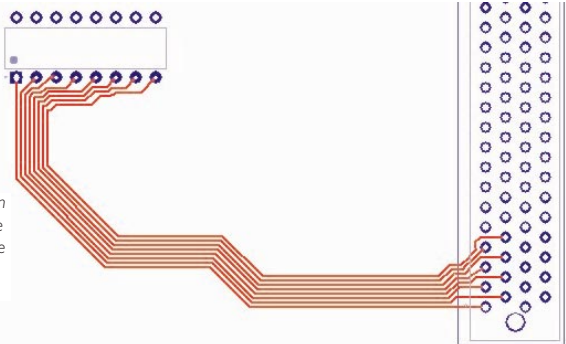


Optional Design item tooltips provide instant feedback of the selected item

## Hug Mode

An excellent new interactive editing feature that allows you to add a track, or series of tracks, that 'hugs' another track or design shape as closely as it can. The resulting ribbon of tracks is immediately attractive to view and overcomes what was previously a difficult and time-consuming manual routing task.

Once the initial routing pattern has been defined, the hug mode effortlessly guides you to add the other tracks



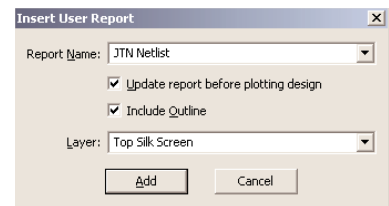
## Automatic Track Fattening

Working from settings in the Net Classes on default and alternative track widths, this net features will "fatten" tracks on the board to the alternative width and 'neck' tracks if it needs be to avoid causes design spacing errors. The option swaps the track back to minimum width and then fattens where it can and remain legal.



## Insert User Reports

All reports generated by the Report Maker can be added to the design automatically using a new Insert Report command. Once added, the report script is held within the design so that the report can always be updated without the actual format file having to be located.



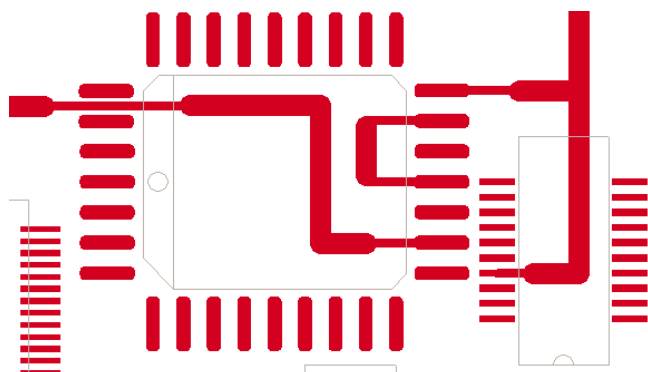
Name	Value	Qty.	Part	Description	Footprint	Part Number
C11	1	1	10KFP		CR0805	CR0805
CONN1	1	1	9590M	Connector Male	9590M	
R1	1	1	22E		CR0805	
S1	1	1	S02143	Signal B-type	D1590	
S2	1	1	S02143		S02143	
S3	1	1	S02143		S02143	
U1	6	6	74VPC2245CCV		GS0220	GS0220
U2					GS0220	GS0220
U4					GS0220	GS0220

## New Feature Summary for Pulsonix V4.0:

- Repeat Last Command
- Named Areas - Place, Plot by, DRC Check, Route by, Find
- Enhanced DRC Checks
- Auto-Mitre/Unmitre
- Negative Windows Plot
- Apply Patterns
- Pin Networks - decoupling Capacitor association
- Integra ASCII Design/Library Import
- OrCAD EDIF Export
- Unicam/Fabmaster Export
- Automatic creation of Copper/Track Spirals
- Set System/Relative Origins to Item

## Auto-necking Into SMD Pads

Using the Online DRC option and allowing auto track necking, where tracks that are too 'fat' enter an SMD and cause a Pad-Track violation, the Auto-Necking tool will automatically back-off the track using it's normal width. The stub length can also be defined. This process is all automatic once the options and parameters have been setup.

