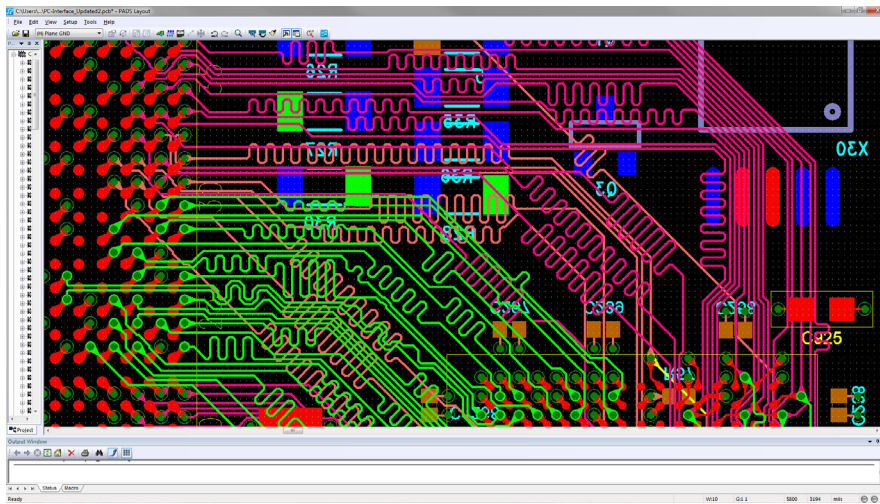




MULTI-TRACE HSD ROUTER OPTION For PADS Standard and PADS Standard Plus



OVERVIEW

Routing multiple traces while adhering to board real-estate limitations can be a significant challenge to PCB designers working with bus- or channel-based designs. At the same time, designs are becoming increasingly constrained to alleviate signal integrity issues. Designs can have hundreds, even thousands, of rules such as maximum or minimum lengths, matched lengths, and differential pairs, all of which complicate the layout phase. Routing each trace interactively is time-consuming, adding pressure as project deadlines approach.

PADS helps you meet these challenges with powerful, easy-to-use capabilities for multi-trace high-speed routing. Select and complete multiple traces according to the rules you define for your PCB design. Select as few or as many traces as you wish to complete. With the PADS® Multi-Trace HSD Router, you're in control at all times.

MAJOR BENEFITS:

- Provides superb control of matched-length, differential pairs, and min/max length nets
- Routes length-constrained nets anywhere in the rules hierarchy, accurately and easily
- Manages constraints associated with high-speed traces
- Allows you to easily set and protect net topologies
- Helps control signal skew and other noise-canceling effects
- Offers an array of options for routing differential pairs
- Supports class-to-class, pair-to-pair, and pair-to-other preferences set in layout
- Includes five via-insertion patterns for accurate prediction of finished routing paths
- Offers accordion insertion for increased copper length
- Enables diagonal (135°) and any-angle routing to eliminate impedance changes caused by sharp corners

Time-Saving Functionality for Routing High-Speed Designs

The Multi-Trace HSD Router option for PADS Standard and PADS Standard Plus is designed to dramatically reduce the time and complexity associated with routing high-speed designs while keeping the designer in control. You can start routing a group of traces quickly, without having to define particular nets for the individual traces. This allows you to focus on routing a group of traces through the difficult areas in your design first, and then go back to connect the traces to the desired pins.

Define the spacing, width, and number of traces in the group, while supporting multiple corner styles to meet your individual design needs. To easily connect traces to pins, you can change the routing angle to 135° to avoid sharp corners. Routing at 90°, 45°, or any-angle is also supported. If needed for meeting your design constraints, you can interactively tune the traces to reach the length requirements with a simple mouse click.

Using Advanced Rules with PADS

PADS provides a sophisticated advanced rules set to ensure you have the optimal set of tools for routing complex and high-speed PCBs. The rules extend the basic rule assignments, so that you can make refinements for maximum control during interactive and auto routing.

Easily set expanded rules hierarchy, additional rules for differential pairs, max/min lengths, and matched lengths, and conditional rules between objects. With PADS, you have control over component pad-entry rules, verification of fast

circuit design, and batch verification of capacitance and impedance. PADS improves the accuracy of your routing process while avoiding routing violations.

High-speed design

Gain control over the rules needed for high-speed designs. With PADS, you can establish rules between any of the grouping structure (classes, layers, and nets) and set matched length, maximum/ minimum length, and differential pairs.

Differential pairs

Extensive differential-pair rule control allows you to select a pair of nets and/or individual pin pairs as differential pairs, with numerous controls over the minimum/ maximum length and the gap and trace-width per layer. It also provides control over routing layer restrictions and allows you to “split” pairs around one or more pads for maximum control and design accuracy.

Constraint Class/Net	Hierarchical Path	# Pins	Net Class	Topology	Power Net	Analog	Stub Length (in)		# Vias						
							Max	Actual	Max	Actual	Min	Max	Actual		
TURNING	CORPORATE	5	(Default)	MST	<input type="checkbox"/>	<input type="checkbox"/>	1.000								
CLK_IN	CORPORATE	6	(Default)	MST	<input type="checkbox"/>	<input type="checkbox"/>	1.000								
U182-9	8078/CLK	6	(Default)	MST	<input type="checkbox"/>	<input type="checkbox"/>	1.000								
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