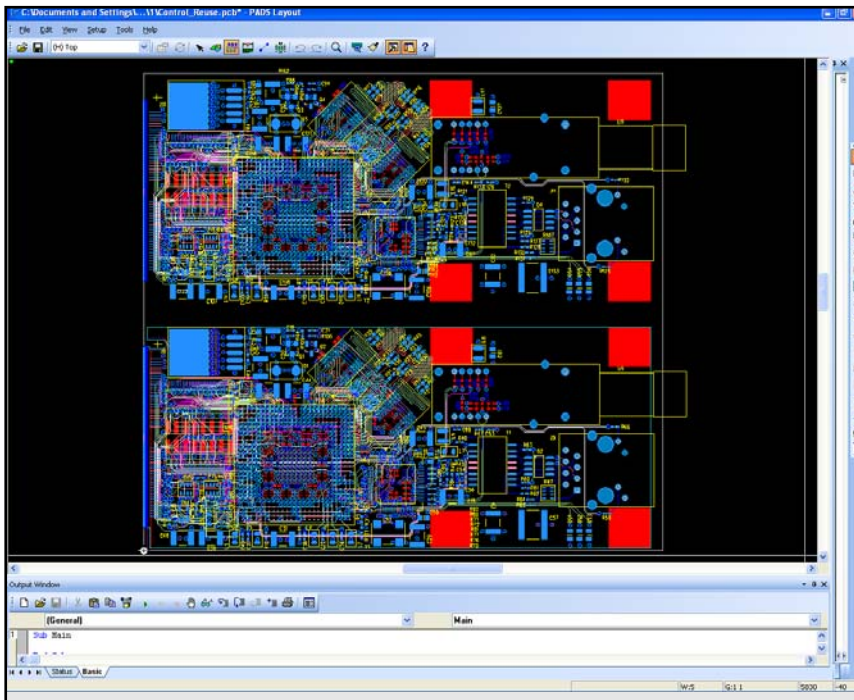


Physical Design Reuse



PDR significantly reduces design time and improves design quality by enabling the reuse of proven technology

Major product benefits

- Tightly integrated with PADS Layout
- Creates physical design reuse elements independent of the schematic source
- Supports circuit replication for digital and multi-channel designs
- Preserves the design intelligence of the reuse element
- Reduces overall design cycle time
- Allows more time for creating new designs

Overview

The increasing pressure on design teams to reduce the engineering cycle time for new product development has forced design engineers to save proven and tested portions of one design to reuse in another. The Physical Design Reuse (PDR) module is an option to PADS® Layout that makes this process easier and more efficient by supporting the creation, saving, and placement of physical reuse elements, independent of the schematic source.

PDR eliminates the time-consuming recreation of design elements by allowing you to reuse circuitry while maintaining the physical integrity of the layout. With PDR, you can reduce design cycles and errors significantly.

Golden Circuits

The PDR module supports circuit replication in digital and multi-channel designs by allowing you to reuse proven circuits, referred to as “golden circuits.” You can insert a golden circuit into a new design or replicate a golden circuit within a multi-channel design. Using golden circuits reduces errors because these circuits have already been tested and approved in another design. This is useful for any company that makes modifications to old designs rather than starting each new project from scratch.

Make Reuse Command

A key component of PDR is the “Make Reuse” command to create a design reuse element quickly and easily. After selecting desired pieces of a design, you simply execute one menu option. The software will automatically scan the selected features to ensure that each one meets the physical integrity requirements of a reuse element, add identifiers, and deselect those that do not qualify. This ensures that the physical integrity of the reuse element is maintained.

You can save the PDR element to a library, and/or duplicate the element for use in the current design. At this point, you can use the “Add Reuse” functionality to easily specify connection point (net) and identifier (reference designator) changes.

The “Make Like Reuse” command and the “Intelligent Element Builder” support multi-channel designs by allowing you to replicate any reuse element that already exists in a design or in the PDR library. Using the Intelligent Element Builder, PADS Layout will attempt to reconcile any unplaced parts with the selected reuse, without looking at the reference designator or net names. Once reconciliation is made, a clone of the selected reuse is created, including physical characteristics such as placement and routing. The clone dynamically attaches to your cursor for fast and easy placement. PDR utilizes this process to eliminate tedious design work and to ensure consistent design quality.

Other features that make the PDR module a competitive advantage for your company include:

- **Automatic Reference Designator Renaming and Net Mapping** - With these features, you can specify, update, or change reference designators at any time when adding reuse elements. In addition, as nets are added in a design, you can merge them into the current design or add a prefix/suffix to create a differentiation, thus renaming the net. This improves the process of reconciliation of the additions with the schematic and eliminates errors.

- **PDR Library** - Once you create a reuse element, you can name it and save it to the PDR library. Reuse elements are saved with a *.reu extension, and can be read into and edited in stand-alone PADS Layout sessions. You can easily share the reuse library directories in a network environment, making it easy for other members of your design team to leverage existing circuitry while maintaining the integrity of the element.
- **Full Online Reporting** - During the creation of reuse elements, PDR provides full reporting on any features that failed to meet requirements. This way, you can review any warnings prior to committing the reuse element to a design. A more detailed report is generated when a reuse element is added to a design and is reconciled by the Intelligent Element Builder. These reports enable you to review warnings, so you can avoid adding reuse elements that contain errors, and this gives you the option to easily correct them up front.

No design team is complete without PDR. This module will drastically decrease your design cycles by saving you hours of labor-intensive work recreating existing, proven circuitry. The advanced functionality that exists in PDR guarantees you will create quality designs in less time.

Other PADS Layout Options

- Advanced Packaging Toolkit
- Advanced Rule Set (ARS)
- Assembly Variants
- Cluster Placement
- Database Viewer
- DFF Audit
- DFT Audit
- IDF Link
- PADS AutoRouter
- PADS Router
- Physical Design Reuse (PDR)

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