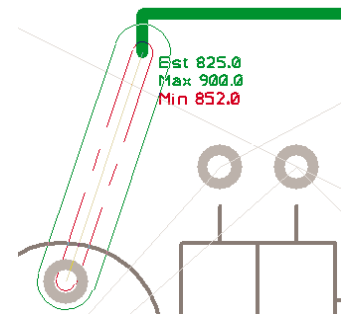


# Pulsonix V4.0 - New Cost Options

## High Speed - Interactive Net Length Indicators (cost option\*)

In Version 4 Pulsonix now adds interactive net length indicators as part of the new high speed functionality. You can now define minimum and maximum track lengths as part of the net class rules in schematics for each individual net. When this track is routed interactively you are immediately shown an "oval" around the area to be routed indicating with a user defined colour whether the track is within the minimum or maximum limits you have set. Also, you may switch on text to show these minimum and maximum lengths, plus and estimate of the final track length.

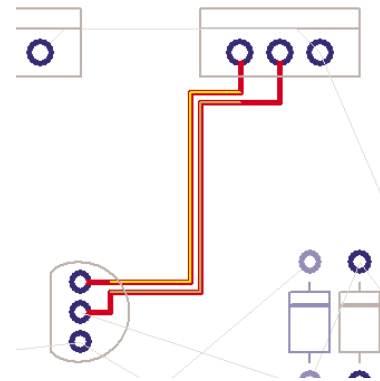
*\*Interactive Track Length Indicators is available as part of the new High Speed/Embedded option*



## High Speed - Differential Pair Routing (cost option\*)

Now in Pulsonix Version 4 you can define Differential Pairs in your design at both Schematic and PCB stages. Once defined as Differential Pairs the two nets are routed interactively following a parallel path. The Differential Pairs may have rules that define how close the tracks should be to one another and how much they are allowed to differ in length. These rules also form part of the post-layout Design Rule Checking. Interactive Net Length Indicators may be used at the same time to control the length of the Differential Pairs

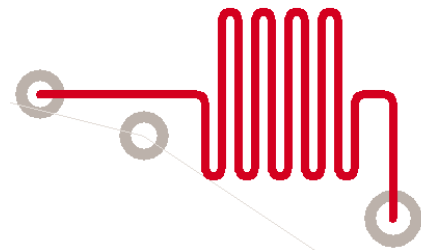
*\*Differential Pairs Routing is part of the new High-Speed/Embedded option*



## High Speed - Serpentine Routing (cost option\*)

Another new High Speed feature in Pulsonix Version 4, Serpentine Routing enables you to increase the length of high speed nets without introducing spacing errors. You can select a track segment (or segments) and run the Serpentine Routing command where you can define amplitude and separation of each loop, the number of loop cycles to insert, and the amount of additional length required.

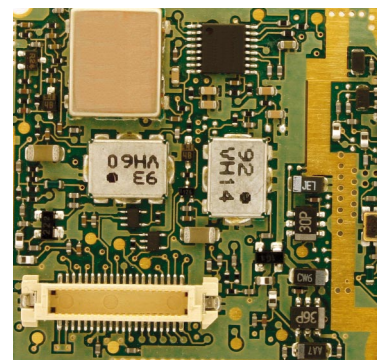
*\*Differential Pairs Routing is part of the new High-Speed/Embedded option*



## Embedded Component Technology (cost option\*)

Pulsonix is a leading edge product, and as such provides functionality for the latest technology. One of the emerging technologies is the use of embedded components. Components like resistors and capacitors can be manufactured on inner layers of the PCB using a build-up technology etch/printed onto the board. RF components such as spirals to create spiral inductors or planar transformers can also be created using this technology. These manufacturing technologies are becoming more mainstream now and enable a new breed of smaller more compact PCB designs to be created where space is a premium.

*\*Embedded Components is available as part of the new High-Speed/Embedded option*



**Peschges Variometer GmbH**

**Tel:** 0241 - 56 30 23

**Email:** [vertrieb@peschges-eda.de](mailto:vertrieb@peschges-eda.de)

Zieglerstr. 11, 52078 Aachen

**Fax:** 0241 - 56 39 13

**Web:** [www.peschges-eda.de](http://www.peschges-eda.de)